



TERIC Power Ltd.

eReserve4 Battery Energy Storage Power Plant Project

June 3, 2022

Alberta Utilities Commission

Decision 27234-D01-2022

TERIC Power Ltd.

eReserve4 Battery Energy Storage Power Plant Project

Proceeding 27234

Application 27234-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 eReserve4 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 eReserve4 Battery Energy Storage Power Plant Project (the project or eReserve4). 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 11, 2022, as Application 27234-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 approximately 2.5 acres of privately owned and previously cultivated land and located in the northeast quarter of Section 9, Township 42, Range 9, west of the Fourth Meridian, approximately eight kilometres southeast of the town of Hardisty, in the Municipal District of Provost No. 52, Alberta.

6. TERIC has applied for another 20-MW battery energy storage power plant – the eReserve6 Battery Energy Storage Power Plant Project (eReserve6), which is proposed to be located in the same land location adjacent to eReserve4. The Commission is considering eReserve6 in Proceeding 27236.

7. 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.

8. 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. TERIC indicated that eReserve4 would be constructed before eReserve6.¹ As such, the noise impact assessment for eReserve4 did not consider eReserve6. The assessment predicted that cumulative sound levels would be below permissible sound levels as defined in Rule 012: *Noise Control* at all receptors.

9. 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 24, 2022, that identified no active sharp-tailed grouse or sharp-tailed grouse leks within 500 metres of the proposed eReserve4 project. TERIC concluded that residual effects on sharp-tailed grouse are anticipated to be negligible and not significant.

10. TERIC's environmental assessment found that the project area contains minimal habitat deemed suitable for wildlife species. 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.

11. 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.

12. 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.

¹ Exhibit 27234-X0002, TERIC Power eReserve4 AUC Rule 007 Application_FINAL PDF page12. If granted approval by the Commission, TERIC plans to start construction work in August 2022, with the expected in-service date in November 2022.

13. 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 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 eReserve4 site is completed.

14. 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.

15. TERIC engaged the services of Calvin Consulting Group Ltd. to provide a report on a simulated emission plume at the eReserve4 and eReserve6 site locations 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 the immediate vicinity of the fire, but concentrations would be reduced at 100 metres to below the AAAQO guidelines. The report concluded that all predicted air quality concentrations at the closest residences comply with AAAQO and no immediately dangerous to life or health values would be exceeded at or beyond the site fenceline.

16. 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/or 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.

17. TERIC stated that it has plans to install a thermal imaging camera external detection system at the eReserve4 site. In addition, Tesla has a centralized network operations center (NOC) based in Freemont, California. This NOC is operated 24 hours a day, 7 days a week, and would monitor all live data from eReserve4 by hard-wired internet and/or a global system for mobile communication connections.

18. TERIC explained that Tesla lithium-ion battery modules are composed of small cylindrical form factor cells, similar to the cells used in many laptops and consumer electronics and Tesla lithium-ion batteries do not contain heavy metals such as lead, cadmium, or mercury. Therefore, TERIC stated that the same techniques developed for recycling of 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.

19. 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

20. TERIC confirmed that during construction of eReserve4, TERIC and all contractors will carry insurance, including coverage for any third-party claims. In addition, throughout the construction and operation of eReserve4, the manufacturer of major installed equipment is also required to have sufficient financial resources to self-insure and/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.

21. 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 Nilrem 574S Substation. Currently, the project is in Stage 1 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

22. 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 and finds TERIC's participant involvement program to be adequate. The Commission accepts that the proposed project will comply with permissible sound levels and will have no significant low frequency noise effects.

23. The project area is relatively small in size, and the land has been previously disturbed by cultivation. The Commission accepts the environmental assessment report's conclusion that the project lands include minimal habitat that is suitable for wildlife species. Construction activities are anticipated to take approximately three to four months, which is a relatively short construction period. Considering TERIC's commitment to follow all mitigation measures recommended in the environmental assessment report, and adhere to all applicable standards and guidelines, the Commission is satisfied that the project will have minimal effects on the environment.

24. The Commission accepts that, in the event of a fire, all emission concentrations would comply with applicable AAAQO guidelines at or beyond 100 metres of the project site. 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 750 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 and 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 27234-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.

25. 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 as a 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.

26. 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

27. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 27234-A001 and grants to TERIC Power Ltd. the approval set out in Appendix 1 – Power Plant Approval 27234-D02-2022 to construct and operate the eReserve4 Battery Energy Storage Power Plant.

28. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 27234-A001 and grants to TERIC Power Ltd. the connection order set out in Appendix 2 – Connection Order 27234-D03-2022 to connect the eReserve4 Battery Energy Storage Power Plant to the distribution system of FortisAlberta Inc.

29. The appendices will be distributed separately.

Dated on June 3, 2022.

Alberta Utilities Commission

(original signed by)

Cairns Price
Commission Member