

ALBERTA ENVIRONMENTAL APPEALS BOARD

Report and Recommendations

Date of Hearing – April 27 & 28, 2009

Date of Report and Recommendations – May 27, 2009

IN THE MATTER OF sections 91, 92, 94, and 95 of the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12;

-and-

IN THE MATTER OF appeals filed by Inez Stone and Sally Ulfsten, with respect to Amending Approval No. 73534-00-06 issued to Imperial Oil Resources Limited, Amending Approval Nos. 68492-00-10 and 68023-00-04 issued to EnCana Corporation, Amending Approval No. 11115-03-02 issued to Canadian Natural Resources Limited, Amending Approval No. 147753-00-02 issued to Husky Oil Operations Limited, and Amending Approval No. 78161-00-01 issued to Blackrock Ventures Inc. (now Shell Canada Ltd.) under the *Environmental Protection and Enhancement Act*, by the Director, Northern Region, Regional Services, Alberta Environment.

Cite as: *Stone and Ulfsten v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (27 May 2009), Appeal Nos. 07-010-021-R (A.E.A.B.).

BEFORE:

Mr. Eric O. McAvity, Q.C., Panel Chair,
Mr. Jim Barlishen, Board Member, and
Dr. Dan L. Johnson, Board Member.

BOARD STAFF:

Mr. Gilbert Van Nes, General Counsel and
Settlement Officer; Ms. Denise Black, Board
Secretary; and Ms. Marian Fluker, Associate
Counsel.

APPEARANCES BY:

Appellants:

Ms. Inez Stone; and Ms. Sally Ulfsten.

Director:

Mr. Kem Singh, Director, Northern Region,
Regional Services, Alberta Environment,
represented by Ms. Michelle Williamson,
Alberta Justice.

Approval Holders:

Imperial Oil Resources Limited, represented by
Mr. Peter Miller; and EnCana Corporation,
Canadian Natural Resources Limited, Husky
Oil Operations Limited, and Blackrock
Ventures Inc. (now Shell Canada Ltd.),
represented by Mr. Shawn Munro and Mr.
Blake Williams, Bennett Jones LLP.

Other Parties:

Lakeland Industry and Community
Association, represented by Mr. Ron Kruhlak,
McLennan Ross LLP.

Intervenors:

Mr. George Elchuk; and Cold Lake First
Nations, represented by Mr. Garry Appelt and
Ms. Keltie Lambert, Witten LLP.

WITNESSES:

- Appellants:** Ms. Inez Stone; and Ms. Sally Ulfsten.
- Director:** Mr. Kem Singh, Director, Northern Region, Regional Services, Alberta Environment; Mr. Amit Banerjee, Industrial and Reclamation Approvals, Alberta Environment; and Mr. Randall Barrett, Governance and Partnerships, Oil Sands Environmental Management, Alberta Environment.
- Approval Holders:** Ms. Kathleen Zellweger, Shell Canada Limited; Ms. Sherry Hennessey, EnCana FCCL Oil Sands Limited; Mr. Andrew Higgins, Canadian Natural Resources Limited; Mr. Scott Johnson, Husky Oil Operations Limited; Mr. Peter Reid, Jacques Whitford Stantec Limited; and Mr. Mike Trefry, Imperial Oil Resources Limited.
- Other Parties:** Mr. Michael Bisaga, Airshed Program Manager, Lakeland Industry and Community Association; Mr. Ralph McGregor, Airshed Zone Director, Lakeland Industry and Community Association; and Dr. Kathy Preston, RWDI Air Inc.
- Intervenors:** Mr. George Elchuk; Councillor Robert Machatis, Cold Lake First Nations, and Mr. Jerry Lack, Lack Environmental Consulting Ltd.

EXECUTIVE SUMMARY

Alberta Environment issued amending approvals to Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.) for the construction, operation, and reclamation of enhanced recovery in-situ oil sands or heavy oil processing facilities and oil production sites near Cold Lake, Alberta. The Amending Approvals are required to enable a regional air quality monitoring program to be implemented by the Lakeland Industry and Community Association (LICA).

