

Pieridae Alberta Production Ltd.

Regulatory Appeal of Decision to Approve Application 31097955 and Issue Pipeline Licence 62559

February 12, 2025

Alberta Energy Regulator

Decision 2025 ABAER 001: Pieridae Alberta Production Ltd. Regulatory Appeal of Decision to Approve Application 31097955 and Issue Pipeline Licence 62559

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2025 ABAER 001

Pieridae Alberta Production Ltd.

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Decision

[1] Having considered all of the evidence carefully, the Alberta Energy Regulator (AER) confirms the decision of the AER Regulatory Applications group (AER Regulatory Applications) to approve application 31097955 and issue pipeline licence 62559 (licence 62559) to Pieridae Alberta Production Ltd. (Pieridae).

[2] In reaching this decision, we, the AER hearing panel presiding over this proceeding, considered all relevant materials properly before us, including each party's evidence and argument. Accordingly, references in this decision to specific portions of the evidence are intended to assist the reader in understanding our reasoning on a particular matter and do not mean that we did not consider all relevant portions of the evidence.

Introduction

Background

[3] On February 19, 2021, Pieridae filed application 31097955 with the AER for a licence to construct and operate a 0.64 kilometres (km) pipeline to transport sour natural gas with a hydrogen sulphide concentration of 32% from an existing well site at 10-07-006-02W5 to tie into an existing pipeline at 07-07-006-02W5 near Beaver Mines, Alberta. On March 20, 2021, M. Judd (Mr. Judd) filed a statement of concern about this application. He raised concerns about the transfer of assets from Shell Canada Limited (Shell) to Pieridae and safety and environmental concerns about the new pipeline. The AER approved Pieridae's application without a hearing and issued licence 62559 on August 16, 2021.

[4] On September 12, 2021, the AER received a request for a regulatory appeal from Mr. Judd under Part 2, Division 3 of the *Responsible Energy Development Act (REDA)*, specifically section 38, concerning the AER's decision to approve application 31097955 and issue licence 62559 to Pieridae. Mr. Judd requested that the AER revoke its decision to issue licence 62559. The AER granted Mr. Judd's request for a regulatory appeal on January 19, 2022.

[5] Shell has carried out oil and gas operations in Alberta for many decades, including in the Waterton region where this pipeline is located. In 2017, Shell applied to the AER for a licence to construct and operate a pipeline in the same location as that currently covered by licence 62559. This

pipeline was to replace an existing pipeline constructed in 2001 that was no longer suitable for use. The AER approved Shell's application and issued a pipeline licence in 2018; however, Shell never built the pipeline, and the licence expired in 2020.

[6] In 2019, Shell sold many of its Alberta energy assets, including wells, facilities, and pipelines, to Pieridae. When energy assets are sold in Alberta, the associated AER licences do not automatically transfer to the purchaser. The AER must approve such transfers following a specific regulatory application and review process for licence transfers. Shell and Pieridae twice submitted licence transfer applications for these assets to the AER. The first application, filed in 2019, was unsuccessful. The second application, filed in 2021, was withdrawn by the companies in 2022.

Hearing

[7] The AER held a public, in-person hearing for this proceeding at Govier Hall in Calgary, Alberta, before hearing commissioners C. L. F. Chiasson (presiding), S. Mackenzie, and H. Robinson. The panel heard evidence from November 19 to 21 and closing arguments on November 22, 2024. Hearing participants are listed in Appendix 1.

Regulatory Framework

[8] The AER's mandate under *REDA* is to provide for the efficient, safe, orderly, and environmentally responsible development of energy and mineral resources in Alberta.

[9] Pursuant to part 4 of the *Pipeline Act*, and in accordance with *Directive 056: Energy Development Applications and Schedules (Directive 056)*, the statutory decision maker within the AER's Regulatory Applications group approved application 31097955 and issued licence 62559. Under section 38(1) of *REDA*, an eligible person may request a regulatory appeal of an appealable decision. An "appealable decision" includes a decision made by the AER under an energy resource enactment and made without a hearing. An "eligible person" is defined in section 36(b)(ii) of *REDA* as a person who is directly and adversely affected by a decision made under an energy resource enactment without a hearing.

[10] On September 12, 2021, the AER received a request for a regulatory appeal from Mr. Judd concerning the AER's decision to issue licence 62559 to Pieridae. The AER subsequently determined that Mr. Judd was directly and adversely affected by the decision to issue the licence under the *Pipeline Act* without a hearing. The AER granted Mr. Judd's request for a regulatory appeal of licence 62559.

[11] The hearing commissioners constituting this hearing panel are authorized under section 12 of *REDA* to conduct hearings of regulatory appeals and make decisions in the name of and on behalf of the AER. Under section 41(2) of *REDA*, we must determine whether to confirm, vary, suspend, or revoke AER Regulatory Applications' decision to issue licence 62559.

[12] The AER issued licence 62559 under the *Pipeline Act*. Section 6 of the *Pipeline Act* prohibits pipeline construction without a licence. Similarly, section 16 of the *Pipeline Act* requires a licence for pipeline operation. Section 9 of the *Pipeline Act* allows the AER to grant a pipeline licence subject to any terms and conditions expressed in the licence.

[13] The *Pipeline Rules* establish more detailed requirements for pipeline licence applications. Section 7 of the *Pipeline Rules* requires licence applications to meet the requirements of *Directive 056*. Section 11 of the *Pipeline Rules* requires a pipeline licensee to meet the requirements of *Directive 071: Emergency Preparedness and Response (Directive 071)*. Sections 12, 14 and 15 of the *Pipeline Rules* require a licensee to meet the requirements of the CSA Group standard *CSA Z662: Oil and Gas Pipeline Systems (CSA Z662)* concerning aspects of pipeline design, construction, and operations.

[14] As set out in section 15 of *REDA*, when conducting a regulatory appeal for an energy resource activity under an energy resource enactment, we must consider the interests of landowners. Under section 3 of the *Responsible Energy Development Act General Regulation (REDA General Regulation)*, we must also consider (a) the social and economic effects of the energy resource activity, (b) the effects of the energy resource activity on the environment, and (c) the impacts on a landowner as a result of the use of the land on which the energy resource activity is or will be located.

[15] In a regulatory appeal, the onus of proof is on the requester, who must provide evidence that supports their position on the balance of probabilities; that is, the requester must bring sufficiently clear, convincing, and cogent evidence to satisfy the balance of probabilities test, to succeed in the regulatory appeal. In this case, Mr. Judd is the requester and bears the onus of presenting sufficiently clear, convincing, and cogent evidence to persuade us to revoke licence 62559.

Issues of this Regulatory Appeal

[16] Section 31(2) of the *Alberta Energy Regulator Rules of Practice (Rules of Practice)* provides that the AER shall identify the matters or issues to be considered in a regulatory appeal. On March 14, 2023, we determined that this regulatory appeal would address the following four issues (the scoping decision):

- the determination of the emergency planning zone for the pipeline, including methodology used and the application of AER modelling requirements;
- emergency preparedness and proposed public protection measures;
- the potential effects of the pipeline on the environment; and
- the construction and operation of the pipeline, including the design and monitoring of the pipeline and the pipeline integrity management program.

[17] We rejected four other issues proposed by Mr. Judd:

- A. Liability – legal uncertainty on the allocation of liability in the case of an H₂S release event, as well as abandonment, reclamation, and other cleanup costs.
- B. *Directive 067* information – disclosure of information received by the AER under *Directive 067* and *Directive 088* in relation to the application for the pipeline, and the AER’s evaluation of that information.
- C. Pieridae’s financial capability – Pieridae’s financial capacity to safely and responsibly manage the proposed pipeline and the associated infrastructure or to address the current and future abandonment and reclamation liabilities associated with the Foothills assets and their other assets.
- D. Shell – Pieridae sale agreement – consent from Shell to construct and operate the pipeline.

[18] Mr. Judd did not appeal the scoping decision, nor did he apply under section 42 of *REDA* to have the AER reconsider it.

[19] On April 13, 2023, Mr. Judd filed a motion under section 44 of the *Rules of Practice* seeking an order for disclosure and access to all information collected, received, assessed, or compiled or produced by the AER under *Directive 067: Eligibility Requirements for Acquiring and Holding Energy Licences and Approvals (Directive 067)* and *Directive 088: Licensee Life-Cycle Management (Directive 088)* in relation to application 31097955 and licence 62559 and in relation to a holistic licensee assessment of Pieridae Alberta Production Ltd. and its eligibility to acquire and hold a licence for energy development in Alberta.

