Ontario Energy Board | Commission de l'énergie de l'Ontario

DECISION AND ORDER

EB-2022-0335

ENBRIDGE GAS INC.

Integrated Resource Planning Pilot Project

BEFORE: **Anthony Zlahtic**
Presiding Commissioner

Patrick Moran
Commissioner

March 27, 2025

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1 OVERVIEW

In its July 22, 2021 Decision and Order, the OEB established a first-generation Integrated Resource Planning (IRP) Framework to provide policy guidance to Enbridge Gas to consider integrated resource planning alternatives (IRPAs) to traditional pipeline infrastructure to meet natural gas system needs. Under the IRP Framework, Enbridge Gas was directed to utilize supply-side and demand-side management to avoid or reduce the need for new gas system infrastructure.

One of the directives in the IRP Framework was for Enbridge Gas to develop and implement, within two years of the IRP Framework decision, two IRP Pilot projects to evaluate how IRP can be implemented to avoid, delay, or reduce the need for facility projects to meet system needs.

Enbridge Gas initially applied to the OEB on July 19, 2023, for approval of two IRP Pilot projects that would deploy a combination of demand-side and supply-side IRPAs to help meet two identified system needs. Enbridge Gas subsequently decided to withdraw one of the pilot projects and modify the location and scope of the remaining pilot project, as outlined in its updated application filed on June 28, 2024.

The remaining modified project, the Southern Lake Huron Pilot Project (SLH Pilot Project) no longer includes supply-side alternatives and is made up of four categories of demand-side alternatives:

1. Enhanced targeted energy efficiency (ETEE) measures in the form of enhanced demand-side management (DSM) programs,
2. Demand response (DR) programming,
3. Limited electrification offerings, and
4. Limited advanced technologies offerings.

2 CONTEXT AND PROCESS

In this proceeding, Enbridge Gas is seeking approval of the cost consequences of the SLH Pilot Project and the accounting treatment to record costs of the same in Enbridge Gas's IRP cost deferral accounts for later disposition and recovery.[1]

In its Argument-in-Chief, Enbridge Gas clarified that it is requesting OEB approval of the SLH Pilot Project scope, contents, costs, and proposed accounting treatment of costs, and is also seeking the OEB's determination on whether the SLH Pilot Project scope and objectives satisfy the direction and requirements of the IRP Framework.

Considering the input from intervenors, OEB staff, and Enbridge Gas through written interrogatories, the technical conference and undertakings, and submissions to this proceeding, the OEB approves the SLH Pilot Project scope, contents, costs, and proposed accounting treatment of costs as filed by Enbridge Gas in its updated application and evidence on June 28, 2024, subject to the various changes as detailed in this Decision and Order.

[1] Application and Evidence, June 28, 2024, p.11. The two OEB-approved IRP cost deferral accounts are: IRP Operating Costs Deferral Account (179-385) and IRP Capital Costs Deferral Account (179-386).

3 DECISION OUTLINE

The Decision and Order addresses the following:

- Project Description, providing a high-level summary of the key features of the SLH Pilot Project and Enbridge Gas's requested relief.
- Summary of Enbridge Gas's proposal, stakeholder positions, and details on the OEB's findings including any changes or updates required for the proposed SLH Pilot Project. This discussion will follow the categories in Enbridge Gas's reply submission as detailed in the sections below.

3.1 Project Description

The SLH Pilot Project study area encompasses the City of Sarnia and the Village of Point Edward. The proposed budget for the project is $14.2M. The SLH Pilot Project does not include supply-side alternatives such as localized injection of compressed natural gas. Proposed demand-side alternatives include ETEE measures like enhanced DSM and DR programming as well as limited electrification solutions using cold climate air source heat pumps (ccASHP) and ground source heat pumps (GSHP) and limited advanced technologies offerings through hybrid heating, natural gas heat pumps, thermal energy storage.

The SLH Pilot Project will provide learnings on the selected IRPAs regarding future IRPA design, performance, and potential for scalability. The primary objectives of the SLH Pilot Project are to develop an understanding of how ETEE programs and DR programs impact peak hour flow/demand and to develop an understanding of how to design, deploy, and evaluate ETEE and residential DR programs. The IRP technical working group (TWG) reviewed a draft version of the SLH Pilot Project application. Enbridge Gas noted that IRP TWG members were generally supportive of most elements of the proposed pilot but where a member had concerns, this would be made known through the regulatory approval process.[2]

Enbridge Gas is seeking approval of the scope, contents, costs, and proposed accounting treatment of costs, as well as the OEB's determination on whether the SLH Pilot Project scope and objectives satisfy the direction and requirements of the IRP Framework.

