AUC
Alberta Utilities Commission

TERIC Power Ltd.

eReserve3 Battery Energy Storage Project

December 17, 2021

Alberta Utilities Commission
Decision 26221-D01-2021
TERIC Power Ltd.
eReserve3 Battery Energy Storage Project
Proceeding 26221
Application 26221-A001

December 17, 2021

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1 Decision summary

1. TERIC Power Ltd. applied to construct, operate and interconnect its proposed eReserve3 Battery Energy Storage Project, a 20-megawatt (MW) battery energy storage facility located near Clairmont, in the County of Grande Prairie No. 1. The proposed facility is comprised of 14 Tesla Megapack rechargeable lithium-ion batteries, enclosed in individual containers on an engineered pad placed on private land.

2. Norman Hennigar and his son and daughter-in-law, Ross and Lindsey Hennigar, raised a number of concerns with the project, including the risk of fire and other safety matters, and the Alberta Utilities Commission granted them standing to intervene. The Commission held a written hearing to consider the application and convened a one-day oral evidence session to address deficiencies in the evidentiary record.[1]

3. For the reasons described below, the Commission considers that approval of TERIC's project is in the public interest under Section 17 of the *Alberta Utilities Commission Act*, having regard for its social, economic and other effects, including its effect on the environment. The Commission approves TERIC's application to construct and operate the project, and to interconnect it to ATCO Electric Ltd.'s distribution system.

2 Discussion

2.1 Health and safety concerns

4. Norman Hennigar owns land within 800 metres of the project, and Ross and Lindsey Hennigar and their children live approximately 400 metres southeast of the project. Their children's bus stop is approximately 285 metres from the site. They raised a number of health and safety concerns due to their proximity to the project, in particular the risk of fire from the facility and the resulting potential for release of gases or thermal runaway propagation events. They argued that the recent fire at the Victoria Big Battery (VBB) site in Australia,[2] which uses the same Tesla Megapacks proposed here, reinforces uncertainties with the technology and supports their view that the Commission should deny TERIC's application. TERIC asserted that safety is a heavily weighted consideration in its vendor selection process, and Tesla's Megapack was "far superior" to the other products discussed during the oral evidence session. However, the Hennigars submitted that Tesla's assurances are far from independent, and TERIC's proposed

[1] Exhibit 26221-X0053, Notice of oral evidence session.

[2] On Friday, July 30, 2021, a fire incident occurred at 10:30 a.m. at the Victoria Big Battery (VBB) project site in Victoria, Australia during the commissioning phase of this 450 Megawatt-hour project consisting of 212 Tesla Megapacks. 150 firefighters responded to the event. A fraction of those firefighters remained on the site over the weekend after visible flames subsided around 4:30 p.m. on Friday. The County Fire Authority considered the fire was under control by Monday, August 2, 2021 (Oral evidence session transcripts Vol_2021-08-24).

mitigation measures have not been proven to provide adequate protection. Among others, the Hennigars raised concerns with the risk of a thermal runaway event and the associated release of gases in that instance.

Thermal runaway and release of gases

5. Thermal runaway is an event where there is an exothermic reaction, creating heat from one cell that is irreversible, and the damage spreads to one or multiple other cells in the battery unit. The Hennigars are concerned that such an event could occur near their home; TERIC asserts that the Tesla Megapack's design virtually eliminates the likelihood of this occurrence. The Hennigars raised concerns with significant fires related to other battery storage facilities, such as the Arizona battery fire in 2019 and the VBB fire which occurred during commissioning on July 30, 2021, where thermal runaway occurred to neighbouring cells and unit. The VBB fire, as pointed out by the Hennigars, was a Tesla battery system which did in fact have a thermal runaway event.

6. TERIC acknowledged, and the Commission agrees, that because the Tesla Megapack was a new technology, first launched in July 2019, the nature and extent of the associated hazards might not be fully known or understood. However, TERIC noted that Tesla has deployed six gigawatt hours[3] of stationary energy storage projects around the world without a single recorded propagating thermal runaway event until the recent VBB fire. To reduce the risk of such an event, the Tesla Megapack uses individual hermetically sealed cells where all of the constituent component battery cells are sealed within the product as subgroups within enclosures. The Tesla Megapack includes a combination of dedicated runaway gas igniters and overpressure vents built into the roof to mitigate the risk of deflagration hazards in case of thermal runaway or arc flash events. The vents direct all gases, smoke, and flame out of the top of the Tesla Megapack in the event of extremely hazardous conditions, minimizing risk to nearby response personnel.