[20] In our May 19, 2023, decision on this motion, we clarified that the issues to be addressed in this regulatory appeal did not include the AER’s decision to grant licence eligibility to Pieridae. We further denied Mr. Judd access to any information generated through *Directives 067* and *088*. On May 13, 2024, in *Judd v. Alberta Energy Regulator*, 2024 ABCA 154, the Alberta Court of Appeal found that we were entitled to set the issues for the hearing and that the issues scoped in (as well as those we rejected) should remain untouched, but that we erred in denying Mr. Judd access to any of the information generated through *Directives 067* and *088*. The Court of Appeal directed that while the AER should not be subjected to unreasonable fishing expeditions, Mr. Judd is entitled to the production of records that are relevant and material to the issues, regardless of their origin.

[21] We applied the Court of Appeal’s ruling when we redetermined Mr. Judd’s motion on June 27, 2024 (the disclosure decision). We directed AER Regulatory Applications to disclose any current licensee capability assessments or holistic licensee assessments prepared by the AER about Pieridae Alberta Production Ltd. (BA code A5C4), together with any information used by the AER to prepare such assessments related to the following operational, compliance, and pipeline related parameters: field

noncompliance follow-up rates, field noncompliance rate, pipeline incident rate, and pipeline abandonment rates. We declined to direct disclosure of information related to Pieridae's financial status and financial capability on the basis that Mr. Judd had not convinced us that it was sufficiently relevant and material to the regulatory appeal to outweigh the fact that we had excluded those issues in the scoping decision. Mr. Judd did not appeal the disclosure decision, nor did he apply under section 42 of *REDA* to have the AER reconsider it.

[22] In accordance with our direction, AER Regulatory Applications filed a licensee capability assessment report dated July 30, 2024, for Pieridae Alberta Production Ltd., together with supporting documents used in preparing that report. AER Regulatory Applications indicated that it had redacted some information about Pieridae's and its peer groups' financial information from the disclosed records on the basis that the disclosure decision indicated that we would "not direct any disclosure related to details regarding Pieridae's financial information." We also redacted some further information from the disclosed records on that basis before placing them on the public record and making them available to Mr. Judd. Mr. Judd did not appeal these redactions, nor did he apply under section 42 of *REDA* to have the AER reconsider the redactions.

[23] During the hearing and in our prior correspondence to the parties, we repeatedly reminded the parties of the issues that were in scope for the hearing and those excluded.

[24] As part of his evidence, Mr. Judd filed a financial analysis prepared by Dr. Finn, with supporting documents, related to Pieridae Energy Limited (Pieridae Energy). Dr. Finn testified that his analysis was intended to produce a licensee capability assessment for Pieridae Energy, focusing on the level of financial stress, one of six factors considered by the AER in assessing a licensee's risk. Dr. Finn acknowledged that his financial analysis was not for Pieridae Alberta Production Ltd., the holder of licence 62559. Mr. Judd testified that a reason for his interest in what Pieridae's "real financial capabilities are" is a concern that Pieridae will leave the taxpayers with "all the billions of dollars of environmental cleanups that the Royal Dutch Shell corporation initiated."

[25] AER Regulatory Applications testified that the AER's *Directive 056* licence application process confirms whether the licensee has eligibility under *Directive 067*. It verified that Pieridae holds general eligibility under *Directive 067* and must file financial information with the AER annually to maintain that eligibility.

[26] AER Regulatory Applications also testified about the AER's preparation and use of a licensee capability assessment. It confirmed that a licensee capability assessment provides a suite of information, specific to a licensee, for consideration by AER decision makers when assessing licensee capability under *Directives 067* and *088* and that the AER does not currently use a licensee capability assessment when considering applications under *Directive 056*. AER Regulatory Applications indicated that the information in the licensee capability assessment disclosed in this proceeding is specific to Pieridae

Alberta Production Ltd. and its licences. It confirmed that Pieridae Energy does not have an AER business associate (BA) code required under the *Pipeline Act* and *Directive 067* to apply for and hold a pipeline licence.

[27] While we gave Mr. Judd leeway to persuade us that Dr. Finn’s evidence was relevant and material to the issues in scope for the hearing, we have placed little weight on that evidence. *Directive 067* states that to maintain licence eligibility, “[l]icensees and approval holders must submit financial statements for the licensee and any parent corporation (if applicable) and a financial summary (Schedule 3) annually through the designated information submission system.” Schedule 3 requests that the filed financial information is for the applicant, licensee, or approval holder.

[28] Dr. Finn’s analysis and the materials supporting it are for Pieridae’s parent company, Pieridae Energy. Mr. Lloyd from AER Regulatory Applications confirmed that it would not be possible for a third party to reconstruct a licensee capability assessment and that using financial data for Pieridae Energy rather than Pieridae Alberta Production Ltd. would “only help in a very tangential and partial way to calculating only one of the six components” in a licensee capability assessment. This is because the AER uses financial data submitted by a licensee under Schedule 3 to prepare the financial component of a licensee capability assessment, not publicly available corporate financial data.

[29] During the hearing, it became clear to us that Mr. Judd was still pursuing the matter of licence transfers between Shell and Pieridae, despite it being excluded by the scoping decision. He addressed the licence transfer matter in his written submission, testimony, and final argument. Mr. Judd’s representative stated, “[a]nd Judd respects the Board’s scoping decision...it’s probably obvious to the Panel and others that Judd was also employing a backdoor logic to try to bring some of those issues into scope.” Although Mr. Judd’s final argument included comments acknowledging the licence transfers were out of scope, we believe that the ongoing attempts by Mr. Judd described above were aimed at relitigating or otherwise reopening the scoping decision.

[30] Mr. Judd’s continued insistence on raising questions of operator eligibility, financial capability, and the impacts of the asset transfer between Shell and Pieridae suggests to us that he was less interested in the granting of the licence for this pipeline and more interested in the propriety of the asset transfer. In final arguments, Mr. Judd’s representative stated:

And I would say although not directly relevant to your decision, I’d like to politely send a message back to the Board that this all could have been avoided if the Board had properly managed the failed licence transfer. We’re five years into this. We’ve got a massive amount of assets and liabilities that are hanging out there without a proper licensee. And much of the confusion around this proceeding has been generated by the fact that that issue has been left hanging, and I would just encourage that you take note of that in your decision and go back to your colleagues and say, you know, this is something we really need to sort out because it’s not in the public interest. And this is going to happen over and over again until these types of issues get solved.

[31] That is a wholly separate question and process than the one before us, which is to confirm, vary, suspend, or revoke licence 62559.

[32] As confirmed by the Court of Appeal, the scoping decision stands. Where Mr. Judd's evidence touched directly on the hearing issues in scope, we have given that evidence due consideration and weight. However, where Mr. Judd's evidence related primarily to matters excluded by the scoping decision, we have decided not to give that evidence weight.

[33] During final arguments, Mr. Judd's representative raised concerns about the need for the pipeline. We did not consider its need as a hearing issue because Mr. Judd did not identify it as a hearing issue for us to determine. Therefore, we did not consider the need for this pipeline in our decision.

Emergency Planning Zone

[34] The issues we set for this hearing include the determination of the emergency planning zone for the pipeline, including methodology used and the application of AER modelling requirements. Here, we discuss the relevant regulatory requirements, the parties' evidence, and our determination of this issue, with reasons.

Relevant Regulatory Requirements

[35] An emergency planning zone is a geographic area around wells, pipelines, or facilities where the presence of hazardous substances, such as hydrogen sulphide, requires specific emergency preparedness by the duty holder.

[36] This pipeline requires an emergency planning zone because of the hydrogen sulphide content of the natural gas to be transported. An emergency planning zone provides reasonable estimates of the primary hazard area, especially in areas where short-term exposure to high concentrations of sour gas could occur, so that an emergency response plan is meaningful and can be executed effectively. A specific calculation methodology is used to calculate the emergency planning zone. The computer program ERCBH2S must be used to calculate the emergency planning zones for sour gas wells, pipelines, and facilities in Alberta. ERCBH2S was initially developed in 2008 by the Energy Resources Conservation Board, the AER's predecessor.

[37] The regulatory requirements concerning emergency planning zones are documented in section 3 of *Directive 071, Manual 026: Emergency Preparedness and Response Guide* and *Directive 071 – ERCBH2S Model: ERCBH2S – Calculating Emergency Response and Planning Zones for Sour Wells and Sour Pipelines*.

The Parties' Evidence

[38] Mr. Judd raised concerns about the methodology used to calculate the pipeline's emergency planning zone. Shell, the previous operator of the Waterton field, had applied in 2017 to construct a similar pipeline. The emergency planning zone size calculated by Shell using ERCBH2S was determined to be 1.58 km, and Mr. Judd's home was within the emergency planning zone. This size contrasts with the smaller 0.7 km emergency planning zone calculated by Pieridae for this pipeline using ERCBH2S.

[39] This size reduction resulted in Mr. Judd's residence being outside the pipeline emergency planning zone. Mr. Judd did not understand why the emergency planning zone size had changed and stated that Pieridae did not provide him with a clear and understandable reason for this change. Mr. Judd was also concerned that Pieridae had changed the Shell emergency planning zone value without consulting him and stated this was contrary to *Directives 056* and *071*.