[2] Application and Evidence, June 28, 2024, Exhibit B, Tab 1, Schedule 1, p.2

3.2 Electrification and Advanced Technology Measures

Although the first-generation IRP Framework does not explicitly provide for funding electric IRPAs, parties and OEB staff were generally supportive of Enbridge Gas's proposal to include electrification solutions in the SLH Pilot Project recognizing this as an opportunity to evaluate the applicability and feasibility of electrification measures in an isolated pilot environment. Conversely, several parties and OEB staff questioned the appropriateness of including advanced gas-fired technologies and recommended the reduction or removal of these measures. Enbridge Gas noted that the proposed advanced technologies are complementary to existing broad-based DSM programs and that there is no OEB requirement excluding natural gas end-use equipment as an IRPA. A question in this proceeding is whether testing advanced technology IRPAs should occur to better understand their impact on reducing peak load. Therefore, Enbridge Gas submitted it is premature and arguably not within the scope of this proceeding to conclude that natural gas end-use equipment cannot be used to defer or avoid natural gas facility projects. Instead, findings from the SLH Pilot Project could become an important input in determining potential future policy on whether natural gas end-use equipment is an allowable IRPA for future IRP plans.

Findings

The IRP Framework decision determined that electrification solutions would not be part of the IRP approach initially, with the focus being on system optimization and demand-side management. However, the IRP Framework indicated this could evolve as energy planning evolves and it is now clear that electric solutions are squarely on the table, as part of the IRP Framework. In the OEB's decision approving a DSM plan for the years 2023-2025, the OEB decided that the residential program would exclude incentives for gas-fired equipment and include incentives for electric equipment for space heating and water heating. DSM has always been a part of the IRP Framework, and now electric solutions are a part of DSM. Enbridge Gas itself has recognized this evolution, having included some electric solutions in its proposed SLH Pilot Project.

Notwithstanding that evolution in approach, Enbridge Gas has also proposed to include incentives for gas-fired equipment in the SLH Pilot Project. For example, Enbridge Gas has proposed the inclusion of gas absorption heat pumps. Gas absorption heat pumps were expressly excluded from the current DSM plan. The OEB stated:

> *The OEB finds that focusing efforts on gas heat pumps, a technology that is not currently commercially available nor as cost-effective as electric heat pumps is not prudent. Although gas-fired heat pumps may be more efficient than high-efficiency gas furnaces, offering incentives for this measure would continue the use of natural gas and associated GHG*

> *emissions well into the future. The OEB is of the view that it is more effective to reallocate the entire Low Carbon Transition Program budget to the Residential Whole Home program offering so that greater progress can be made in advancing the use of electric heat pump technologies throughout Ontario.* [3]

Consistent with that decision, the OEB will not approve an IRP pilot project that includes incentives for gas equipment. The inclusion of incentives for gas equipment is entirely inconsistent with the purpose of:

- IRP, which has as its objective the avoidance of gas infrastructure where there are economic alternatives, and
- DSM, which has as its objective the reduction of the utilization of gas through various efficiency and conservation measures.

Incentives for gas equipment continue the need for gas infrastructure and utilization of gas, rather than reducing it.

Enbridge Gas has proposed a budget of $1,522,560 for various gas-based technologies (hybrid heating, natural gas heat pumps, thermal energy storage) under the heading of Limited Advanced Technologies. The OEB does not approve funding for hybrid heating or natural gas heat pumps, both of which would incent new gas-fired heating equipment. Recognizing that thermal energy storage can utilize electricity, the OEB will approve pilot funding for thermal energy storage, on the condition that it utilizes electricity and does not require or incent the customer to install, modify, or upgrade gas-fired space heating or water heating equipment. The OEB directs Enbridge Gas to reallocate the budget for the denied Advanced Technologies (hybrid heating and gas heat pumps) to the budget for Limited Electrification Measures. Enbridge Gas shall increase the number of participants for its electrification offerings. This could potentially include expanding the types of electrification measures beyond the proposed ccASHPs and GSHPs to consider funding for other technologies like a combination of water heating/ space heating. These updates should be incorporated into Enbridge Gas's detailed project plan (discussed in a later section).

