



# Irrican Raymond eBAR Project Overview

October 2023

## Introduction

Irrican Power Ltd. (“Irrican Power”) is pleased to introduce our proposed Irrican Raymond enhanced Battery and Renewables (“eBAR”) project (the “Project”). Irrican Power intends to apply to the Alberta Utilities Commission (“AUC”) for an approval and license to construct and operate the Project at the SW-30-5-20-W4 surface location, approximately six kilometers south of the Town of Raymond, in the County of Warner No. 5 (the “County”), Alberta. Irrican Power has partnered with TERIC Power Ltd. (“TERIC”) to develop the Project on behalf of Irrican Power. TERIC has successfully developed six similar battery storage projects in Alberta, which have all reached commercial operation.

The Project will be located on privately owned land and will consist of a 15.4-megawatt (“MW”) capacity lithium-ion battery storage system. This project will be connected to and located adjacent to the existing Raymond Reservoir Hydro Plant (“Hydro Plant”). The Project will be used to store energy provided by both the Hydro Plant and from the Alberta Interconnected Electric System. Once installed, the Project will be able to store excess renewable energy and release it during periods of high electricity demand and provide grid reliability services to the Alberta Electric System Operator (the “AESO”). As an introduction, we are pleased to provide you with the following Project details:

- What is a Battery Storage System?
- Project Overview
- Site Selection
- Technology Selection
- Project Footprint & Visual Impact
- Sound
- Emissions and Air
- Environmental Assessment
- Safety
- Decommissioning & Reclamation
- Regulatory Approvals
- Project Schedule
- About Irrican Power
- Contact Information

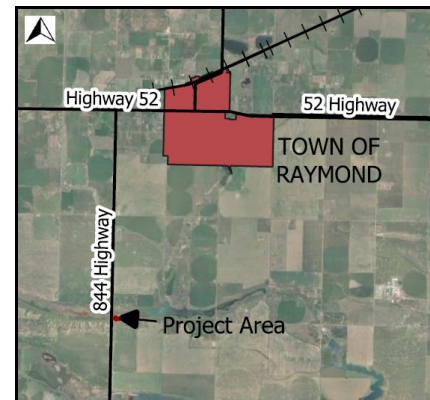
## What is a Battery Storage System, and why is it required?

Battery energy storage systems (“BESS”) do not create new electricity, but rather hold previously generated electricity in large capacity batteries. For the Project, electricity will be drawn from the Hydro Plant and from the Alberta grid, stored in batteries for a period of time, and released as stored energy upon demand for the AESO. The battery storage system will also effectively return energy to the electricity grid during times when demand is high.

The worldwide need for energy storage, and specifically battery storage systems, has increased in recent years, as renewable energy sources such as wind and solar generation make up an increasingly larger percentage of the electricity supply. While renewable power sources have a low carbon footprint, the output produced is inherently intermittent and challenging to predict. This situation is challenging for grid management, when renewable electricity sources cannot be adjusted to increases or decreases in electricity demand. Battery storage systems provide a unique solution by storing energy and releasing it to other hours of the day when needed from increasing energy demand.

## Project Overview

The Project is proposed at the SW-30-5-20-W4 surface location. With a nameplate capacity of 15.4 MW, the battery storage system will be used to store electricity provided from the Hydro Plant or from the Alberta electrical grid that will be discharged into the Alberta transmission system upon demand. An 80 metre underground and overhead power line between the Hydro Plant and the battery facility will be constructed to connect the Project.



## Site Selection

The Project location was selected for several suitable features which support a BESS project. The most important feature is the proximity to the Hydro Plant, for which building the BESS will leverage existing infrastructure. The Project land is owned by the St. Mary River Irrigation District, who is a member of the Irrican Power cooperative. Additionally, with the proposed site being located adjacent to the Hydro Plant’s powerhouse, there is an existing access road, which will result in minimal environmental impact.