[40] Mr. Judd also mentioned that "Pieridae has gerrymandered the EPZ boundaries to explicitly avoid Judd's and several other residences. Judd rejects this as implausible given that the input data would have been identical to the data used by Shell in its original applications."

[41] Pieridae confirmed it used ERCBH2S to calculate the emergency planning zone and that qualified professionals completed the work. Pieridae witnesses explained that the calculated emergency planning zone differed from Shell's previous work due to changes in the pipeline design and operating conditions. In response to Mr. Judd's information requests, Pieridae noted: "Shell's EPZ for the project was larger, however its calculations were based on a pipeline without a liner. The subject pipeline will have a liner, which reduces the release volume and EPZ size. The EPZ calculation was corrected by Pieridae to reflect the actual pipeline specifications, and the resultant release volume and EPZ."

[42] In May 2021, AER Regulatory Applications reviewed the approach used by Pieridae to model the high-density polyethylene liner in ERCBH2S. It concluded that the modelling methodology was appropriate, given the installation of the liner and the subsequent reduction in the pipeline flow capacity.

[43] In addition to the pipeline design changes, Pieridae stated that it altered two of the default input parameters in ERCBH2S to account for the planned pipeline operating conditions. The emergency shutdown valve closure time was reduced from 60 to 10 seconds, and the emergency shutdown valve low-pressure trigger was reduced from 1500 to 1000 kilopascals. The engineering assessment completed by Pieridae for the design and operation of the pipeline emergency shutdown devices described that "(t)he closure parameters have been selected with tight margins to our expected operating conditions. This will minimize the potential release volume in the event of a pipeline break, while still allowing for operational variability without causing nuisance shutdowns."

[44] Pieridae confirmed that the emergency planning zone calculation included all the pipeline segments from the 10-07 well site to the downstream compressor location at 06-12 and did not solely consider the impact of licence 62559. The total combined length of the pipeline segments is 3.28 km, reflecting that no line break valves or other physical devices separate the pipeline into smaller sections between the two locations; therefore, the individual segments act as one continuous internal gas volume.

[45] Mr. Judd explained that the only access road to his residence is the Seven Gates Road, which leads down the Screwdriver Creek valley. In an emergency, his evacuation route would pass through the emergency planning zone. Mr. Judd also noted that his residence is within at least seven emergency planning zones in the Waterton area.

[46] Pieridae confirmed Mr. Judd's residence is 290 metres (m) outside the calculated emergency planning zone. However, the emergency planning zone was expanded to include his home and his access road as his emergency evacuation route passes through the pipeline emergency planning zone. This is in accordance with *Directive 071* requirements.

[47] Pieridae challenged Mr. Judd's allegations about lack of consultation. It referred to extensive participant consultation materials on this proceeding's record and the additional communication details it provided in response to Mr. Judd's specific information requests.

Analysis and Reasons

[48] We find that the emergency planning zone calculation was correctly determined using ERCBH2S. This pipeline's emergency planning zone is a smaller calculated value than the one Shell previously gave Mr. Judd. The reduction in the calculated emergency planning zone is primarily due to using a high-density polyethylene liner, which Shell's design did not include. As noted by Pieridae in its supplemental information responses to AER Regulatory Applications, the liner reduces the internal diameter of the pipeline, which decreases the gas volume in the pipe, resulting in a smaller calculated emergency planning zone size.

[49] This pipeline segment connects to the existing Waterton pipeline network. ERCBH2S requires that the emergency planning zone calculation must be based on the equivalent length of pipe between the emergency shutdown valves. Although the constructed pipeline length is only 610 m, there are four additional pipeline segments between the emergency shutdown valves, accounting for a total length of 3.28 km. The individual segments and the combined length have been correctly modelled.

[50] The changes made by Pieridae to the standard default values for closure time and the low-pressure trigger for the emergency shutdown valves are appropriate, given the proposed operating conditions. Pieridae provided an engineering assessment to support these changes. These are in accordance with section 23(2) of the *Pipeline Rules* that requires a licensee to conduct an engineering assessment to define the pipeline operating conditions and the closure parameters of the automatically

actuated emergency shutdown devices that will ensure the release volume used in calculating the emergency planning zone in the event of a pipeline break is as low as reasonably practicable. These operational practices also reduced the size of the emergency planning zone.

[51] Mr. Judd's residence does not fall within the calculated emergency planning zone. However, the egress route from his residence passes through the calculated emergency planning zone. *Directive 071* mandates that the size and shape of the emergency planning zone must reflect egress routes. For this reason, Pieridae included Mr. Judd's residence within the emergency planning zone.

[52] We note a difference between how emergency planning zones are calculated at the licence application stage under *Directive 056* and for emergency planning purposes under *Directive 071*. This difference in approach, combined with a pipeline design that differed from Shell's previous design, may have caused some confusion for Mr. Judd concerning the timing and adequacy of the notification process.

[53] At the licence application stage, in accordance with *Directive 056*, the emergency planning zone is calculated using the licensed maximum conditions. No adjustments to the size or shape of the emergency planning zone are required. The information, in combination with the pipeline category, is used to define the radius for the participant involvement program.

[54] Once the licence is approved, the emergency planning zone calculation is refined to account for operating conditions. The size and shape are adjusted to account for public involvement program feedback and to reflect features like access and egress routes that may affect timely emergency response. These changes, in accordance with *Directive 071*, expand the emergency planning zone to include those residents on dead-end roads that rely on egress through the emergency planning zone.

[55] The evidence on this proceeding's record and Pieridae's testimony demonstrate that the size and shape of the emergency planning zone was modified to include Mr. Judd's residence due to the location of his egress route in accordance with *Directive 071*.

[56] The participant involvement program completed by Pieridae and set out in its audit documentation package confirms that Mr. Judd was consulted as per the requirements of *Directive 056*. Under *Directive 056* requirements, Mr. Judd was entitled to notification of Pieridae's pipeline application based on the distance of the pipeline from his residence. The record shows that Pieridae expanded and adjusted its practices for Mr. Judd to a personal consultation level, as is responsible for it to do, given its awareness of Mr. Judd's previous concerns.

[57] Mr. Judd has not persuaded us that Pieridae incorrectly calculated the pipeline's emergency planning zone or did not meet the public involvement requirements of *Directives 056* and *071*.

Emergency Preparedness and Public Protection

[58] The issues we set for this hearing include emergency preparedness and proposed public protection measures. Here, we discuss the relevant regulatory requirements, the parties' evidence, and our determination of this issue, with reasons.

Relevant Regulatory Requirements

[59] Section 11(2) of the *Pipeline Rules* requires a pipeline's licensee to prepare and maintain an emergency response plan in accordance with *Directive 071*.

[60] *Directive 071* sets out emergency response and preparedness requirements for various energy sites, including those regulated under the *Pipeline Act*. It addresses hazard identification and consequence analysis, public and relevant authority involvement, preparation and maintenance of emergency response plans, public protection measures, emergency response preparation, training, and continuous improvement.

[61] The duty holder must follow *Directive 071*'s requirements. Section 1.2 of *Directive 071* indicates that the responsible duty holder is specified in legislation; here, we interpret the duty holder to be Pieridae as the licensee of licence 62559, in accordance with section 11(2) of the *Pipeline Rules*.

[62] An emergency response plan is a comprehensive plan to protect the public and the environment. It includes criteria for assessing an emergency and procedures for mobilizing response personnel and agencies and establishing communication and coordination among the responders. The duty holder will determine the type and amount of information in the emergency response plan based on the potential hazards identified by the duty holder. The duty holder must have an emergency response plan with procedures that will aid in effective response to an emergency originating from its operations. An emergency response plan must be detailed in proportion to the duty holder's operations and address hazards and potential consequences of the emergency scenarios that the operations pose to the public and the environment.

[63] Under section 5.1(26) of *Directive 071*, this pipeline requires an AER-approved emergency response plan because Mr. Judd is a nearby resident whose egress route is through the emergency planning zone. A duty holder must ensure that an AER-approved emergency response plan is approved before starting operations.

[64] Duty holders must develop a corporate emergency response plan, which they can use to manage incidents when an AER-approved emergency response plan is not required. Section 5.2 of *Directive 071* indicates that corporate emergency response plans do not require AER approval but are subject to AER review and audit.

[65] *Directive 071* indicates that other important aspects of emergency preparedness and response include developing working relationships with other emergency responders, promoting public safety awareness, and developing emergency response capabilities.

The Parties' Evidence

[66] Mr. Judd testified that the subject pipeline is about one kilometre straight across the valley from his house. He stated that it is about two kilometres by the road system to get to the pipeline from his home.