Ms. Inez Stone and Ms. Sally Ulfsten were found directly affected and the Board heard their appeals on April 27 and 28, 2009, at Cold Lake. The Board granted intervenor standing to the Cold Lake First Nations and George and Nadia Elchuk.

The Board found the LICA monitoring network complied with the regional airshed monitoring policy implemented by Alberta Environment. Although the Board found there was still information that LICA could benefit from, the Board found no issue with the monitoring network that would require the Board to make recommendations to the Minister to amend the Amending Approvals.

The Board suggested LICA consider:

1. completing a review of recent environmental impact assessments completed for the area to assist it in developing a complete emissions inventory for the airshed, and continue regularly updating the inventory as more facilities are developed within the airshed;
2. providing a map and description of locations of all the passive and continuous monitoring stations, demarcate sites where all monitors had been previously located, and continue regularly updating such maps and descriptions as the monitoring program evolves;
3. ensuring air quality data, including the raw data, are readily accessible to residents and other interested persons, particularly on LICA's website and at LICA's office;
4. continuing with the canister program and implementing improvements to ensure the program's success; and
5. obtaining additional on-site monitoring data from the Approval Holders and from other operators in the airshed to augment its ongoing airshed database for future planning of monitoring requirements and modeling of emissions dispersion.

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I. BACKGROUND

[1] On April 30, 2007, the Director, Northern Region, Regional Services, Alberta Environment (the “Director”), issued the following Amending Approvals under the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12 (“EPEA”):

- Amending Approval No. 73534-00-06 issued to Imperial Oil Resources Limited (“Imperial”) authorizing the construction, operation, and reclamation of the Cold Lake enhanced recovery in-situ oil sands or heavy oil processing plant and oil production site near Cold Lake, Alberta.
- Amending Approval No. 68492-00-10 issued to EnCana Corporation (“EnCana”) authorizing the construction, operation, and reclamation of the Foster Creek enhanced recovery in-situ oil sands or heavy oil processing plant and oil production site near Cold Lake, Alberta.
- Amending Approval No. 68023-00-04 issued to EnCana authorizing the construction, operation, and reclamation of the Foster Creek enhanced recovery in situ heavy oil plant near Cold Lake, Alberta.
- Amending Approval No. 11115-03-02 issued to Canadian Natural Resources Limited (“CNRL”) authorizing the construction, operation, and reclamation of the Primrose and Wolf Lake enhanced recovery in-situ oil sands and heavy oil processing plant and oil production site near Cold Lake, Alberta.
- Amending Approval No. 147753-00-02 issued to Husky Oil Operations Limited (“Husky Oil”) authorizing the construction, operation, and reclamation of the Tucker enhanced recovery in-situ oil sands or heavy oil processing plant and oil production site near Cold Lake, Alberta.
- Amending Approval No. 78161-00-01 issued to Blackrock Ventures Inc. (now Shell Canada Ltd.) (“Shell”) authorizing the construction, operation, and reclamation of the Hilda Lake enhanced recovery in-situ oil sands or heavy oil processing plant and oil production site near Hilda Lake, Alberta.¹

[2] The Amending Approvals incorporated the Lakeland Industry and Community Association (“LICA”) Air Quality Monitoring Program network to monitor air quality in the area.

¹ The various amending approvals will be referred to collectively as the “Amending Approvals,” and Imperial, EnCana, CNRL, Husky Oil, and Shell will be referred to collectively as the “Approval Holders.” EnCana,

[3] Between May 29, 2007, and June 8, 2007, the Environmental Appeals Board (the “Board”) received Notices of Appeal from Ms. Gail Wolfe on behalf of herself and the Cold Lake Fibromyalgia Support Group (“CLFSG”), Ms. Inez Stone, Ms. Sally Ulfsten, Ms. Inez Stone on behalf of the Cold Lake Fibromyalgia Support Group, Ms. Ruth Sywak, Ms. Rachel Stone, Ms. Inez Stone on behalf of the Ethel Lake Interveners, Mr. David Stone, Mr. George Elchuk, Mr. Andy Leroux, Ms. Mary Leroux, Mr. David Yoshida, Mr. David Lee, Mr. Jens Harwerth, Ms. Cathy Urlacher, Ms. Marinda Stander, Ms. Barbara Johnson, and Ms. Inez Stone on behalf of herself and Ethel Lake Interveners.²

