



TERIC Power Ltd.

eReserve5 Battery Energy Storage Power Plant Project

June 9, 2022

Alberta Utilities Commission

Decision 27239-D01-2022

TERIC Power Ltd.

eReserve5 Battery Energy Storage Power Plant Project

Proceeding 27239

Application 27239-A001

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1 Decision summary

1. In this decision, the Alberta Utilities Commission approves an application from TERIC Power Ltd. to construct and operate the eReserve5 Battery Energy Storage Power Plant Project, and to interconnect the facility to FortisAlberta Inc.'s distribution system.

2 Introduction

2. TERIC Power Ltd. applied to the Commission for approval to construct, operate and interconnect a 20-megawatt (MW) battery energy storage facility, designated as eReserve5 Battery Energy Storage Power Plant Project (the project or eReserve5). TERIC sought approval of the project as a power plant under Section 11 of the *Hydro and Electric Energy Act* and to connect it to FortisAlberta Inc.'s 25-kilovolt distribution system under Section 18 of the *Hydro and Electric Energy Act*. The application was registered on March 16, 2022, as Application 27239-A001.

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

3 Discussion

4. The project consists of 11 1.9-MW (approximately) lithium-ion battery modules (Megapacks) from Tesla with a total nameplate storage energy capacity of 20 MW-hours. The modules would be arranged in groups of two and each group would be paired with a step-up transformer.

5. The project is sited on privately owned land and located in the southwest quarter of Section 3, Township 41, Range 7, west of the Fourth Meridian, approximately three kilometres southeast of the village of Hughenden, in the Municipal District of Provost No. 52, Alberta.

6. TERIC 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 one-on-one phone or email 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 and agencies. TERIC also advertised and conducted a virtual community open house, accessible online or by phone to engage other potentially affected stakeholders outside of the 800 metres of the project's boundary.

7. TERIC submitted a noise impact assessment for the project that identified the fans, transformers and HVAC unit as the main sound sources. For the purposes of the noise assessment, all equipment is assumed to be operating at full load. The assessment predicted that cumulative sound levels would be below permissible sound levels as defined in Rule 012: *Noise Control* at all receptors.

8. TERIC contacted Alberta Environment and Parks (AEP) to receive feedback on mitigation measures and AEP expressed concerns about impacts to sharp-tailed grouse leks within the project area. Mitigation measures were suggested including a sharp-tailed grouse pre-construction survey within a 500-metre buffer of the project area, avoiding high quality habitats (i.e., native prairie, wetlands), conducting development activities outside of the restrictive active period for grassland breeding birds and sharp-tailed grouse, and completing nest sweep surveys no more than seven days prior to construction. TERIC contracted Bear Tracks Environmental Services (2015) Ltd. to conduct a dedicated sharp-tailed grouse survey on March 23, 2022, that identified no active sharp-tailed grouse or sharp-tailed grouse leks within 500 metres of the proposed eReserve5 project. TERIC concluded that residual effects on sharp-tailed grouse are anticipated to be negligible and not significant.

9. TERIC's environmental assessment estimated that the project would impact approximately 0.567 hectares¹ of the native prairie; however, impacts to species of management concern are not anticipated. Considering that this parcel is relatively small in size and the predominant land use surrounding the general area is cultivated lands, TERIC concluded that impacts to wildlife and wildlife habitat due to the removal of 0.567 hectares of native prairie at this location is expected to be negligible. Construction activities are anticipated to be short in duration and operation of the project is anticipated to have limited residual environmental effects, provided mitigation measures are implemented. TERIC committed to following all recommended mitigation and best management practices, as well as applicable guidelines and standards.

10. TERIC submitted that because the project site is on freehold disturbed lands that have no listed or recorded historical resource value, an application for *Historical Resources Act* clearance is not required.

11. TERIC developed the site-specific emergency response plan (ERP) in consultation with the Municipal District of Provost No. 52 regional fire services consisting of the Hughenden Fire Department, Czar Fire Department, Amisk Fire Department and West End Fire & Rescue. TERIC committed to providing emergency response training specific to the proposed project to the local fire departments, with support from the battery manufacturer. TERIC also committed to communicate directly with the Municipal District of Provost No. 52 because it is the primary responder in an emergency. The Municipal District of Provost No. 52 provided TERIC with an acknowledgment of notification and verification of non-objection for the project. TERIC added that no concern was raised by the emergency responders.

12. TERIC explained that the Megapack is designed and tested to be resistant to single cell thermal runaway propagation and meets the highest level of industry safety standards and has undergone rigorous testing to international standards such as UL 1973 and IEC 62619. TERIC incorporated the Tesla Lithium-Ion Battery Emergency Response Guide into its site-specific

¹ 0.567 hectares is converted from 1.4 acres described on PDF page 26 of Exhibit 27239-X0022 Attachment 20_ Environmental Assessment.

ERP and TERIC committed to updating any Tesla procedures as part of its final review of the site-specific ERP once the detailed design of the eReserve5 site is completed.