[67] Mr. Judd spoke about his longstanding concerns and fear about living in an area crisscrossed by sour gas pipelines and other related infrastructure. He questioned, “[I]s a small company that has limited resources going to be able to deal with big problems?”. Mr. Judd said the threat of undetected and always potentially lethal releases of hydrogen sulphide from a nearby pipeline is a constant worry, as is the thought of sheltering in place in a drafty log house, all of which is exacerbated by the thought of having to evacuate through an emergency planning zone, or not being able to evacuate due to conditions caused by severe weather.

[68] Mr. Judd gave examples of how he had to evacuate his home twice. In 1995, he was evacuated because of an undetected 3-millimetre (mm) pinhole leak in a nearby sour gas pipeline. In 2007, he was evacuated due to a 300 mm split of a sour gas pipeline in the Screwdriver Creek area, which he believed killed two of his horses. Mr. Judd also testified that in 1997, his neighbour noticed the smell of sour gas and found a dead cow by a pipeline. He stated that the pipeline leak was subsequently determined to be a pinhole leak.

[69] In Mr. Judd’s view, corrosion was at the heart of the pipeline failures. We have addressed Mr. Judd’s concerns about corrosion in the pipeline construction and operation section of this decision.

[70] According to Mr. Judd, while Shell’s supervisory control and data acquisition (SCADA) system and emergency shutdown valves activated during the 2007 pipeline failure, the same sort of equipment did not activate when pinhole leaks occurred in pipelines in 1995 and 1997.

[71] To underscore his concerns about undetected sour gas leaks, Mr. Judd spoke about how he smelled gas while driving along Screwdriver Creek shortly after the 2007 pipeline failure. He quickly sped away, terrified to take another breath. He notified Shell and was told that the fix to the pipeline failure had failed.

[72] Mr. Judd is not convinced that the emergency response of sheltering in place will keep him safe during an uncontrolled sour gas leak. His concern stems from the fact that he lives in a drafty log house. He said that if flies can get into his house, which they do, then so can sour gas. Mr. Judd acknowledged that Shell had spent money to improve the airflow in his log house. He indicated that he

appreciated those efforts, which helped considerably. In response to our question about options that might address his concerns about sheltering in place, Mr. Judd indicated that unless a helicopter could immediately pluck him out from his home, he does not feel he has very good options in a sour gas emergency.

[73] Mr. Judd raised other concerns, including

- whether mutual aid agreements with emergency response agencies must be in writing;
- whether Pieridae has conducted “blind” emergency response training exercises, where prior notice of the exercise is not given to Pieridae staff and partners;
- whether a comprehensive emergency response plan is required for the network of wells and feeder pipelines this pipeline feeds into; and
- whether Pieridae submitted its corporate emergency response plan to the AER for approval.

[74] Pieridae filed an emergency response plan for this pipeline, *Pieridae Alberta Production Ltd. Waterton 61 ERP*, with the AER for approval on September 23, 2022. Additional emergency response plans, including corporate emergency response plans, are also on this proceeding’s record:

- *Pieridae Alberta Production Ltd. Waterton 61 ERP, Redacted, May 15, 2023*
- *Pieridae Alberta Production Ltd. Waterton Area ERP, updated, October 16, 2024*
- *Pieridae Alberta Production Ltd. Waterton 61, Corporate ERP, 2022*
- *Pieridae Alberta Production Ltd. Waterton 61, Waterton Complex Core, ERP, October 16, 2024*

[75] Through the information request process, Mr. Judd inquired whether Pieridae had submitted its corporate emergency response plan for AER approval. Pieridae answered that its corporate emergency response plan was filed and registered with the AER and that, as per section 5.2 of *Directive 071*, corporate emergency response plans do not require AER approval.

[76] In its final argument, Pieridae’s counsel submitted that the onus is on Mr. Judd to demonstrate where gaps exist between its emergency response plans and *Directive 071*. In Pieridae’s view, by focusing on past incidents involving other pipelines and a different company and not on the subject pipeline and the emergency response plans filed by Pieridae or the requirements in *Directive 071*, Mr. Judd did not discharge his onus.

[77] Pieridae’s Chief Commercial Officer, Mr. Kunkel, and other Pieridae witnesses testified that by constructing and operating the pipeline in accordance with all regulatory requirements, uncontrolled sour gas releases are unlikely. Mr. Simon, Pieridae’s Integrity Inspector, said that pipeline operations have run for 15 years without incident, in part because Pieridae has incorporated learnings and safeguards from Shell’s previous incidents.

[78] Pieridae said that in the event of a sour gas leak from the pipeline, it has developed robust emergency response plans. Pieridae said its emergency response plans contain detailed procedures for identifying the source of a release, locating and communicating with individuals in the affected area, and coordinating and mobilizing the equipment needed to effectively protect individuals in an affected area. Response equipment includes gas monitors, breathing equipment, four-by-four vehicles, and air quality monitoring units. Pieridae testified its emergency response plans are structured to ensure incident classification and coordinate appropriate actions, including mutual aid action, through its control room and trained management and field personnel available 24 hours a day.

[79] Pieridae noted that Shell facilitated work to address air infiltration at Mr. Judd's house. In its final argument, Pieridae submitted that Decision 2013 ABERCB 009, which supported shelter in place as an appropriate default emergency response measure for Mr. Judd in the event of a release, is still the right approach.

[80] Pieridae's witnesses testified that sheltering in place would be an effective first response for Mr. Judd because his residence is outside the calculated emergency planning zone for the pipeline, and the predominant winds typically blow away from his residence. In the responses to Mr. Judd's information requests, Pieridae stated that because it expanded the emergency planning zone to include Mr. Judd's residence, he would receive the same shelter-in-place notification as others within the emergency planning zone. In emergency situations, it recommends sheltering in place to residents within the emergency planning zone until air monitors are in place to inform Pieridae on taking further emergency response actions. During cross-examination, Pieridae indicated that if Mr. Judd is sheltering in place and an emergency escalates, it could assist him in evacuating. It has multiple ground and air support options.

[81] Pieridae provided evidence demonstrating staff training and testing of its Waterton complex emergency response plan through major exercise reports dated August 18, 2021, and November 24, 2022.

[82] Pieridae said it is implementing a new automated early notification and call-out system for those in the emergency planning zone. It advised that the list is voluntary and that Mr. Judd is not on the list.

Analysis and Reasons

[83] While we do not have the authority to approve Pieridae's emergency response plan for this pipeline, if we are persuaded on the balance of probabilities that Pieridae's emergency response and public protection measures are defective or deficient, we can direct Pieridae to fix the defects or shore up the deficiencies. Because this is a regulatory appeal, the onus is on Mr. Judd to show on the balance of probabilities that Pieridae's emergency response plans are defective in certain critical regulatory

aspects or lack appropriate emergency response or protection measures relative to Mr. Judd's specific circumstances.

[84] In this regard, Mr. Judd did not persuade us that Pieridae's emergency response plans are defective or deficient. Mr. Judd did not raise concerns about specific details of Pieridae's emergency response plans, choosing instead to focus on his past experiences involving other pipeline leaks and the concerns that continue to resonate with him about those experiences.

[85] Although Mr. Judd did not persuade us that Pieridae's emergency response plans were defective or deficient, we appreciate his testimony concerning sour gas pipelines. His apprehension of sour gas pipelines is not without basis. Hydrogen sulphide is toxic, and Mr. Judd has had to evacuate his residence on two occasions due to nearby pipeline failures in 1995 and 2007. His neighbour found a dead cow, and Mr. Judd believes he lost two horses to pinhole-sized uncontrolled sour gas releases. In short, Mr. Judd has reasonable concerns about the dangers of sour gas pipelines.

[86] It is also clear that while Mr. Judd would prefer that sour gas pipelines be removed from the Waterton area altogether, he is no doubt interested in ensuring that Pieridae's emergency response plan meets and ideally exceeds the regulatory requirements of *Directive 071*. This includes good planning and resourcing for timely and effective detection, assessment, notification, and other actions, including potential evacuation in potentially adverse weather conditions, required to protect him and others in the affected area in the event of an uncontrolled release from the pipeline.

[87] In reviewing Mr. Judd's central concern with Pieridae's emergency response plan, he is not convinced that sheltering in place will keep him safe. He indicated that his log home is drafty and suggested that if flies can enter his house, so can sour gas.

[88] The evidence shows that Shell undertook work to improve the airtightness of Mr. Judd's home. In explaining why it considered sheltering in place would be an effective protection response for Mr. Judd, Pieridae said it considered the proximity of Mr. Judd's home to the pipeline. This includes the pipeline's design, the normally prevailing winds, that Mr. Judd's egress route takes him through the calculated emergency planning zone, and the emergency planning zone expansion to include Mr. Judd's residence because of the location of his egress route.