7. The Tesla Megapack underwent rigorous third-party testing to standards such as UL 1973 and IEC 62619 to ensure that battery modules are resistant to single cell thermal runaway propagation. TERIC explained that these standards are provided by Underwriter Laboratories, a global safety certification company, and the International Electrotechnical Commission, an organization that prepares international standards for all electrical and related technologies, whose certifications and standards respectively are meant to ensure that battery modules are resistant to single cell thermal runaway propagation.

8. Tesla's Megapack Safety Overview stated that internal testing showed module propagation resistance with up to 12 co-located cells sent into runaway at the same time, which would virtually eliminate all likelihood of a thermal event originating from an internal product failure. It also stated, in the event of a fire, that rigorous full-scale fire testing showed that the Tesla Megapack performs in a safe and controlled manner, consuming itself slowly without explosive bursts, projectiles, or unexpected hazards, and without propagating to neighboring Tesla Megapack units. However, TERIC acknowledged that the fire ignited from the first Tesla Megapack unit propagated to the neighbouring unit at the VBB site.

9. TERIC incorporated safety considerations into the design of the project, including equipment spacing, a single cell battery design, thermal insulation, sparker system and roof

[3] The eReserve3 project has 35.1 Megawatt-hour storage capacity and 21.5 Megawatt-hour discharge capacity.

vents. TERIC indicated that it has gone above and beyond industry codes and standards in its project design, such as spacing the Tesla Megapacks to 80 centimetres while the code requires 15 centimetres. The project includes local equipment control to allow the site to be shut down or to isolate itself, if required. TERIC plans to install a thermal imaging camera external detection system at the project site to monitor the whole site, including early signs of thermal runaway in the event of Tesla Megapack and other non-battery equipment fires. In addition, Tesla remotely monitors the key equipment parameters at the project site and will trigger a protection mode if an event is detected that would lead to damage to the battery.

10. Regarding the Arizona fire, which was raised as a concern by the Hennigars, TERIC clarified that the battery at issue is a very different product, supplied by a different manufacturer and the battery was not built to the majority of industry standards that are in place today. These standards were generally written and adopted more broadly after the Arizona fire.[4] TERIC stated that the injuries caused by the Arizona fire were a result of a deflagration issue rather than the fire. TERIC explained that in contrast to what occurred in Arizona, the Tesla Megapack's sparker system would ignite a localized concentration of gases which creates a small pressure wave to open overpressure vents in the roof of the Tesla Megapack, allowing everything to flow out and release pressure and not accumulate a large concentration of gases that could lead to a much larger explosion like the Arizona fire.

11. For the VBB fire, Tesla and the local safety regulator, Energy Safe Victoria (ESV) have completed the investigation into the cause of the event. ESV issued a Statement of Technical Findings. It concluded that the most likely root cause of the incident was a leak within the Tesla Megapack cooling system. The coolant leak, which was external to the battery component, caused a short circuit resulting in heat that led to a fire in an electronic component. This resulted in thermal runaway and fire in an adjacent battery compartment within one Tesla Megapack, which spread to an adjacent second Tesla Megapack.

12. TERIC assured the Commission that the Tesla battery design "virtually eliminates" the risk of thermal runaway; this was included in the Tesla Megapack safety overview document and Tesla's representative Mr. Jan Gromadzki, as TERIC's expert witness, indicated in the oral evidence session that this event was an "outlier."[5] The Commission considers that it is clear from the existence of the VBB fire that the risk of thermal runaway is a real and present risk, albeit potentially an unlikely one in future, and TERIC's assurances that there was essentially no risk of fire was not helpful to the Commission nor, it suspects, reassuring to the Hennigars. All activities carry risk; it is the Commission's role under Section 17 of the *Alberta Utilities Commission Act* to weigh all of the various benefits and drawbacks to proposed projects to determine whether they are in the public interest. In this case, the Commission has taken into account both the likelihood of this risk occurring and the potential impacts should it in fact occur, in arriving at its decision.