13. TERIC's corporate ERP currently lists five third-party mobile air monitoring service providers that provide overlapping coverage within Alberta and across Canada. In the event of a fire, air monitoring will be conducted with assessments of air composition, meteorological conditions, particulate matter and fire volume both during and after the event. TERIC would use the Underwriters Laboratories 9540A test method as a reference for air monitoring in the evaluation of a thermal runaway fire. All third-party air monitoring service providers that would be used by TERIC would be required to provide industry standard reports.

14. TERIC engaged the services of Calvin Consulting Group Ltd. to provide a report on a simulated emission plume at the eReserve5 site in the event of a thermal runaway event, and the extent to which adjacent residences, facilities or roadways would be impacted. The report indicated that *Alberta Ambient Air Quality Objectives* (AAAQO) would be exceeded in close vicinity of the fire. With the exception of carbon monoxide, all concentrations would be reduced at 100 metres to below the AAAQO guidelines. Additionally, at downwind distances beyond 250 metres and in the vicinity of the 11 residences, all concentrations of all contaminants are predicted to be in compliance with applicable AAAQO guidelines. Therefore, the report concluded that all predicted air quality concentrations at the closest residences comply with AAAQO and that no immediately dangerous life or health values would be exceeded at or beyond the site fence line.

15. TERIC confirmed that it has an emergency response program that was used to inform development of its corporate and site-specific ERPs. TERIC submitted that it would perform an annual review of its corporate ERP, the site-specific ERP and the associated emergency response program. In addition, TERIC has an ad-hoc process to ensure that significant changes are incorporated into both the corporate ERP and the site-specific ERP on an as-required basis. TERIC confirms that it will continually update and improve the site-specific ERP and corporate ERP for the proposed project.

16. TERIC stated that it has plans to install a thermal imaging camera at the eReserve5 site that will be monitored remotely. In addition, Tesla has a centralized network operations center (NOC) based in Fremont, California. The NOC is operated 24 hours a day, 7 days a week, and would monitor all live data from eReserve5 by hard-wired internet and/or a global system for mobile communication connections.

17. TERIC explained that the Tesla lithium-ion battery modules are composed of small cylindrical form factor cells, similar to the cells used in many laptops and consumer electronics. Tesla lithium-ion batteries do not contain heavy metals such as lead, cadmium, or mercury. Therefore, TERIC stated that the same procedures used to recycle consumer electronic device battery packs are used to recycle Tesla lithium-ion battery modules. TERIC has arranged to send the Megapacks back to Tesla for full recycling and has agreed on a cost to do so at the project's end of life.

18. TERIC committed to follow AEP's *Conservation and Reclamation Directive for Renewable Energy Operations*. TERIC stated that it has protocols in place to ensure that sufficient funds are available for decommissioning and reclamation at the project's end of life.²

19. TERIC confirmed that during construction of eReserve5, TERIC and all contractors will carry insurance, including coverage for any third-party claims. In addition, throughout the construction and operation of eReserve5, the manufacturer of major installed equipment is also required to have sufficient financial resources to self-insure or maintain adequate programs of product liability insurance, which would include coverage for losses to third parties resulting from the manufacturer, and its contractors' negligence that result in losses to third parties.

20. The project would be charged from and discharged to the Alberta Interconnected Electric System through FortisAlberta Inc.'s electric distribution system, connecting to an existing feeder at the Hughenden 213S Substation. Currently, the project is in Stage 2 of the Alberta Electric System Operator connection process. TERIC received a letter of non-objection from FortisAlberta Inc. to connect the project to its distribution system.

4 Findings

21. Based on its review of TERIC'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.

22. The project area is relatively small in size, adjacent to Highway 13 and a portion of the land has been previously disturbed by cultivation. The Commission notes that construction activities are anticipated to take approximately two to three months, which is a relatively short construction period. Considering TERIC'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.

23. The Commission accepts that, in the event of a fire, all emission concentrations would comply with applicable AAAQO guidelines beyond 250 metres of the project site. In addition, the Commission expects that TERIC 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 600 metres away. The Commission considers that steps are being taken to minimize health and safety risk through TERIC's ERPs and the implementation of ongoing upgrades such as firmware and software enhancements and safety standards as they are developed. The Commission acknowledges TERIC has an annual review as well as an ad-hoc process in place to continually update and enhance its site-specific ERP and corporate ERP. The Commission recognizes that TERIC has an emergency response program to support the development of its ERPs. Consequently, the Commission imposes the following as conditions of approval:

² Exhibit 27239-X0031, Environmental Assessment, PDF page 31.

- TERIC, 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.
- TERIC, 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.

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

- TERIC, 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.

25. 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

26. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 27239-A001 and grants to TERIC Power Ltd. the approval set out in Appendix 1 – Power Plant Approval 27239-D02-2022 to construct and operate the eReserve5 Battery Energy Storage Power Plant.

27. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 27239-A001 and grants to TERIC Power Ltd. the connection order set out in Appendix 2 – Connection Order 27239-D03-2022 to connect the eReserve5 Battery Energy Storage Power Plant to the distribution system of FortisAlberta Inc.

28. The appendices will be distributed separately.

Dated on June 9, 2022.

Alberta Utilities Commission

(original signed by)

Vincent Kostas
Acting Commission Member