



## **Enfinite Corporation**

### **eReserve7/8 Battery Energy Storage Power Plant Project**

**July 19, 2022**

**Alberta Utilities Commission**

Decision 27360-D01-2022

Enfinite Corporation

eReserve7/8 Battery Energy Storage Power Plant Project

Proceeding 27360

Applications 27360-A001 and 27360-A002

July 19, 2022

Published by the:

Alberta Utilities Commission

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The Commission may, within 60 days of the date of this decision and without notice, correct typographical, spelling and calculation errors and other similar types of errors and post the corrected decision on its website.

## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves applications from Enfinite Corporation to construct and operate the eReserve7/8 Battery Energy Storage Power Plant Project, and to interconnect the facility to ATCO Electric Ltd.'s distribution system.

## **2 Introduction**

2. Enfinite Corporation applied to the Commission for approval to construct, operate and interconnect a 40-megawatt (MW) battery energy storage facility, designated as eReserve7/8 Battery Energy Storage Power Plant Project (the project or eReserve7/8). Enfinite sought approval of the project as a power plant, pursuant to Section 11 of the *Hydro and Electric Energy Act* and to connect it to ATCO Electric Ltd.'s 25-kilovolt distribution system under Section 18 of the *Hydro and Electric Energy Act*. The applications were registered on May 5, 2022, as applications 27360-A001 and 27360-A002.

3. The Commission issued a notice of the applications in accordance with Rule 001: *Rules of Practice*. No submissions were received in response to the notice.

## **3 Discussion**

4. The project consists of 22 2.4-megavolt ampere lithium-ion battery modules (Megapacks) from Tesla with a total nameplate storage energy capacity of 80 MW-hours. There would also be inverters, twelve step-up transformers, two grounding transformers, two switchgear and control buildings, and underground power/control cables. The components would be divided equally between eReserve7 (20 MW) and eReserve8 (20 MW) on the same gravel pad. eReserve7 and eReserve8 would be metered separately.

5. The project is sited on private and previously disturbed land in the northwest quarter of Section 8, Township 69, Range 8, west of the Sixth Meridian, approximately four kilometres west of the community of Wapiti, in the Municipal District of Greenview, Alberta.

6. Enfinite stated that it developed and conducted a participant involvement program in accordance with Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*, including personal consultation with landowners, residents and occupants within 400 metres of the project and notification to stakeholders within 800 metres of the project, including landowners, residents and occupants, leaseholders, industry, agencies and one Indigenous community. Enfinite contacted interested parties via phone, email, standard mail and virtual meetings.

7. Enfinite submitted a noise impact assessment for the project that identified the fans and transformers as the main sound sources. For the purposes of the noise assessment, all transformers are assumed to be operating at full load during both the daytime and nighttime periods. The assessment predicted that cumulative sound levels would be below permissible sound levels as defined in Rule 012: *Noise Control* at all receptors.
8. Enfinite's environmental assessment predicted that the residual effects for each valued ecosystem component were limited and not significant. Enfinite committed to implementing appropriate mitigation measures throughout site preparation, construction, operation and maintenance of the project. Enfinite also committed to adhering to applicable regulatory requirements to help reduce or eliminate residual environmental effects to the identified valued ecosystem components.
9. Enfinite provided the project information package to Alberta Environment and Parks (AEP), including findings from the field assessment and proposed mitigation measures. Enfinite indicated that no wildlife concerns were raised by AEP. Enfinite confirmed that the pre-construction wildlife surveys will be conducted by a qualified biologist.
10. Enfinite received a *Historical Resources Act* approval from Alberta Culture and Status of Women for the project.
11. Enfinite stated that it has both a corporate and site-specific emergency response plan (ERP). The Alberta Fire Training Officers Association North Zone Rep, Fire-Rescue Services Regional Fire Chief, Regional Deputy Fire Chief – Debolt Fire Station #31, Regional Deputy Fire Chief – Grande Cache Fire Station #33, and Regional Deputy Fire Chief – Grovedale Fire Station #32 were notified of the project. Enfinite shared the site-specific ERP with the regional fire chief and committed to providing site-specific ERP updates as required and will incorporate any additional feedback into the ERP. Enfinite indicated that no concerns had been raised from the emergency response providers.
12. Enfinite stated that it will incorporate all relevant Tesla procedures that are contained within the Tesla Lithium-Ion Battery Emergency Response Guide into the site-specific ERP, but also intends to have the latest vendor information available to the Enfinite operations team members and emergency responders as an appendix to the site-specific ERP.
13. Enfinite stated that it will perform an annual review of its site-specific ERP for the project, as well as the associated emergency response program. The review process will include a desktop drill for the site that includes operators, required corporate emergency personnel, and key contractors such as the third-party air monitoring service provider. Local emergency service responders will be invited to participate. The combined teams will go through various scenario planning exercises and discussions. All feedback will be incorporated into the relevant site-specific ERP document. The site-specific ERP document will also be updated on an ad hoc basis, as required.
14. Enfinite engaged the services of Calvin Consulting Group Ltd. to provide a report on a simulated emission plume at the eReserve7/8 site in the event of a thermal runaway event, and the extent to which adjacent residences, facilities or roadways would be impacted. The report concluded that all predicted air quality concentrations comply with the *Alberta Ambient Air Quality Objectives* beyond 100 metres of the site and no immediately dangerous to life or health values will be exceeded at or beyond the site fenceline. In the event of a toxic plume resulting

from a battery fire, the fire department assumes command of the public areas beyond the site fence.