13. ESV further concluded that the VBB fire was also contributed to by a few other factors. Because the fire had occurred during commissioning, the supervisory control and data acquisition (SCADA) system had not fully mapped and therefore was unable to provide full data

[4] On April 19, 2019, a 2.16-megawatt-hour lithium-ion battery energy storage system in Arizona had a cascading thermal runaway. When the local firefighting team opened the door to the battery energy storage system, a deflagration event happened, causing serious injuries to several firefighters: Exhibit 26221-X0031, 2021-03-12 Cover Letter and TERIC-HENNIGAR-2021MAR12-001-010, PDF page 21.

[5] Transcript, Volume 1, pages 129-130; Exhibit 35, Appendix 2 - Megapack Safety Overview, PDF page 2.

functionality and oversight to operators, which prevented the receipt of alarms at the control facility. In addition, a key lock was switched to off-line service, which caused the shutdown of telemetry systems, battery cooling systems and protection system. ESV stated that the affected Tesla Megapacks had failed safely, despite total loss. TERIC had also indicated that the VBB facility behaved as expected. It also noted that had the contributory factors not been present, the initial fault would likely have been identified and either manually or automatically contained. ESV advised Tesla that it had no objection to the recommencing of commissioning at the VBB.

14. Tesla has implemented mitigation measures as a result of what it has learned from the VBB file that have been put into place at the VBB facility and across its global Tesla Megapack fleet, including:

- Construction process: Each Tesla Megapack cooling system is to be fully functional and tested when installed on site and before it is put into service; each Tesla Megapack cooling system is to be physically inspected for leaks after it has been functional and tested on site.

- Monitoring: The SCADA system has been modified to map/fully function in one hour, as opposed to the previous 24 hours to ensure that real-time data is available to operators.

- Firmware: A new "battery module isolation loss" alarm has been added, which automatically removes the battery module from service until the alarm is investigated; the procedure for the usage of the key lock has been modified during commission and operation to ensure the telemetry system is operational; the high voltage controller that operates the pyrotechnic fuse will remain in service, even when the key lock is isolated.

15. The Commission observes that these mitigation measures appear to substantially address the causes of the VBB fire identified in the ESV report. However, the Commission notes that the investigation into why the fire resulted in the loss of a second Tesla Megapack is being finalized in an independent engineering report.

16. The Hennigars are concerned with the risks of the release of toxic and flammable gases in the event of a fire at TERIC's proposed battery facility. The air quality data from the VBB fire is of limited use to the Commission in assessing this risk, as no air quality testing was conducted during the time that visible flames were observed at the VBB fire. The air quality was tested by the Environment Protection Authority Victoria (EPA) approximately 1.6 to 1.8 kilometres away from the VBB site approximately two hours after visible flames subsided. The EPA reported that there had been good air quality in the local community but did not provide a breakdown of measurable components. The local fire department issued a toxic air alert for several surrounding communities.

17. TERIC provided the gas composition data at both cell and module levels during thermal runaway from Tesla's UL 9540A report. Mr. Gromadzki testified that based on the gases and the products of combustion emitted by the Tesla Megapack, Tesla does not see the need to monitor any gases because they are not considered particularly hazardous. TERIC also testified that the gas emitted from a battery fire will be similar to a house fire.

18. To better understand the potential health and safety impacts of a Tesla battery fire on residents, the Commission directed that TERIC engage a third-party consultant to perform modelling of the emissions from burning an entire Tesla Megapack. Calvin Consulting Group Ltd. conducted a literature review to derive source and emission data including reported

laboratory test data and then performed the dispersion modelling taking into account local wind data, terrain influences and the locations of the closest residences. The literature review indicated that hydrogen fluoride (HF) is the main contaminant of concern. However, other contaminants were also considered. The modelling results were compared to the *Alberta Ambient Air Quality Objectives* (AAAQOs) and the American Centres for Disease Control and Prevention National Institute for Occupational Safety and Health Immediately Dangerous to Life of Health (IDLH) values. The modelling assessment report concluded:

> In the event of a fire at the Site, predicted 9th highest concentrations for some regulated contaminants (i.e., CO, HF, HCl and Toluene) are predicted to exceed their respective AAAQOs in close proximity to the Site, as would be expected during a fire. With the exception of HF, however, all concentrations are predicted to comply with their applicable AAAQOs at or beyond 100 m of the Site. Additionally, at the downwind distances of the closest residences, all concentrations of all contaminants are predicted to be in compliance with the applicable AAAQOs.
>
> From a health or safety perspective beyond the Site fenceline, all overall maximum 30-minute average concentrations are predicted to be well within applicable IDLH limits within the modelling domain. As such, the modelling performed in this Assessment does not predict any significant long-term air quality impact.[6]