## Technology Selection

Lithium-ion battery technology is a safe, reliable and proven technology used around the world for the efficient storage of electricity. There are multiple installations of this technology in Canada, and throughout United States, including sites currently under development or operating in Alberta since 2017. Globally there are thousands of installed megawatts of battery storage, with some operating for over two decades.

Irrican Power is currently working with top-tier global manufacturers of battery storage technology to select the appropriate battery equipment for this Project. It is of the utmost importance to Irrican Power to choose a supplier with an established history of installations for battery equipment with considerations for operational efficiency, safety, construction quality, and a proven reliability record.



## **Project Footprint & Visual Impact**

The site will cover a relatively small footprint on privately-owned lands, covering approximately 50 metres by 50 metres of land, with a maximum height of 5.5 metres. The batteries will be situated on a suitable foundation and secured within a chain link fence that will surround the containerized units. The containerized enclosures and control building will be coloured to match existing infrastructure to minimize adverse visual impact. For security, the facility will be enclosed within a fenced area with the containers fortified with industry standard protective measures and will be monitored in real-time with installed cameras.

The facility will have a low observable presence, due to the low height, scale, and neutral line of sight. Operation of the BESS will not increase local traffic, with Irrican Power technicians and contractors periodically accessing the site. During construction, the site will receive semi-truck sized loads to bring the modular equipment into site, as well as light duty vehicles and heavy-duty pickup trucks from project staff and contractors who need to access the site.

## **Sound**

Battery storage systems have inherently low noise profiles, with minimal sound originating from the Project's heating, cooling, and ventilation features. The sound output will be below the approved noise levels as per the AUC's guidelines. Engineering design practices will be used to ensure compliance with the AUC's strict requirements. Irrican Power has engaged a noise specialist to conduct a Noise Impact Assessment ("NIA"). The NIA will evaluate potential noise impacts with consideration of any existing and proposed infrastructure in the area. A copy of the NIA will accompany the AUC application.

## **Emissions and Air**

The battery equipment will not emit CO<sub>2</sub> and NO<sub>x</sub>, which is in compliance with the Alberta Energy Regulator's ("AER") guidelines. There will be no air emissions or odours associated with the installation.

## **Environmental Assessment**

The Project area is on hayland that is adjacent to the Hydro Plant site and based on environmental assessments conducted to date, the impact to habitat, wildlife and the environment will be minimal. As required by the AUC, an environmental field survey was completed in June 2023 by wildlife and environmental biologists to assess the potential impacts on wildlife, vegetation and cultural resources. A copy of the environmental assessment will be included with the AUC application.

## **Safety**

Irrican Power will work closely with its operations teams, third-party Emergency Response Plan ("ERP") consultants, industry stakeholders such as local emergency response teams, local fire departments, equipment manufacturers, and national and international level industry standards to develop emergency response plans. These plans will be used to manage and address any site-specific risks and implement any mitigation measures. A copy of the ERP will accompany the AUC application.



## **Decommissioning & Reclamation**

Irrican Power's decommissioning and reclamation plans address activities related to the restoration of any land negatively impacted by the Project and identifies battery technology suppliers with proven battery recycling plans in place. Irrican Power will work to ensure decommissioning and reclamation activities are carried in compliance with current Alberta decommissioning regulations. The Project's equipment is modular and will allow for efficient disassembly and reclamation.

Recent interim updates to the AUC's Rule 007 – *Applications for Power Plant, substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* ("AUC Rule 007") issued in Bulletin 2023-05 require a more robust reclamation security program to be developed and this will be included with the AUC application.

## **Regulatory Approvals**

**Environment and Protected Areas Alberta** – Irrican Power's environmental assessment report will be available for review by the AUC and Alberta Environment and Protected Areas ("EPA") to ensure proper siting and wildlife mitigation plans to comply with current environmental legislation identified in the EPA Wildlife Management policy for the conservation and protection of wildlife and wildlife habit. The environmental report and if required, an EPA review, will accompany the AUC application.