[3] EB-2021-0002, at p.53

3.3 Project Design and Evaluation, Measurement & Verification (EM&V) Plan

3.3.1 Expanded Scope of SLH Pilot Project and Use of Encoder Receiver Transmitter (ERT) Technology

Although the SLH Pilot Project does not address a near-term system need in Enbridge Gas's Asset Management Plan, parties and OEB staff were generally supportive of Enbridge Gas's decision to proceed with the pilot, and to expand the geographic scope of pilot offerings to the entire City of Sarnia and the Village of Point Edward (SLH Pilot Project study area). The SLH Pilot Project study area allows Enbridge Gas to capitalize on a unique opportunity where hourly gas consumption measurements are currently available for 93% of customers via already installed ERT technology. This avoids additional time and cost to procure and install ERTs while enabling data collection, analysis, and evaluation of IRPA impact on peak hour flow/ demand pre- and post-IRPA deployment.

Findings

Enbridge Gas advised that there are already 320 customers in the SLH Pilot Project study area that have:[4]

a. ERT technology allowing Enbridge Gas to collect hourly gas consumption data; and
b. ccASHPs installed.

There is an opportunity to use data from these customers to improve Enbridge Gas's understanding of the impact of electrification measures on natural gas use and peak demand.

As part of the SLH Pilot Project, Enbridge Gas shall include the weather normalized gas consumption data from those 320 customers, compared to their weather normalized gas consumption before they installed the heat pumps, to the extent that the data is available. Enbridge Gas shall also include the weather normalized consumption data from a representative sample of those customers in the SLH Pilot Project study area with the ERT technology who have not installed heat pumps. If the ERT technology is not currently configured to collect hourly data, Enbridge Gas shall take the steps necessary to do so. This addition to the SLH Pilot Project will provide an improved dataset for evaluation purposes. The OEB expects that this can be accommodated without an increase in the SLH Pilot Project budget. These updates should be

[4] EGI Reply to OEB Questions #1c

incorporated into Enbridge Gas's detailed project plan (discussed in section 3.3.2 below).

Moreover, the increased number of participants that will result from reassigning a larger budget from the proposed advanced technologies to the electrification offerings (as detailed in section 3.2 of this decision) will provide a larger dataset to evaluate this component of the SLH Pilot Project.

3.3.2 Detailed Project Plan:

Enbridge Gas provided a high-level SLH Pilot Project timeline[5] that identified some key tasks and milestones supplemented by descriptions of general approaches and anticipated tasks throughout its application. Several parties and OEB staff commented on the lack of detail in Enbridge Gas's proposal regarding project design and EM&V plan information. Enbridge Gas noted it would have been inappropriate to develop detailed information due to the uncertainty of whether certain components of the SLH Pilot Project would be removed, added, or changed via the OEB decision but is committed to developing and sharing more detailed project design and EM&V plan information based on the decision.

Findings

With clarification on the approval and required changes or updates to all aspects of the SLH Pilot Project through this decision, the OEB directs Enbridge Gas to develop a detailed project plan including Enbridge Gas's marketing, stakeholdering, and EM&V efforts for the SLH Pilot Project, as modified by this decision.

The OEB expects Enbridge Gas to engage with the IRP TWG in developing the project plan, which should be updated on a rolling basis and filed for informational purposes as part of the next (2024) IRP annual report around June 2025.

3.4 Timing and Reporting

The deployment of an IRP Pilot has been significantly delayed as this was expected to take place within two years of the issuance of the IRP Framework. Enbridge Gas submitted it is making strong efforts to meet timelines but cautioned that potential complications can arise from administering several IRPA programs, stakeholder engagement, and the potential for unforeseen challenges. In this proceeding, parties generally did not have strong concerns on timing although one party (Pollution Probe)

[5] Application and Evidence, (updated application from rebasing decision impact), Exhibit D, Tab 1, Schedule 2, p.3

did recommend ordering Enbridge Gas to strictly meet set timelines, in particular implementing the SLH Pilot Project by July 1, 2025, and completing the SLH Pilot Project by June 2027. Enbridge Gas submitted that the specific direction requested by Pollution Probe was not necessary or appropriate, given the potential for unforeseen challenges.