15. Enfinite stated that once the eReserve7/8 project approval is granted, it will award a contract through a competitive request for bid process to a third-party mobile air quality monitoring service provider to undertake air monitoring services at the eReserve7/8 project site. Enfinite uses the Underwriters Laboratories 9540A test method as a reference for air monitoring in the evaluation of a thermal runaway fire in the battery energy storage system. Any of the third-party air monitoring service providers that are used by Enfinite will be required to provide industry standard reports which are designed with regulatory compliance in mind.

16. Enfinite stated that Tesla has a centralized network operations center (NOC) based in Fremont, California. This NOC is operated 24 hours a day, 7 days a week, and will monitor all live data from the eReserve7/8 project via a hard-wired internet and/or a global system for mobile communication connections. The NOC can remotely stop all charging and discharging functions of the Megapacks. If an event is detected that could lead to an emergency situation or damage to the Megapacks, the units will trigger a protection mode which will cause the units to cease operations. Tesla can also completely isolate the units through Enfinite's project operator or dispatcher, both of whom also monitor the project 24 hours a day, 7 days a week. Furthermore, Enfinite stated that the Megapacks could be isolated on the project site by project staff.

17. Enfinite stated that it is planning to install a thermal imaging camera external detection system at the project site. Motion and infrared cameras will be placed within the fenced area of the site. The cameras will be placed in locations that allow continuous monitoring of the Megapacks and site security.

18. Enfinite confirmed that during construction and operation of the eReserve7/8 project, Enfinite and all contractors will carry insurance, including coverage that is sufficient to protect against any reasonably foreseeable liabilities. The level and program of insurance during operations would be consistent with the level and program of insurance maintained by other similarly situated projects.

19. The project would be charged from and discharged to the Alberta Interconnected Electric System through ATCO's electric distribution system, connecting to two existing feeders at the Wapiti 823S Substation. Currently, the project is in Stage 0 of the Alberta Electric System Operator connection process. Enfinite received a letter of non-objection from ATCO to connect the project to its distribution system.

#### **4 Findings**

20. Based on its review of Enfinite's application materials, the Commission considers that the proposed project has met the Commission's Rule 007 and Rule 012 requirements. The Commission observes that there are no outstanding objections or concerns with the project. The Commission accepts that the proposed project will comply with permissible sound levels and will have no significant low frequency noise effects.

21. The project area is relatively small in size, adjacent to Highway 666 and has been previously disturbed. Considering Enfinite's commitment to implement all mitigation measures

recommended in the environmental assessment report, and its commitment to adhere to all applicable standards and guidelines, the Commission is satisfied that the project will have minimal effects on the environment.

22. The Commission accepts that, in the event of a fire, all emission concentrations would comply with applicable *Alberta Ambient Air Quality Objectives* guidelines beyond 100 metres of the project site. In addition, the Commission expects that Enfinite would install a thermal imaging camera and utilize the NOC to monitor the project site in real time. The Commission is satisfied that the risk to health as a result of gases released in a fire is further mitigated because the closest residence is approximately 300 metres away. The Commission considers that steps are being taken to minimize health and safety risk through Enfinite's ERPs and the implementation of ongoing upgrades such as firmware and software enhancements and safety standards as they are developed. The Commission acknowledges Enfinite has an annual review as well as an ad-hoc process in place to continually update and enhance its site-specific ERP. The Commission recognizes that Enfinite has an emergency response program to support the development of its ERPs. Consequently, the Commission imposes the following as conditions of approval:

- Enfinite, and any subsequent operator, shall implement any ongoing upgrades to improve the safety of the project, including but not limited to firmware and software enhancements, monitoring capability enhancement, process changes and safety standards as they are developed.
- Enfinite, and any subsequent operator, shall continually update and improve the site-specific emergency response plan, the corporate emergency response plan and associated emergency response program and advise the local fire departments, including but not limited to incorporating all mitigation measures required from discussions with the local fire departments and input from interested stakeholders and local residents.

23. The Commission considers it reasonable to require Enfinite and subsequent operators to maintain adequate insurance coverage throughout the life of the project. Consequently, the Commission imposes the following additional condition of approval:

- Enfinite, and any subsequent operator, shall at all times during the construction and operation of the project, maintain insurance coverage that is sufficient to protect against any reasonably foreseeable liabilities.

24. After considering the record of this proceeding and for the reasons stated above, the Commission finds that approval of the project is in the public interest, having regard to the social, economic, and other effects of the project, including its effect on the environment, in accordance with Section 17 of the *Alberta Utilities Commission Act*.

## 5 Decision

25. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 27360-A001 and grants to Enfinite Corporation the approval set out in Appendix 1 – Power Plant Approval 27360-D02-2022 to construct and operate the eReserve7/8 Battery Energy Storage Power Plant.

26. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 27360-A002 and grants to Enfinite Corporation the connection order set out in Appendix 2 – Connection Order 27360-D03-2022 to connect the eReserve7/8 Battery Energy Storage Power Plant to the distribution system of ATCO Electric Ltd.

27. The appendices will be distributed separately.

Dated on July 19, 2022.

### **Alberta Utilities Commission**

*(original signed by)*

Vincent Kostas  
Acting Commission Member