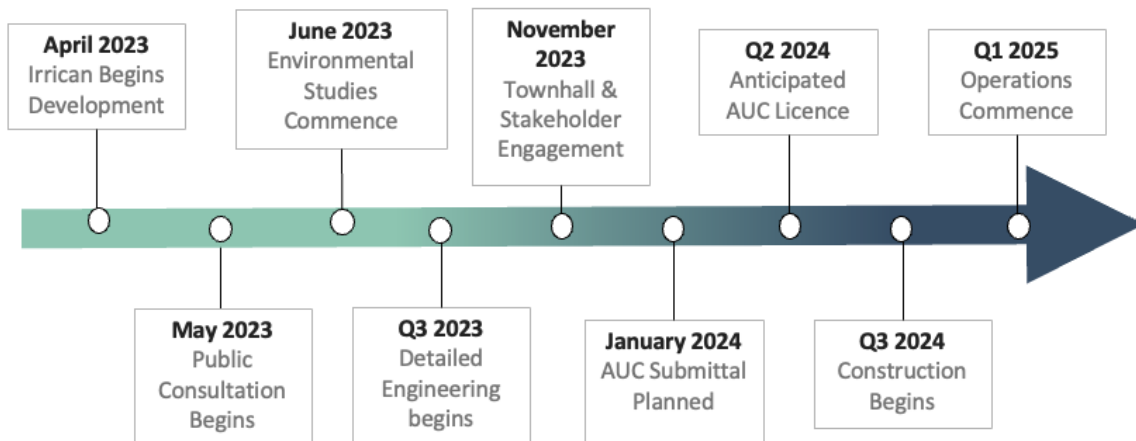
**Historical Resources Act** – Irrican Power received Historical Resource Act approval for the Project on October 27, 2023. A copy of the approval will be included in the AUC application.

**AUC Rule 007 Application** – The AUC regulates the utilities sector, natural gas and electricity markets to protect social, economic and environmental interests of the province. The AUC is an independent, quasi-judicial agency of the province of Alberta and is responsible for ensuring that the delivery of Alberta's utility services takes place in a manner that is fair, responsible and in the public interest. Irrican Power will also follow the recent Interim Rule 007 information requirements issued by the AUC in Bulletin 2023-05, regarding increased scrutiny concerning soil classifications on disturbed project land and increased engagement with nearby municipalities. Please review the enclosed AUC pamphlet which provides a greater overview of the application process.

**Municipal Permitting** – In May 2023, Irrican Power initiated contact with representatives of the County of Warner No. 5 to introduce the Project at a conceptual level. Discussions are ongoing through Irrican Power's stakeholder engagement process, including all required consultation and planning activities with the County. The project will be submitted to the County's subdivision and development authority to receive a discretionary use permit prior to construction commencing.

**Alberta Transportation** – Due to the Project's proximity to Alberta Highway 884, Irrican Power has initiated consultation with Alberta Transportation and will file an application for the required permits.

## Project Schedule



*(Schedule is subject to regulatory approval.)*

## About Irrican Power

In October 1988, the provincial government introduced the Small Power Research and Development Program. The program assured a guaranteed price and market for power thus making small power projects in Alberta viable.

To benefit from this program, Irrigation Canal Power Cooperative Ltd. was formed to develop hydro power projects on the existing water conveyance infrastructure in Southern Alberta. Irrican Power is a cooperative subject to the Alberta Cooperatives Act.

The hydro power projects are located at several sites along the St. Mary Main Canal, and the three benefited districts, the Taber Irrigation District, the St. Mary River Irrigation District and the Raymond Irrigation District jointly established Irrican Power.

## Contact Information

For information about the Irrican Raymond eBAR Project, please visit:

<http://irrican-ebar.com/>

For information about Irrican Power, please visit:

<https://smrid.com/about/irrican/>

For questions, please contact Dave Carscadden, Development Manager at 403-497-6260 or

[dave.carscadden@tericpower.com](mailto:dave.carscadden@tericpower.com)