19. The Commission has reviewed the chemistry and toxicity of Tesla's battery at cell, module and entire Tesla Megapack levels, taking into account the findings of this third-party modelling report, and is satisfied that the risk to health as a result of gases released in the event of a fire is reasonably mitigated because the closest residence is approximately 400 metres away and the children's bus stop is approximately 285 metres from the site. The Commission considers that health and safety risk in the event of a fire can be further minimized through TERIC's emergency response plan.

20. Further, in relation to safety, the Commission is satisfied with the various design elements TERIC has incorporated into the project, including design elements relating to prevention of potential thermal runaway, project site-level monitoring and controls, Tesla real-time monitoring, remote monitoring via a 24 hours a day and seven days a week thermal imaging camera detection system, emergency response, and additional spacing between Tesla Megapacks. The battery system is designed and tested to all internationally recognized safety standards applicable to battery facilities.

21. The Commission accepts the commitments TERIC and Tesla made as a result of the VBB fire investigation, including the implementation of firmware enhancements for safety features, improved monitoring capabilities, and construction process changes. TERIC further committed to follow both firmware and software upgrades and standards from time to time, which the Commission considers will reduce the risk of fire. Therefore, the Commission imposes the following as conditions of approval:

- TERIC 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.

[6] Exhibit 26221-X0089, Appendix 1 – J2022-019 Teric Power Tesla Dispersion Modelling Report, PDF page 30.

- TERIC shall submit the full investigation report regarding the Victoria Big Battery fire when it is publicly available.

Emergency response

22. The Hennigars stated that TERIC lacks familiarity with safety issues and incidents with other battery energy storage systems. When the Hennigars asked TERIC to comment on the Arizona battery fire, TERIC indicated that it was not in a position to comment or opine on how TERIC's safety measures or any engineering improvements to battery energy storage systems, might apply in relation to the circumstances described by the Hennigars, which occurred in Arizona. The Commission considers that TERIC should have made better efforts to familiarize itself with recent industry safety incidents of significance, such as the recent battery fire event in Arizona, to better respond to the Hennigars' concerns.

23. With respect to the County's emergency response, the Hennigars were concerned that Regional Fire Services do not have the necessary experience and capacity to deal with an emergency if it were to arise. While Regional Fire Services has not reviewed or confirmed a site-specific emergency response plan, the Commission notes that TERIC discussed the project overview, project plans, and its emergency response plan with Regional Fire Services. In response to feedback received from Regional Fire Services, TERIC confirmed that it would have a company 24/7 emergency contact as part of the emergency response plan, which will be finalized following regulatory approvals, and it committed to installing clear signage on the project site identifying the emergency contact information. TERIC also provided the Tesla Lithium-Ion Battery Emergency Guide to Regional Fire Services, and they identified no concerns with the proposed project.

24. The Commission has taken into account this feedback from the local emergency responder in assessing the adequacy of the emergency response measures in TERIC's application, including that Regional Fire Services did not identify a need for non-standard fire service response equipment or specific drills or training in the event of a fire at the proposed battery storage facility. Nonetheless, the emergency response plan remains to be completed.

25. The Commission understands that the specifics of the emergency response plan, such as access routes, layout, structures and safety procedures are subject to change throughout the construction of the project because the site design and layout are still in the planning phase. Given the safety and health concerns raised by the Hennigars, the Commission requires TERIC to install a thermal imaging camera at the project site and develop and finalize a site-specific emergency response plan with the participation of Regional Fire Services. Consequently, the Commission imposes the following as conditions of approval:

- TERIC shall install a thermal imaging camera at the project site with a 24 hours a day and seven days a week remote monitoring and external detection system, and shall maintain Tesla's real-time monitoring service.

- TERIC shall finalize the comprehensive site-specific emergency response plan with the participation of the County of Grande Prairie No. 1's Regional Fire Services, the fire station personnel in Clairmont, Alberta and the Hennigars, and shall include any mitigation measures required to address the feedback received. TERIC shall submit the site-specific emergency response plan to the Commission at least 90 days prior to the commencement of construction.