[4] The Board acknowledged receipt of the appeals and notified the Appellants, the Approval Holders, and the Director (collectively, the “Parties”) of the appeals. The Board also requested the Director provide the Board with a copy of the records (the “Record”) relating to the Amending Approvals, and that the Parties provide available dates for a mediation meeting, preliminary motions hearing, or hearing. The Record was received by the Board on July 9, 2007, and copies were provided to the Appellants and Approval Holders on July 12, 2007. An update of the Record was provided on November 7, 2008.

CNRL, Husky Oil, and Shell provided joint submissions and will be referred to as the “Operators.”

² Ms. Wolfe, Ms. Sywak, Ms. Urlacher, Mr. Yoshida, Mr. Lee, Mr. Harwerth, and Ms. Johnson withdrew their appeals. See: *Wolfe et al. v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (07 August 2007), Appeal Nos. 07-004 – 021, 028 – 033, 040 – 075, 100 – 105 & 112 – 117-D (A.E.A.B.); *Yoshida v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (25 February 2008) Appeal Nos. 07-076–081-DOP (A.E.A.B.); *Lee v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (29 October 2007), Appeal Nos. 07-082–087-DOP (A.E.A.B.); *Harwerth v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (16 June 2008), Appeal Nos. 07-088-093-DOP (A.E.A.B.); and *Johnson v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (25 April 2008), Appeal Nos. 07-106–111-DOP (A.E.A.B.).

The appeals of the Cold Lake Fibromyalgia Support Group, Ms. Rachel Stone, the Ethel Lake Interveners, Mr. David Stone, Mr. George Elchuk, Mr. Andy Leroux, Ms. Mary Leroux, and Ms. Marinda Stander were dismissed. See: *Cold Lake Fibromyalgia Support Group et al. v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (22 January 2009), Appeal Nos. 07-004-021, 028-033, 040-075, 100-105, 112-117-ID1 (A.E.A.B.).

Ms. Inez Stone and Ms. Sally Ulfsten will be referred to collectively as the “Appellants.”

[5] On July 17, 2007, Ms. Stone notified the Board that she would be representing the CLFSG, because Ms. Wolfe was unable to continue representing the CLFSG membership.

[6] On July 23, 2007, the Board notified LICA of the appeals and the Board provided a copy of the Board's file to LICA.

[7] According to standard practice, the Board wrote to the Natural Resources Conservation Board and the Alberta Energy and Utilities Board³ asking whether this matter had been the subject of a hearing or review under their respective legislation. Both boards responded in the negative.

[8] On July 2, 2007, the Appellants requested a Stay. The Board asked the Appellants to provide responses to the Stay questions.⁴ The Appellants provided their submission on July 30, 2007. After discussions with the Parties, the Appellants notified the Board on October 2, 2007, that they would go to a mediation meeting and that the review of the Stay could be concluded at a later date.

[9] On November 27, 2007, the Board confirmed that a mediation meeting would be held on February 5, 2008.

[10] On January 18, 2008, the Board wrote to the Parties, asking whether the mediation meeting should be postponed until after the release of the network review report prepared by RWDI as required under the Amending Approvals. The Parties responded, agreeing to postpone the mediation meeting. The Board was provided with a copy of the network review report entitled, *Review of the LICA Ambient Air Quality Monitoring Network* (the "RWDI

³ In 2008, the Alberta Energy and Utilities Board ("EUB") was divided into the Alberta Utilities Commission and the Energy Resources Conservation Board ("ERCB").

⁴ The Appellants were asked to respond to the following questions:

1. What are the serious concerns of the [Appellants] that should be heard by the Board?
2. Would the Appellants suffer irreparable harm if the Stay is refused?
3. Would the Appellants suffer greater harm if the Stay was refused pending a decision of the Board, than Imperial Oil Resources Limited, Encana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited and Shell Canada Ltd. would suffer from the granting of a Stay? and
4. Would the overall public interest warrant a Stay?

Report”) on March 4, 2008. The Board confirmed with LICA that all of the Parties received a copy of the RWDI Report.