[89] In terms of capacity to respond to an emergency, the evidence shows that Pieridae has trained personnel available 24 hours a day, 7 days a week. It appears that Pieridae is prepared to respond to an incident involving the pipeline in any weather. Along with other tools, Pieridae's emergency response plans include operational information, communication plans, maps, incident detection, notification, confirmation, hazard monitoring, isolation procedures, informal mutual aid agreements, scheduled training exercises, and shelter in place and evacuation procedures. Taken together, Pieridae appears prepared and able to deal with potential emergencies involving this pipeline.

[90] In the event of an incident, *Directive 071* states that a duty holder must initiate public protection measures. This response can include advising the public to shelter in place. The duty holder must continuously assess and act on the need to expand the evacuation area based on monitoring hydrogen sulphide and sulphur dioxide levels and take further action as required by *Directive 071*. While this means that Pieridae's initial risk assessments and the regulatory scheme suggest that sheltering in place will likely be the first step in an emergency, it is Pieridae's responsibility to plan for and maintain the capacity to provide real-time assessments in an emergency and to evacuate Mr. Judd if sheltering in place is not the safest course of action. Again, Pieridae appears prepared to deal with potential emergencies involving this pipeline, including having trained personnel and resources ready at all times to assess and advise should sheltering in place not be the best, most prudent course of action.

[91] As the duty holder, Pieridae must plan, train, and maintain the capacity to respond to incidents involving its pipelines and related infrastructure. On review, it appears to us that Pieridae's emergency response plans address the regulatory requirements of *Directive 071*. We are unaware of any deficiencies or defects between Pieridae's emergency response plans and *Directive 071*'s regulatory requirements. We note that before operations begin, Pieridae must ensure that an AER-approved emergency response plan is in place for this pipeline.

[92] Mr. Judd raised concerns about whether a small company with limited resources could deal with big problems. We have addressed Mr. Judd's concerns about Pieridae's capacity in the pipeline construction and operation section of this decision.

[93] There can be no doubt that good communication is an essential and required element of emergency planning and response. We are satisfied that Pieridae has created an effective communications framework. Mr. Judd could play an important role by adding himself to Pieridae's early notification system, and we encourage him to consider this step.

[94] Based on the evidence, we are satisfied that Pieridae will be able to carry out its emergency response plans and that its emergency response and public protection measures are acceptable. Mr. Judd has not persuaded us that Pieridae's emergency response and public protection measures are defective or deficient.

Potential Environmental Effects

[95] The issues we set for this hearing include the potential effects of the pipeline on the environment. Here, we discuss the relevant regulatory requirements, the parties' evidence, and our determination of this issue, with reasons.

Relevant Regulatory Requirements

[96] As discussed earlier, *Directive 056* sets requirements for pipeline licence applications. This pipeline is in the southern portion of the Eastern Slopes of the Rocky Mountains, making section 8.6 of *Directive 056* applicable. That section requires the applicant to meet the general expectations in *Informational Letter IL 93-9: Oil and Gas Developments Eastern Slopes (Southern Portion) (IL 93-9)* by developing environmental assessments and submitting environmental documentation requested by the AER.

[97] *IL 93-9* provides that a project proponent must file “quality environmental data” to enable the AER to properly assess the overall benefit and cost of the proposed project. An environmental assessment must include, but is not limited to, the following information:

- (a) an analysis of surface site and access road selection and construction procedures;
- (b) an analysis of baseline environmental conditions and major areas of concern;
- (c) a description and analysis of the significance of environmental, economic, and cultural impacts including regional, temporal, and cumulative effects;
- (d) options and plans to mitigate these impacts, including reasons why they should or should not be implemented;
- (e) plans to monitor predicted impacts and the success of mitigation measures;
- (f) emergency response plans and contingency plans to deal with unpredicted impacts;
- (g) description and results of initial public consultation programs and details of any future programs proposed; and
- (h) plans to minimize accidental substance release to the environment and to minimize waste.

[98] The level of detail will vary depending on the phase of the proposed development. The level of detail may also vary to be consistent with the sensitivity of the area proposed for development. The AER will consider areas with little or no intrusions as more sensitive.

[99] *Bulletin 2007-35: Clarification of Informational Letter (IL) 93-09: Oil and Gas Development Eastern Slopes (Southern Portion) (Bulletin 2007-35)* provides clarification about environmental assessments required under *IL 93-9*. It indicates that a project proponent must consider site-specific ecological needs and prepare an environmental assessment to a level of detail appropriate for the proposed project. A proponent may scope a project as it sees fit based on the project’s size and location, and the AER may ask for additional information if it determines an issue of importance has not been addressed.

The Parties' Evidence

[100] This pipeline is in the southern portion of the Eastern Slopes, making it subject to *IL 93-9*. The project is also located within the Key Wildlife and Biodiversity Zone, which imposes a restricted activity period on industrial activities, such as pipeline construction, from December 15 to April 30. The project location limited new surface disturbance and vegetation removal because it is on an existing pipeline right-of-way with planned vegetation clearing of 0.140 hectares for temporary workspace. Construction plans included horizontal directional drilling for portions of the pipeline to reduce surface disturbance.

[101] As part of its pipeline licence application in February 2021 and to meet *IL 93-9* requirements, Pieridae filed an environmental assessment prepared by Trace Associates Inc. (Trace). Trace had prepared an environmental assessment of Shell's 2017 pipeline application in the same location based on desktop and field assessments.

[102] The 2021 environmental assessment built on the 2017 environmental assessment by carrying out updated desktop assessments that found no changes to land use, vegetation, or site conditions. The results of the 2021 desktop assessment also determined that the 2017 fieldwork met the needs of identifying potential impacts on hydrology, terrain, soils, vegetation, wildlife, and land use. The 2021 environmental assessment concluded that Pieridae's project development may result in temporary, minimal, localized habitat loss for some wildlife species and some temporary loss of native vegetation. It predicted that those effects would be negligible and that potential effects could be mitigated by implementing mitigation measures recommended in the environmental assessment.

[103] Pieridae's pipeline licence application also included an environmental protection plan prepared by Trace. The environmental protection plan set out environmental protection measures to be implemented during pipeline construction to protect the environment and minimize the risk of negative environmental impacts.

[104] In its review of Pieridae's licence application in 2021, AER Regulatory Applications determined that the 2021 environmental assessment met *IL 93-9* requirements.

[105] During this proceeding, Pieridae filed additional environmental documents, including an updated environmental protection plan prepared by Trace in November 2022, an updated environmental assessment prepared by Trace in September 2023, and a geotechnical investigation of the proposed location for watercourse crossing by horizontal directional drilling, prepared by Golder Associates in 2017.

[106] The updated environmental protection plan modified the original plan by adding mitigation steps to further decrease impacts on area watercourses, including active water quality monitoring during project watercourse crossing activities and collecting preconstruction baseline data and photos.

The updated environmental assessment reviewed the 2021 environmental assessment and subsequent fieldwork, including a vegetation assessment, breeding bird and general wildlife surveys, and a wildlife sweep for habitat features before clearing, all in 2022, and a wildlife sweep before clearing in 2023. The updated environmental assessment found that, generally, there had been no changes since the 2021 environmental assessment and that proposed mitigation measures remained the same. It proposed additional mitigation measures to address Columbia spotted frogs identified in a project area watercourse.

[107] Pieridae testified that it conducted a wildlife sweep and kickoff meeting before construction, resulting in an amphibian salvage to avoid wildlife impacts and relocating the horizontal directional drilling entry point to avoid an ephemeral watercourse during construction.

[108] Mr. Judd submitted that Pieridae's environmental assessment and cumulative effects assessment were "fatally flawed" and did not meet the high expectations of *IL 93-9* to provide "high-quality" environmental information. He questioned the quality of the environmental assessment given the time between the original fieldwork in 2017 and pipeline construction, alleging a six-year gap.

[109] Mr. Judd contended that the cumulative effects analysis in the environmental assessment was inadequate because it did not consider baseline conditions properly, described valued ecosystem components too broadly, and did not include information about clear-cut logging on private lands in the regional study area. He stated that the environmental assessment's conclusion that the project does not appreciably impact the level of industrial development in the local and regional study areas was irrelevant.

[110] Mr. Judd submitted that Pieridae failed to recognize and acknowledge the project's potential implications for the Screwdriver Creek bull trout subpopulation and its habitat, protected under the federal *Species at Risk Act*. He contended that the proposed horizontal directional drilling did not follow industry best practices.

[111] In support of his concerns about fish, Mr. Judd filed an expert report by David W. Mayhood, *Potential Effects on Fishes of Pieridae's Proposed Waterton 61 Pipeline*. The report extensively discussed the horizontal directional drilling methodology used for the watercourse crossing of the unnamed tributary, focusing on the suitability of site geotechnical conditions and potential releases of drilling mud. The report also raised concern about potential spills or leaks of toxic condensate impacting aquatic organisms during pipeline operation.