26. For the reasons described above, the Commission accepts that the potential risks associated with the project are minimized, to a reasonable degree, by the design of the equipment and ongoing safety upgrades. The Commission also finds that TERIC's proposed emergency response measures are adequate, subject to TERIC preparing, and the Commission reviewing, the site-specific emergency response plan.

2.2 Connection process

27. TERIC would charge and discharge its battery energy storage system through the Alberta Interconnected Electric System via ATCO's distribution system; ATCO provided a letter of non-objection respecting this connection proposal. The project is in the Alberta Electric System Operator (AESO)'s connection process, and the AESO has not expressed any concerns with the project. Given ATCO's and the AESO's lack of objections to the project, the Commission does not have concerns with TERIC's proposal to connect its battery project to ATCO's distribution system in the area.

2.3 Siting

28. The Hennigars took issue with the suitability of the proposed location of the project. In this section the Commission considers their concerns and other factors relevant to the project's siting.

29. Because the battery storage facility would be located at the intersection of two major roads, the Hennigars submitted that it would increase the risk to the Hennigars and other local residents of a motor vehicle colliding with the facility and resulting in a thermal runaway event. However, the distance from the proposed site to the edge of Range Road 51 and Township Road 730 is 38 metres and 30 metres, respectively, which meets the setback requirements from the County of Grande Prairie No. 1 Planning and Development. In assessing the project's siting, the Commission has taken into account the fact that the County did not have any concerns with the site location and the volume of traffic on these two roadways. The Commission also considers that the risk is mitigated by TERIC's commitment to meet the fencing requirement set out in the *Canadian Electrical Code* and the other mitigation measures that will be required by the Commission.

30. The Hennigars also submitted that TERIC failed to fully explore the availability of the northwest corner of the parcel and confirm whether it had offered to provide any additional compensation to the owner of that site. TERIC indicated that the landowner wished to only make available the less desirable agricultural land and this was the determining factor. TERIC added that the northwest corner would require an additional power line across the landowner's property and an additional access road. Instead of disclosing the confidential and commercially sensitive information on the specific locations it surveyed, TERIC provided its screening criteria, which are: the interest of landowners in having a battery on their land, availability of distribution capacity in the surrounding area and the economic viability of the project. TERIC did not view safety as a site selection criterion because it would eliminate any unsafe site at a preliminary stage.

31. The Hennigars submitted that the project would be located on a temporary marsh wetland and immediately adjacent to a vegetated ephemeral drainage. The Hennigars identified two potential concerns with this placement: first, that Tesla's emergency response guideline cautions against exposing the battery storage system to flooding; second, there may be environmental impacts as a result of its placement in a wetland.

32. With respect to the first concern, the Commission acknowledges the concern with flooding, but notes that the assessments completed by TERIC, its environmental consultants and civil engineers have not identified flooding as an issue at the proposed site. Further, to ensure any risks of flooding are mitigated, TERIC would construct the battery system on a raised engineered pad to ensure proper site grade of up to two per cent. A pre- and post-construction water management study of the new facility and surrounding area would also be completed and provided to Alberta Environment and Parks (AEP) to review any potential surface water drainage issues within the area and downstream of the drainage. Given this, and taking into account that TERIC has already received a *Water Act* approval for siting the project at this location from AEP, the Commission finds this risk is adequately mitigated.

33. With respect to the second concern, the wetland at issue is partly overlapped by the project area and will be temporarily disturbed. The wetland is a temporary marsh wetland. BearTracks Environmental Services, which conducted the project's environmental assessment, indicated that the wetland was cultivated and contained no native wetland vegetation species. As a starting point, the Commission observes that the environmental value in terms of native plant species or habitat appears relatively low given its temporary and already-cultivated status. Further, BearTracks indicated it does not anticipate long term impacts to the wetland function resulting from the project's construction. TERIC also contacted AEP to receive feedback on its proposed mitigation measures. AEP did not identify any concerns or make any recommendations beyond its environmental assessment report. BearTracks' evaluation also contained the mitigation measures that will be adhered to during construction and reclamation of the site, as well as an Environmental Protection Plan. Overall, given the value of the temporary wetland from a biodiversity perspective, the mitigation measures proposed to be followed by TERIC per the environmental evaluation, and the expected lack of long-term impacts to wetland function, the Commission is satisfied that the project's location mitigates its potential environmental impacts to a significant degree.