Parties and OEB staff were also generally supportive of the planned reporting of SLH Pilot Project updates and results including the IRP annual report filed each year and more frequent reporting to the IRP TWG. Enbridge Gas also plans to prepare and file a final report at the end of the SLH Pilot Project.

Findings

Although some of the delays experienced throughout the course of the proceeding were arguably outside of Enbridge Gas's control, the OEB requires Enbridge Gas to proceed with the SLH Pilot Project as soon as possible by implementing the approved elements, carrying out the required updates of the SLH Pilot design, and meeting the reporting requirements and deadlines as stipulated in this decision. This includes the filing of a detailed project plan as part of the next IRP annual report as detailed in section 3.3.2.

3.5 Cost Allocation

In its application, Enbridge Gas proposed to allocate all SLH Pilot Project costs to Union South in-franchise rate classes in proportion to Union South design day demands, excluding design day demands served directly off transmission lines. Many parties and OEB staff proposed that the costs should be allocated to all rate zones, recognizing that the SLH Pilot Project no longer addresses an identified system need. Moreover, Enbridge Gas's decision to proceed with the SLH Pilot Project was primarily driven by the desire to obtain IRP learnings that could be transferrable and scalable to other geographic areas. In its response to undertaking Exhibit JT 1.20 from the technical conference, Enbridge Gas accepted that the allocation of the SLH Pilot Project costs should be to all ratepayers and explained how such an allocation would work.

Findings

The OEB directs Enbridge Gas to allocate SLH Pilot Project costs proportionally across all Enbridge Gas rate zones (not just to Union South), consistent with cost allocation for other IRP costs that are recorded in the IRP Cost deferral accounts. The OEB requires that Enbridge Gas provide an update to the estimated unit rate and bill impact associated with forecast 2025 pilot costs for typical customers by rate class. This is to be filed along with the detailed project plan for information purposes as part of the next (2024) IRP annual report.

3.6 Meeting the OEB's Directives in the IRP Framework: Requirement to Undertake a Second IRP Pilot Project

Enbridge Gas requested that the OEB confirm that the SLH Pilot Project scope and objectives, which includes testing of a variety of IRPAs, satisfies the direction in the IRP Framework to bring forward two IRP pilot projects.

Parties and OEB staff had varying opinions on whether a second IRP pilot project is required. Some believe it is not required at this time, while others recommended that a pilot be immediately designed and implemented. Some parties also provided ideas for potential pilots including supply-side IRPAs and IRPAs targeted at large customers.

Findings

Over the last three years, Enbridge Gas has made some progress on the directives of the IRP Framework but has fallen short on major deliverables. Enbridge Gas is well past the two-year target for the deployment of two pilot projects. Moreover, the proposed SLH Pilot Project does not address a system need, limiting Enbridge Gas's ability to use the pilot as a testing ground for the DCF+ test. This brings into question how much learning can be obtained from this single initiative, compared to the intended purpose of the pilot projects as set out in the IRP Framework.

Enbridge Gas has also not brought forward a formal IRP plan to avoid, reduce, or delay infrastructure building. This is concerning since an economic test is to be adjudicated as part of the first non-pilot IRP plan submission and is a critical component of the IRP evaluation process, which could further delay the filing of IRP Plans.

All things considered, there have been no natural gas savings, no gas infrastructure avoided, reduced, or delayed, and no customer bill reductions or ratepayer money saved from IRP initiatives.[6]

Integrated resource planning should be an integral part of system planning in the normal course, maximizing system optimization, including ongoing monitoring and repair, along with DSM, which includes the use of electric solutions.

As the OEB noted in the St. Laurent decision:

> *Enbridge Gas has not carried out a detailed assessment of the IRP alternative citing that the pipeline integrity concerns must be addressed in*

[6] Enbridge Gas deployed a compressed natural gas project in Kingston, Ontario to defer a pipeline reinforcement project. However, a formal IRP plan was not submitted for this initiative.