[112] Mr. Mayhood's report referred to bull trout, their critical habitat under the federal *Species at Risk Act* and potential impacts. Data cited in the report about the distribution of fish captures in the region did not show any bull trout captured in the project area. The report indicated that the *Species at Risk Act*-protected critical habitat for bull trout begins "at least 4.5 km downstream" from the proposed

pipeline watercourse crossing site. Much of the report's *Species at Risk Act*-related content was critical of the scope of actual designated critical habitat for bull trout in the Screwdriver Creek area and proposed an approach largely based on applying broad scientific principles and concepts in preference to legislated critical habitat requirements.

[113] In his testimony at the hearing, Mr. Mayhood congratulated Pieridae on successful horizontal directional drilling in the pipeline's construction and indicated that the ongoing effects of the pipeline's operation, service, maintenance, restoration, and abandonment were yet to be seen. He acknowledged that horizontal directional drilling under watercourses is a great improvement over open-cut pipeline stream crossings and a much better approach where it can be used.

[114] Trace had confirmed with the federal Department of Fisheries and Oceans that no permit is required to conduct horizontal directional drilling in potential bull trout habitat. Pieridae did not apply for or receive a *Species at Risk Act* permit because the project would not affect the critical habitat of *Species at Risk Act*-listed species and would not impact the unnamed small permanent stream and adjacent buffer due to using horizontal directional drilling.

[115] Pieridae confirmed the scope of the project disturbance and indicated that most of the pipeline (about 370 m), including a creek crossing, was constructed by horizontal directional drilling to minimize potential environmental impacts. The pipeline's as-built length is 610 m. Pieridae stated that the pipeline construction was successful with no environmental impact.

[116] In response to the concerns raised in Mr. Mayhood's report about the possible effects of condensate spills or leaks during pipeline operation, Pieridae indicated that the pipeline would carry primarily sour natural gas with some produced water. No condensate will be produced at the wellhead of the wells feeding the pipeline; however, there is potential for a minimal volume of condensate to form in the pipeline as the natural gas cools and condenses. Pieridae submitted that the minimal volume of condensate and standard measures to prevent pipeline leaks greatly reduce the potential for toxic substances to impact the watercourse crossed by the pipeline. Additional Pieridae evidence was that the expected chemical composition of the natural gas from the wells that would feed this pipeline is 97% to 98% methane, hydrogen sulphide, and carbon dioxide.

[117] At the hearing, Pieridae answered questions about Mr. Judd's concerns about the cumulative effects analysis not addressing logging on private lands. It explained that the Google Earth imagery on clear-cut logging provided by Mr. Judd was most likely taken in August 2023 and was not available when Trace completed its updated environmental assessment in September 2023. Ms. Redburn of Trace stated that if evidence of that logging had been available when Trace initially did its review, that information would not have changed its analysis or conclusions about cumulative effects.

Analysis and Reasons

[118] This pipeline was constructed on a limited footprint on an existing pipeline right-of-way. New vegetation clearing was 0.14 hectares for temporary workspace, with some minor felling and brushing along the horizontal directional drilling alignment for construction purposes. Of the pipeline's as-built length of 610 m, about 370 m were constructed by horizontal directional drilling.

[119] Mr. Judd has not persuaded us that Pieridae's environmental assessment was deficient or did not meet *IL 93-9* requirements.

[120] Pieridae filed the following documents with the AER:

- Environmental assessment, August 24, 2017
- Environmental assessment, February 17, 2021
- Environmental protection plan, February 17, 2021
- Environmental protection plan, November 1, 2022
- Environmental assessment update, September 13, 2023

[121] The environmental protection plans set out environmental protection measures to be followed in the pipeline's construction, including the implementation of mitigation measures suggested in the environmental assessments. In reviewing Pieridae's application and granting licence 62559, AER Regulatory Applications determined that the 2021 environmental assessment filed with the pipeline licence application met *IL 93-9* requirements.

[122] Mr. Judd's criticism of the time between the 2017 fieldwork and the pipeline construction, which was completed in late 2023, is answered by the subsequent fieldwork carried out for Pieridae in 2022 and 2023, including vegetation assessment, breeding bird and wildlife surveys, and two wildlife sweeps. The 2023 wildlife sweep resulted in amphibian relocation activity before construction to avoid wildlife impacts.

[123] *IL 93-9* and *Bulletin 2007-35* provide that a proponent must prepare an environmental assessment to an appropriate level of detail for the proposed development, considering site-specific ecological needs and the size and location of the development. *IL 93-9* also indicates that operators are expected to consolidate efforts in planning and development to minimize surface impacts and disturbances.

[124] The environmental assessments for this project concluded that developing this pipeline may result in "temporary, minimal, localized habitat loss for some wildlife species and some temporary loss of native vegetation." The predicted effects were identified as negligible, and the environmental assessments indicated that potential effects may be mitigated by implementing the recommended mitigation measures in the environmental protection plans. This pipeline was constructed on an existing

right-of-way with limited vegetation clearing and horizontal directional drilling for more than half its length to minimize environmental impacts. We find that the environmental assessment was appropriate for the size and location of this pipeline.

[125] The size and location of this pipeline are consistent with the environmental assessment's conclusion that the project does not add to cumulative effects in the area and is consistent with *IL 93-9*'s intent of minimizing surface impacts and disturbances. Mr. Judd did not persuade us that this pipeline would add to cumulative effects in the project area. His submissions on cumulative effects focused on environmental assessment methodology rather than data or other information about cumulative effects in the project area. The discussion of cumulative effects in Mr. Mayhood's report made broad statements about potential cumulative effects on fish populations but did not directly provide us with data to support those statements. We found the Google Earth document purporting to show clear-cut logging on private land of limited value, as it had minimal labelling of geographical location, no date, and no interpretive information or guidance to help us understand it. Trace testified that if evidence of logging from the Google Earth imagery had been available when it updated the environmental assessment, that information would not have changed its conclusion that the project does not add to cumulative effects in the area.

[126] From our review of the environmental assessments, environmental protection plans, and the environmental monitoring plan prepared after construction, we understand that this project's predicted environmental impacts related mainly to the pipeline's construction. Pieridae followed and implemented the updated environmental protection plan during pipeline construction. Its protection activities, including water quality monitoring during construction and photos before and during construction, were confirmed and included in the environmental monitoring report prepared after construction by Northern Resource Analysts (October 2023). Given the pipeline's successful construction with no adverse environmental impacts, we find that Mr. Judd's concerns about the environmental assessment have been answered.

[127] The bulk of Mr. Judd's evidence on environmental matters focused on the pipeline's potential effects on fish, primarily bull trout, which are a protected species under the federal *Species at Risk Act*. This evidence included an expert report, *Potential Effects on Fishes of Pieridae's Proposed Waterton 61 Pipeline* (October 2022), and testimony by Mr. Mayhood. The report focused on the proposed pipeline construction method of horizontal directional drilling. It discussed potential failures of this method and concerns about the geotechnical suitability of site conditions and the apparent lack of a geotechnical report for this pipeline's proposed location. The report also suggested that pipeline operations could cause adverse environmental impacts for fish through the potentially toxic effects of a leak or release of condensate.

[128] Pieridae’s evidence was that the pipeline was constructed successfully in late 2023, with horizontal directional drilling used for more than half of the pipeline’s length. There were no adverse environmental impacts, particularly no impacts on fish and amphibians or their habitat. The hearing record included a geotechnical report on the proposed pipeline site, concerning horizontal directional drilling plans. At the hearing, Mr. Mayhood congratulated Pieridae on the successful use of horizontal directional drilling in the pipeline’s construction. He acknowledged that horizontal directional drilling under watercourses is a great improvement over open-cut pipeline stream crossings and a much better approach where it can be used. We find that the successful pipeline construction, supported by testimony from Pieridae witnesses and Mr. Mayhood, answers horizontal directional drilling concerns raised by Mr. Judd.

[129] We also find that Mr. Judd has not persuaded us about risks of harm to fish from potential condensate leaks or releases from the pipeline. The evidence from Mr. Mayhood’s report and testimony about risks of harm to fish from the pipeline’s operation were general in nature and did not provide details about how the natural gas carried in this pipeline could harm the fish in the project area. Pieridae’s evidence was clear regarding the minimal levels of condensate that might be formed in the pipeline and the measures in place to prevent pipeline leaks. The evidence presented by Mr. Judd was not sufficiently specific or detailed regarding potential impacts of condensate on this pipeline’s location and the types of local aquatic wildlife that might be affected to persuade us of a risk to fish or other aquatic organisms from pipeline operations that would merit varying, suspending, or revoking licence 62559.