34. The Commission considers that the project is reasonably sited, having regard to the wishes of the landowner hosting the facility, the fencing and distance from nearby roads, the lack of objection from the County, the compliance with applicable setbacks, and the limited expected environmental effects of its placement on previously cultivated, private land. The Commission also finds that the flood risk is mitigated by the placement of the battery on an engineered pad.

2.4 Liability coverage

35. The Hennigars were concerned that there did not appear to be any insurance in place to cover liabilities that might arise during the operation of the project which are not attributable to the manufacturer and instead would be attributable to the operator, i.e., TERIC or WCSB Power Holdings Limited Partnership (the anticipated buyer of the project). The individual principals of TERIC or WCSB will not guarantee any debts and liabilities that may arise during the operation of the project, including personal injuries and property damage, and the Hennigars argue that TERIC's intention to "pass the buck" to WCSB created additional uncertainties and eroded what little comfort they may have had from TERIC's assurances.

36. The simple fact that there is an anticipated buyer for a project does not constitute "passing the buck" in the Commission's view, absent some evidence of an intention to deliberately avoid liability for the project. Instead, in this case TERIC contacted WCSB with respect to its plans to maintain adequate insurance coverage in the event of a fire at the proposed battery storage facility, and indicated that WCSB plans to maintain adequate insurance coverage,

which is estimated to cover general liability claims up to $35.5 million. TERIC understood that this amount is subject to review on a periodic basis as part of the WCSB's strategic planning process, where it evaluates its insurance requirements on a regular basis in order to ensure adequate coverage. Further, in the event of a fire, TERIC is aware that it may be liable for the firefighting costs incurred by the County as set out in its bylaws.

37. While the Commission acknowledges the Hennigars' concerns raised in argument with respect to TERIC's insurance, the Commission also notes that they brought no evidence in support of their assertion that $35.5 million in general liability would be insufficient to cover any personal injuries or property damage. The Commission accepts that $35.5 million will be equivalent to the required general liability of other similar electrical industrial installations and also finds WCSB's plans to evaluate its insurance requirements on a regular basis helps to mitigate concerns respecting adequate coverage.

38. Given the level of uncertainty with respect to what level of insurance would be adequate for this project, and the evolving nature of the cost and liability concerns raised by the Hennigars, 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 and at a level of $35.5 million in general liability (all risks) at minimum.

2.5 Other considerations

Compliance with Rule 007 and Rule 012 requirements

39. Based on its review of TERIC's application materials, the Commission accepts that TERIC has fulfilled the informational and other requirements in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* and Rule 012: *Noise Control*.

40. TERIC conducted a participant involvement program in accordance with Rule 007, including a virtual community open house. The Commission notes that the County of Grande Prairie No. 1, in which the project is located, did not express any concerns with the project.

41. While the Hennigars continue to have outstanding concerns with the project, the Commission recognizes that at the conclusion of a participant involvement program, not all parties may agree. However, the purpose of a participant involvement program is to allow parties to understand the nature of a proposed project, allow the applicants and interveners to identify areas of concern, and provide a reasonable opportunity for the parties to engage in meaningful dialogue with the goal of eliminating or mitigating concerns with the project. Based on its review of TERIC's application materials, the Commission does not consider that there are any material deficiencies in TERIC's participant involvement program.

42. Green Cat Renewables Canada Corporation conducted a noise impact assessment on behalf of TERIC, which concluded that the project would meet Rule 012 requirements, including meeting applicable permissible sound levels and that no significant low frequency noise effects

were predicted. The Commission has reviewed the noise impact assessment and accepts that the project as currently proposed will comply with Rule 012.

Property value and visual impacts

43. The Hennigars asserted that the placement of a utility-scale battery energy storage system next door would have a negative impact on their land value. They also asserted that the five light standards would create excessive light pollution, glare and other nuisances, and the revised plot plan appeared to result in a greater visual impact. TERIC argued that light standards are installed for safety reasons and a deterrent to potential vandalism, a concern expressed by the Hennigars. TERIC explained that the lights will only go on for maintenance purposes, can have deflectors or shields, are adjustable and aimable, and will comply with the general lighting requirements in the Grande Prairie land use bylaw.