> *less than three years which is the OEB threshold for carrying out an IRP assessment. As discussed earlier, Enbridge Gas has not provided strong evidence to support the claim that the integrity threat to the pipelines is imminent and that replacement in less than three years is necessary.*
>
> *In more general terms and to the extent applicable for future leave to construct applications, the OEB encourages Enbridge Gas to undertake in-depth quantitative and qualitative analyses of alternatives that specifically include the impacts of IRP, DSM programs, and de-carbonization efforts.*[7]

The OEB also addressed the IRP issue in the Phase 1 Rebasing decision. In that proceeding, Enbridge Gas identified key actions in relation to its energy transition planning, including bringing IRP into its asset management planning process.[8] Regarding system renewal, the OEB stated:

> *System pruning, for example, converting a subdivision from gas to electricity for space and water heating, is another option. Under this option, existing gas customers would replace their gas equipment with electric equipment. This could be supported by an IRP solution, which would consider various alternatives to avoid the need to replace the facilities. The IRP process could offer alternatives through pilot projects for the OEB to consider, including incentives to be paid to the customers to defray the cost of replacing their gas equipment, or investment by the utility to cover the cost of the electric equipment to be recovered over time, with a return on that investment. This has been the subject of some discussion in Phase 1 of this proceeding.*
>
> *A comprehensive IRP approach to renewal projects would include measuring the cost of the renewal project against the cost of the alternative of replacing gas equipment with electric equipment and to implement alternatives that defer or eliminate the need for the replacement project when they are economically feasible.*

As part of the settlement proposal reached in the Phase 2 Rebasing proceeding, Enbridge Gas committed to working with the IRP Technical Working Group to identify one or two system pruning pilot projects, which will be implemented by 2026.[9]

[7] EB-2020-0293, Decision at pp. 23-24
[8] EB-2022-0200, Decision at pp. 9-10
[9] EB-2024-0111, Settlement Proposal, Ex N, Tab 1, Sch. 1, at p.11

The settlement proposal went on to provide:

> *In relation to Enbridge Gas's "System Pruning" proposal, the Parties agree that it is appropriate for Enbridge Gas to develop and implement a system pruning pilot project. The Parties have agreed that Enbridge Gas will develop its approach to system pruning in consultation with the IRP Technical Working Group by the end of Q2 of 2025 and begin implementation on one or two pilots by the end of Q1 of 2026. The Parties agree that for these one or two pilots OEB approval is not required if the combined costs of these pilots are $5 million or less and the pilot(s) are supported by the IRP Technical Working Group*.[10]

The OEB has approved the settlement proposal.[11]

From the perspective of this proceeding, while OEB approval may not be necessary if the cost of the system pruning pilot projects does not exceed a total of $5 million, the OEB does not see this as limiting what can be done in a system pruning pilot project. For example, where the IRP alternative to avoid replacing gas infrastructure in a sub-division is greater than $5 million, that should not be used to screen out that project. The OEB has determined that Enbridge Gas is obligated to implement a system pruning project by the end of Q1, 2026. While OEB approval may be required if the pilot project exceeds $5 million, Enbridge Gas is still obligated to implement a pilot project by the end of Q1 2026.

Under the IRP Framework, Enbridge Gas was required to bring forward two IRP pilot projects by July 2023. Currently, only one pilot project has been brought forward, and it is the subject of this proceeding.

Considering the SLH Pilot application and evidence filed by Enbridge Gas, as well as developments in relevant proceedings in the energy sector over the past 3 years, the OEB finds that the SLH Pilot Project scope and objectives (taking into consideration the OEB-directed modifications) partially satisfies the direction and requirements of the IRP Framework.

However, the OEB requires Enbridge Gas to consult with the IRP TWG on a potential second IRP pilot that explores creative solutions that go beyond enhanced incentives for Enbridge Gas's traditional DSM program offerings. Some examples proposed for consideration in intervenor submissions are supply-side IRPAs and demand-side IRPAs aimed at larger commercial or industrial customers. Some other examples for

[10] EB-2024-0111, Settlement Proposal, Ex N, Tab 1, Sch. 1, at pp.19--20
[11] Ibid, Decision on Settlement Proposal and Interim Rate Order

consideration could include the installation of window heat pumps for larger multi-residential buildings (including social or affordable housing), exploring the use of district energy for new buildings or new neighborhoods, and how to utilize excess and otherwise wasted industrial heat for any neighboring residential customers. The OEB also recommends that Enbridge Gas and the IRP TWG consider pilots focusing on alternatives to new connections or avoidance of upstream reinforcement projects, as opposed to pruning the existing gas network.