Pipeline Construction and Operation

[130] The issues we set for this hearing include the construction and operation of the pipeline, including the design and monitoring of the pipeline and the pipeline integrity management program. Here, we discuss the relevant regulatory requirements, the parties’ evidence, and our determination of this issue, with reasons.

Relevant Regulatory Requirements

[131] Section 6 of the *Pipeline Act* prohibits constructing a pipeline without a licence, and section 16 prohibits operating a pipeline without a licence. The AER combines these authorizations into the same licence document.

[132] The *Pipeline Rules* mandate *CSA Z662* as the applicable technical requirements for

- maintenance of records and documents related to the design, materials, construction, commissioning, operation, maintenance, repair, engineering assessments and decommissioning of pipelines (*Pipeline Rules*, section 12);
- development and implementation of a safety and loss management system (*Pipeline Rules*, section 14); and

- development and implementation of an integrity management program (*Pipeline Rules*, section 15).

The Parties' Evidence

[133] Mr. Judd was concerned about horizontal directional drilling as a construction method for this pipeline in the context of potential impacts on bull trout. The evidence about these concerns is discussed in the preceding section about the pipeline's potential environmental impacts. He also raised concerns that pipeline construction and operation would require ongoing dedication of significant financial and human resources. Mr. Judd submitted that Pieridae was at high risk of being unable to meet its regulatory obligations for pipeline operation, specifically concerning monitoring for corrosion and establishing and implementing a pipeline integrity management program.

[134] Mr. Judd testified about two pipeline leaks near his home in 1995 and 1997 that were not detected by Shell's shutdown systems and the SCADA system, nor did the emergency shutdown valves activate. He indicated that both leaks were caused by internal corrosion that created small 3 mm pinholes in the pipelines. Mr. Judd testified that Shell installed pipeline liners after these leaks to prevent corrosion and resumed operations; however, a lined pipeline failed in 2007 from a 300 mm split resulting from internal corrosion. Shell's SCADA system detected the failure and the emergency shutdown valves were activated. He was evacuated from his home because of that failure. Mr. Judd stated that there was another gas release from that pipeline shortly after it had been repaired due to the repair failing.

[135] Pieridae's evidence was that pipeline construction began with minimal vegetation clearing completed in early December 2022. Mechanical construction began in September 2023 and was completed in late November 2023. Most of the pipeline, 370 m, was constructed by horizontal directional drilling, with the remainder constructed and installed by traditional trenching methods. Pieridae successfully hydrotested the installed pipeline twice, before and after installing the high-density polyethylene liner.

[136] Pieridae testified that the pipeline's design meets the *Pipeline Rules* and *CSA Z662* and is overly conservative given the proposed low-pressure operating conditions compared with the design specifications. It referred specifically to operating practices intended to address corrosion protection, routine maintenance activities, and ongoing integrity investigations over the life of the pipeline.

[137] Pieridae stated that in performing ongoing maintenance of this pipeline during operations, it would have access to real-time data about the pipeline's condition and would ensure pipeline integrity through regular inspections and other preventive measures established by the integrity management program.

[138] Pieridae testified that this pipeline's costs would have a small incremental financial impact, given the pipeline adds 610 m to Pieridae's current operation and maintenance of about 3500 km of pipelines. It stated it has built the pipeline, developed the associated emergency response plan and other documents necessary for its safe operation and maintenance, and paid for these items in full.

[139] There were many documents related to this pipeline's design, construction, maintenance, and operation on the public record, including the following:

- polyethylene pipeline liners installation process
- *Pipeline Integrity Management Program Manual*
- *Pipeline Operation and Maintenance Manual*
- *Corrosion Control Manual*
- *Pipeline Safety Loss Management System*
- *Waterton Complex Pipeline Integrity Management Program, 2023 Annual Report*,
- *Waterton Complex Pipeline Integrity Management Program, 2024 Annual Report*
- pipeline construction photos

[140] There was a lengthy discussion about pipeline corrosion at the hearing. This pipeline includes an expanded high-density polyethylene liner to protect it against internal corrosion, and it is compatible with the downstream pipeline, which is also internally lined. Much of the discussion focused on internal corrosion found during routine inspections in the downstream pipeline segment. That line was discontinued in 2007 and had been left filled with nitrogen, an inert gas used to prevent corrosion in unused pipelines.

[141] Pieridae explained that the internal corrosion was due to the injection of methanol to remove a hydrate plug before the downstream pipeline was discontinued. Since then, it has been determined that methanol can permeate the high-density polyethylene liner and corrode the steel behind it. Pieridae stated that it no longer permits continuous methanol use on pipelines with high-density polyethylene liners and that sporadic use of methanol on high-density polyethylene-lined pipelines is scrutinized, time-limited, and lines must be pigged clean within 48 hours of the methanol injection.

[142] Pieridae indicated that inspection of this downstream pipeline is ongoing, and it would not start up the entire pipeline until a statement of fitness had been completed, which involves inspection, verification of the pipeline's condition, testing of safeguards, generation of operating documentation, and communication with the AER. Pieridae's *Pipeline Integrity Management Program Manual* addresses the statement of fitness review.

[143] Pieridae also testified that it and the previous operator had safely operated over 45 km of high-density polyethylene-lined pipelines for 15 years without incident. It indicated there had been no pipeline failures related to internal corrosion since 2007 and no pipeline cutouts or repairs due to corrosion.

[144] AER Regulatory Applications indicated that assessment of connected assets, such as the tie-in pipeline, is relatively limited on pipeline licence applications. If the substance being transported contains hydrogen sulphide, the AER will assess the connected asset for factors like pressure and substance to ensure compatibility with the proposed pipeline. The pipeline licence application form asks for the licence number of connected assets; however, generally, the AER does not check operational practices or other details about connected assets when reviewing the pipeline application.

[145] Mr. Judd raised concerns about the consistency and capability of Pieridae's operations. As examples, he referred to an incident where he encountered a Pieridae contractor using equipment on a road contrary to requirements and his discovery of two unlocked bell holes, contrary to Pieridae's policy of keeping all bell holes locked. Pieridae explained the circumstances of the road incident and confirmed that the incident had been documented and corrective action taken.

[146] Concerning the unlocked bell holes, Pieridae indicated that this is an unacceptable performance issue. It explained that, like many oil and gas operators, it is struggling with theft and vandalism. Pieridae stated that it has an event management system to address security and multiple processes working together to deal with such incidents, such as its integrity management program, frequency of monitoring, and preventive maintenance program. It also submitted that Mr. Judd's example was not indicative of the work Pieridae had presented at the hearing or the amount of work it does to keep its assets safe.

Analysis and Reasons

[147] Mr. Judd testified about two pinhole leaks in pipelines near his property in 1995 and 1997 that resulted from internal corrosion and were not detected by the automated monitoring and shutdown systems. He also testified about a larger leak from a lined pipeline in 2007 attributable to internal corrosion. Given the 32% hydrogen sulphide content in the natural gas produced in this region, his concerns about personal safety and the detectability of such leaks are reasonable. This proceeding's public record contains extensive documentation regarding this pipeline's design, integrity management and inspection program, and detailed discussion of corrosion prevention and monitoring. Pieridae submitted that the high-density polyethylene liner is the primary method to mitigate internal corrosion risks and that corrosion-inhibiting chemicals, cathodic protection systems, and regular internal inspections will also protect this pipeline against corrosion. The monitoring systems include automated systems, such as remote monitoring of process conditions, right-of-way monitoring and leak detection surveys.

[148] Mr. Judd's testimony described pipeline release incidents from 1995 to 2007. The 2007 date is consistent with Pieridae's testimony, indicating that there has not been a pipeline failure due to internal corrosion since 2007, and it and Shell have operated 45 km of high-density polyethylene-lined pipelines without incident.

[149] Mr. Judd raised concerns about Pieridae's financial capacity to address several of the internal and external corrosion mitigation measures that were noted in Pieridae's pipeline integrity reports. Pieridae confirmed that it had completed the cathodic protection upgrades required to protect this pipeline and had resolved the supply challenges related to the chemicals used for corrosion inhibition.

[150] Although Mr. Judd explored corrosion matters thoroughly at the hearing, he provided little evidence that would displace Pieridae's evidence of its current corrosion prevention and monitoring elements. We find that the evidence supports that corrosion prevention and protection has been effective since 2007.

[151] Mr. Judd raised concerns about Pieridae's financial and human resources capability to deal with this pipeline's operations; however, he did not provide evidence of potential costs related to operations and emergency response, including corrosion monitoring and integrity management, which he specifically referenced. Pieridae testified that this pipeline's construction and operation costs are small and incremental, given the limited additive effect of this 610 m pipeline to Pieridae's pipeline operations of about 3500 km and the 24-hour-a-day operations. We note that Pieridae's financial capacity to safely and responsibly manage the pipeline and associated infrastructure was an issue we excluded in the scoping decision. While we gave Mr. Judd some leeway during the hearing to pursue his concerns in this vein, we are not satisfied that he provided us with sufficiently detailed evidence that was relevant and material to the issue of this pipeline's operations, including emergency response.