44. Absent some evidence to indicate a potential decrease in land value, the Commission cannot conclude that the project will result in a devaluation to the Hennigars' property. The Commission further accepts that the proposed light standards will contribute to improved safety and comply with the County's land use bylaw, and given that, the visual impacts of the project should be relatively minimal. The Commission requires the lighting to be aimed on a targeted basis at the areas needing security lighting, to the greatest degree possible, and further expects that TERIC will review and follow all applicable local bylaws relating to lighting requirements.

Economic benefits

45. Finally, both the Hennigars and TERIC indicated that the project would create additional employment opportunities and procurement of local goods and services. They disagreed on the extent of those benefits. TERIC stated that the project would benefit the community by creating construction jobs and operational jobs, generating tax revenue and procuring materials, supplies and services, whereas the Hennigars argued that the construction period was anticipated to be short and any additional employment opportunities or procurement of local goods and services would be nominal post-construction. TERIC also asserted more broad-ranging benefits, that the project would diversify the Alberta energy market, provide grid services such as frequency response, regulation reserves and ramp rate control and therefore benefit Alberta electricity consumers. The Commission is satisfied that the project will result in some benefits to the local economy and the Alberta energy market, but does not consider it necessary to make a finding on the precise nature and scope of the benefits in the context of assessing this project.

3 Decision

46. In accordance with Section 17 of the *Alberta Utilities Commission Act*, the Commission must assess whether the project is in the public interest, having regard to its social, economic and environmental effects. The Commission has previously found that the public interest will be largely met if an application complies with existing regulatory standards, and the project's benefits to the public outweigh its negative impacts. For the reasons described in this decision, the Commission is satisfied that this is the case here. Battery storage projects such as this one allow for electricity to be drawn from the Alberta Interconnected Electric System, including that generated from intermittent renewable energy sources such as wind and solar, and released when needed. This diversifies the sources of electric generation within the province and allows for the predictable deployment of low-carbon generation sources. Further, both the Hennigars and

TERIC have indicated that the project will create some additional employment opportunities and procurement of local goods and services. The Commission has weighed these general and specific benefits against the negative impacts of the project and has taken into account the Hennigars' concerns in this analysis. As described in the sections above, the Commission is satisfied that the negative effects of the project have been adequately mitigated both through measures proposed by TERIC and through implementation of conditions on its approval. As a result, the Commission finds that the project's benefits outweigh its impacts.

47. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 26221-A001 and grants to TERIC Power Ltd. the approval set out in Appendix 1 – Power Plant Approval 26221-D02-2021.

48. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 26221-A001 and grants to TERIC Power Ltd. the connection order set out in Appendix 2 – Connection Order 26221-D03-2021.

49. The appendices will be distributed separately.

Dated on December 17, 2021.

Alberta Utilities Commission

(original signed by)

Carolyn Dahl Rees
Chair

(original signed by)

Cairns Price
Commission Member

(original signed by)

Vera Slawinski
Commission Member

Appendix A – Summary of Commission conditions of approval

This section is intended to provide a summary of all conditions of approval for the convenience of readers. In the event of any difference between the directions and conditions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

The following are conditions of Decision 26221-D01-2021 that require follow-up with the Commission, and will be tracked as conditions of Power Plant Approval 26221-D02-2021 using the AUC's eFiling System:

- TERIC shall finalize the comprehensive site-specific emergency response plan and with the participation of the County of Grande Prairie No. 1's Regional Fire Services, fire station personnel in Clairmont, Alberta and the Hennigars, including any mitigation measures required to address the feedback received. TERIC shall submit the site-specific emergency response plan to the Commission at least 90 days prior to the commencement of construction.

- TERIC shall submit the full investigation report regarding the Victoria Big Battery fire when it is publicly available.

The following are conditions of Decision 26221-D01-2021 that do not require follow-up with the Commission:

- TERIC shall install a thermal imaging camera at the project site with a 24 hours a day and seven days a week remote monitoring and external detection system, and shall maintain Tesla's real-time monitoring service.

- TERIC 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 at all times during the construction and operation of the project, maintain insurance coverage that is sufficient to protect against any reasonably foreseeable liabilities and at a level of $35.5 million in general liability (all risks) at minimum.