The OEB directs Enbridge Gas to complete this analysis and report back on the IRP pilot opportunities it has identified with the IRP TWG as part of its 2025 IRP annual report (expected to be filed in June 2026). Should Enbridge Gas identify a promising pilot before this time, it is encouraged to submit an application to the OEB as soon as possible. The OEB believes it is more important than ever that Enbridge Gas promptly and effectively implement IRP, considering the potential benefits of prudent IRP, the accelerating pace of the energy transition, and new developments in this space over the past few years.

4 IMPLEMENTATION

Enbridge Gas is required to make various changes to the SLH Pilot Project based on the OEB-directed changes, as follows:

- Engage with the IRP TWG to file an updated detailed project plan as part of its 2024 IRP annual report that reflects:
    - Shift in budget from hybrid heating and gas heat pump advanced technologies to the expansion of electric solutions
    - Expanding EM&V efforts to encompass customers in the SLH Pilot Project study area that have already adopted ccASHPs, to improve Enbridge Gas's understanding of the impact of electrification measures on natural gas use and peak demand
    - Additional details on Enbridge Gas's marketing, stakeholdering, and EM&V efforts for the SLH Pilot Project
- Update the estimated unit rate and bill impact associated with forecast 2025 pilot costs for typical customers by rate class assuming cost allocation across all of Enbridge Gas's rate zones. This is to be filed as part of the next (2024) IRP annual report.
- Analyze and report back on IRP pilot opportunities Enbridge Gas has identified with the IRP TWG as part of its 2025 IRP annual report (expected to be filed in June 2026). Should Enbridge Gas identify a promising pilot before this time, it is encouraged to submit an application to the OEB as soon as possible.

The OEB has also scheduled a process for intervenor costs.

5 ORDER

THE ONTARIO ENERGY BOARD ORDERS THAT:

1. The direction provided in this Decision and Order is effective immediately.

2. Intervenors shall file with the OEB, and forward to Enbridge Gas Inc., their respective cost claims by **April 10, 2025.**

3. Enbridge Gas Inc. shall file with the OEB, and forward to intervenors, any objections to the claimed costs by **April 24, 2025**.

4. Intervenors shall file with the OEB, and forward to Enbridge Gas Inc., any responses to any objections for cost claims by **May 1, 2025**.

5. Enbridge Gas Inc. shall pay the OEB's costs incidental to this proceeding upon receipt of the OEB's invoice.

Parties are responsible for ensuring that any documents they file with the OEB, such as applicant and intervenor evidence, interrogatories and responses to interrogatories or any other type of document, **do not include personal information** (as that phrase is defined in the *Freedom of Information and Protection of Privacy Act*), unless filed in accordance with rule 9A of the OEB's Rules of Practice and Procedure.

Please quote file number, **EB-2022-0335** for all materials filed and submit them in searchable/unrestricted PDF format with a digital signature through the OEB's online filing portal.

- Filings should clearly state the sender's name, postal address, telephone number and e-mail address.
- Please use the document naming conventions and document submission standards outlined in the Regulatory Electronic Submission System (RESS) Document Guidelines found at the File documents online page on the OEB's website.
- Parties are encouraged to use RESS. Those who have not yet set up an account, or require assistance using the online filing portal can contact registrar@oeb.ca for assistance.
- Cost claims are filed through the OEB's online filing portal. Please visit the File documents online page of the OEB's website for more information. All participants shall download a copy of their submitted cost claim and serve it on all required parties as per the Practice Direction on Cost Awards.

All communications should be directed to the attention of the Registrar and be received by end of business, 4:45 p.m., on the required date.

With respect to distribution lists for all electronic correspondence and materials related to this proceeding, parties must include the Case Manager, Stephanie Cheng at stephanie.cheng@oeb.ca and OEB Counsel, Lawren Murray at lawren.murray@oeb.ca.

Email: registrar@oeb.ca
Tel: 1-877-632-2727 (Toll free)

DATED at Toronto March 27, 2025

ONTARIO ENERGY BOARD

Nancy Marconi

Digitally signed by Nancy Marconi
Date: 2025.03.27 14:24:15 -04'00'

Nancy Marconi
Registrar