[152] Regarding Mr. Judd's concerns about operational consistency, we note that Pieridae testified to knowledge of those concerns, explained relevant circumstances, and discussed processes to deal with such concerns. We expect Pieridae to make strong efforts to ensure operational consistency and adherence to regulatory requirements and its policies and procedures. We find that Mr. Judd's evidence was lacking and not specifically linked to this pipeline's operations, and it did not support his concerns. Consequently, we are not persuaded to vary, suspend, or revoke licence 62559 based on Mr. Judd's operational consistency concerns.

[153] In the section on possible environmental effects, we reviewed Mr. Judd's construction concerns in detail and determined that those concerns were answered by the successful construction of this pipeline. We do not need to further discuss or make additional determinations about the pipeline's construction.

[154] Mr. Judd has not persuaded us that matters related to this pipeline’s construction and operation merit varying, suspending, or revoking licence 62559.

REDA Factors

[155] In addition to the issues we set for this hearing, we must consider broader factors imposed by *REDA*, our governing legislation. Section 15 of *REDA* requires the AER, in conducting a regulatory appeal, to consider “any factor prescribed by the regulations, including the interests of landowners.”

[156] Section 3 of the *REDA General Regulation* sets out prescribed factors for section 15 of *REDA*. It requires that in a regulatory appeal “in respect of an energy resource activity under an energy resource enactment,” the AER must consider (a) social and economic effects of the energy resource activity; (b) effects of the energy resource activity on the environment; and (c) “the impacts on a landowner as a result of the use of the land on which the energy resource activity is or will be located.” The *Pipeline Act* is an energy resource enactment under section 1(1)(j)(v) of *REDA*.

[157] We interpret section 3 of the *REDA General Regulation* to mean that the pipeline authorized by licence 62559, which is the subject of this regulatory appeal, is the energy resource activity we must consider. Throughout this decision, we have considered Mr. Judd’s concerns as a landowner and resident in the pipeline’s vicinity. No other area landowner participated in the hearing to provide evidence about their interests or the pipeline’s potential effects on them. We also considered the impacts on a landowner as a result of the use of the land on which this pipeline is located, which is private land. The two owners of that land are not parties to this proceeding and did not object to the pipeline. No party provided evidence addressing impacts on the owners of the land on which the pipeline is located.

[158] We considered the environmental effects of the pipeline in a previous section. We are satisfied that the construction of this pipeline in late 2023 caused no adverse environmental effects and that potential environmental effects from the operation, abandonment, and reclamation of this pipeline can be effectively managed.

[159] There was limited evidence related to the social effects of this pipeline.

[160] Pieridae’s response to Mr. Judd’s statement of concern, filed as part of the pipeline licence application materials, mentioned a socioeconomic impact assessment by the Southwest Alberta Sustainable Community Initiative in 2018 of the Waterton gas plant closure. That assessment found that closure of the Waterton gas plant and associated production would affect gross domestic product in an estimated loss of \$34 million locally and 10% regionally. It was stated that such a closure would adversely affect employment, reduce the population base, and result in a tax increase for the remaining population “to maintain existing infrastructure critical to overall community health such as housing, policing and emergency services, health services, social services and educational services.” Pieridae’s

application materials also indicated that this pipeline would help maintain gas production at the Waterton gas plant and assist Pieridae to “adequately and efficiently recover and market its natural gas.”

[161] Given the evidence referenced above and no contradictory material, we find that the social effects of this pipeline are acceptable.

[162] Mr. Judd submitted that the factors in section 3 of the *REDA General Regulation* require the AER to satisfy itself that Pieridae is adequately resourced to cover its existing reclamation and abandonment obligations and the obligations associated with this pipeline, particularly ensuring public safety. He also submitted that Pieridae must establish this as part of its application or the AER must verify this.

[163] Pieridae’s application materials indicated that construction of this pipeline would allow for a “tie-in to currently developed but stranded gas volumes as part of maintaining proper reservoir management” and would also contribute to extending the operational life and economic contribution of the Waterton gas plant.

[164] Pieridae’s evidence was that ongoing costs for emergency planning and response, construction and operation of the pipeline, and environmental protection will be incremental and minimal given the pipeline’s interconnection with Pieridae’s broader operations in the area. Pieridae stated that it has already completed the bulk of its emergency preparedness and environmental protection planning, completed the pipeline construction, and paid for all such items in full.

[165] We heard un rebutted evidence that this pipeline would enable the movement of currently stranded natural gas to the Waterton gas plant and contribute to extending the operational life and economic contribution of the gas plant. Pieridae also provided evidence that much of this project’s cost has already been incurred and paid because the pipeline has been constructed and that ongoing costs for operating and maintaining this pipeline will be incremental and relatively small in the context of the broader network to which this pipeline connects.

[166] Mr. Judd provided evidence that addressed Pieridae’s broad financial capacity to provide emergency planning and response, pipeline construction and operation, and environmental protection concerning this pipeline. He relied on Dr. Finn’s report on financial analysis of Pieridae Energy. We gave little weight to Dr. Finn’s report and related testimony, as Pieridae Energy is not the licensee for licence 62559, which was issued to Pieridae Alberta Production Ltd. Dr. Finn’s report relied on Pieridae Energy annual documents that showed all its Canadian assets and did not separate out Alberta assets. We asked Mr. Judd’s representative to explain the relevance of Pieridae Energy’s financial information to Pieridae Alberta Production Ltd. and licence 62559, and he could not.

Conclusion

[167] The AER granted Mr. Judd this regulatory appeal of its decision to approve application 31097955 and issue licence 62559 to Pieridae to construct and operate a 0.64 km pipeline to carry sour natural gas with 32% hydrogen sulphide between existing well sites and a tie-in to an existing pipeline, near Beaver Mines, Alberta. Mr. Judd advocated that we should revoke licence 62559. As requester, Mr. Judd had the evidentiary onus to persuade us, on the balance of probabilities, that licence 62559 should be revoked.

[168] We made our determination based on the four hearing issues that we set in March 2023 in the scoping decision:

- the determination of the emergency planning zone for the pipeline, including the methodology used and the application of AER modelling requirements;
- emergency preparedness and proposed public protection measures;
- the potential effects of the pipeline on the environment; and
- the construction and operation of the pipeline, including the design and monitoring of the pipeline and the pipeline integrity management program.

[169] We also considered the broad factors established by section 15 of *REDA* and section 3 of the *REDA General Regulation*.

[170] Mr. Judd did not persuade us that his concerns about any of these issues and factors merited us varying, suspending, or revoking licence 62559.

[171] This pipeline was a new build by Pieridae. Its built length is 610 m, and it was successfully constructed on previously disturbed land with minimal new clearing and impacts. While the hydrogen sulphide content of the natural gas to be transported and the consequent risk are high, we accept that Pieridae has met all necessary regulatory requirements related to the hearing issues and are satisfied that there is adequate protection for Mr. Judd, members of the public, and the environment.

[172] Mr. Judd made ongoing efforts throughout this proceeding to expand our consideration to include matters that we had excluded from the hearing issues in our March 2023 scoping decision, particularly related to a large asset transfer between Shell and Pieridae in 2019 and Pieridae's broad financial capacity and status. We continuously reminded the parties of the hearing issues we set and focused our consideration on those issues. Our authority in this regulatory appeal is to decide whether to confirm, vary, suspend, or revoke licence 62559, in accordance with section 41(2) of *REDA*. There are other AER regulatory processes that address asset transfers between energy operators and operators' financial capabilities.

[173] Having carefully considered all the evidence, we confirm the AER's decision to approve application 31097955 and issue pipeline licence 62559 to Pieridae Alberta Production Ltd.

Dated in Calgary, Alberta, on February 12, 2025.

Alberta Energy Regulator

C.L.F. Chiasson, LLB
Presiding Hearing Commissioner

Shona Mackenzie, CDir, PEng
Hearing Commissioner

Harold Robinson, LLB
Hearing Commissioner

Appendix 1 Hearing Participants

Principals and Representatives (Abbreviations used in report)

Witnesses

Pieridae Alberta Production Ltd.
D. Naffin
T. Myers
T. Machell

P. Kunkel, CFA
K. Scheirer, PEng
L. Simon
D. Archibald, PEng
E. Maczuga
B. Dew, PEng, Acuren
B. Foote, Behr Integrated Solutions
J. Redburn, PBIol, Trace Associates Inc.

Michael Judd
M. Sawyer

M. Judd
D. Mayhood of Freshwater Research Limited
Dr. E. Finn

Alberta Energy Regulator
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B. Zelt
F. Hamdan
M. Rezazadeh