[11] The mediation meeting was held on April 11, 2008, in Cold Lake, Alberta. All of the attendees signed the Participants’ Agreement to Mediate that laid out the confidentiality terms of the mediation meeting and the ground rules. Even though productive discussions ensued, the Parties were unable to come to a satisfactory resolution.

[12] On April 16, 2008, the Board requested the Parties provide any preliminary motions they wanted to raise. On May 27, 2008, the Board provided a schedule to receive submissions on nine preliminary motions.⁵ The Board received the Appellants’ submissions on June 12, 2008, the Operators, Imperial, and the Director provided their response submissions on June 26, 2008, and the Appellants’ rebuttal submissions were provided on July 25, 2008.

[13] On September 16, 2008, the Board notified the Parties that the Stay application was denied and that reasons would be provided later.

[14] On October 16, 2008, the Board notified the Parties that Ms. Inez Stone and Ms. Sally Ulfsten would have standing at the Hearing, and although the appeals of the CLFSG and the Ethel Lake Intervenors were dismissed, the Board would hear the broader concerns of these

⁵ The preliminary motions were:

1. The Stay request;
2. That the Board formally rule on the question of whether “facts and evidence” presented at a Mediation may be characterized as “communications made to or through the Mediator,” and if so, whether such characterization contradicts Rule 2 under “Confidentiality” of the Ground Rules for Mediation Meetings;
3. Whether the appeals are vexatious and without merit, and if they are, that they be dismissed;
4. Whether the Appellants are directly affected, and if not, that their appeals be dismissed;
5. Whether the Appellants submitted Statements of Concern with Alberta Environment, prior to filing Notices of Appeal with the Environmental Appeals Board, and if not that their appeals be dismissed;
6. Whether the Board should adjourn its proceedings until 2009, until the Director has considered the Approval Holders’ and LICA’s response to the RWDI Report;
7. Whether a Hearing, should one be held, be conducted orally or in writing;
8. The issues to be considered at a Hearing of the appeals, should one be held;
9. In addition to addressing the effect of these preliminary motions, the Board asked the participants to address CNRL Amending Approvals No. 11115-03-02, 11115-03-03, and 11115-03-04, which were issued on April 30, 2007, May 29, 2007 and September 6, 2008, and were not appealed.

groups as raised in Ms. Stone's appeal. The Board stated the issues that would be heard at the Hearing were:

1. Is the monitoring program, and any associated conditions or reporting activities required by the Amending Approvals, properly designed to monitor ambient air quality in relation to human health and environmental safety, including substances monitored, monitoring locations, and monitoring equipment?
2. Is the monitoring program, and any associated conditions or reporting activities required by the Amending Approvals, properly designed having regard to the potential for facility upset conditions?
3. Does the LICA Air Quality Monitoring Network have an appropriate, adequate, and fully documented audit, quality assurance, and quality control program?
4. Do personnel responsible for the operation of the LICA Air Quality Monitoring Network have appropriate training, qualifications, and accountability?

[15] In the same October 16, 2008 letter, the Board notified the Parties that the appeals would be held in abeyance pending the completion of the review of the LICA airshed monitoring program, including the RWDI Report. The Board noted the Approval Holders were required to submit plans to address items raised in the review to the Director by December 31, 2008. The Board asked for available dates for a hearing between March 16, 2009 and April 30, 2009. After reviewing the dates provided, the Hearing was scheduled for April 27 and 28, 2009, in Cold Lake, Alberta. The Board provided the Parties with its reasons for the preliminary matters on January 22, 2009.⁶

[16] On December 23, 2008, the Board wrote to counsel for Alberta Environment, requesting any policy documents or other relevant information that may impact these appeals. Counsel for Alberta Environment responded on January 15, 2009, stating Alberta Environment would make any information relevant to the Hearing available through the Director's witness panel and the Record.

⁶ See: *Cold Lake Fibromyalgia Support Group et al. v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (22 January 2009), Appeal Nos. 07-004-021, 028-033, 040-075, 100-105, 112-117-ID1 (A.E.A.B.).

[17] The Board published a Notice of Hearing in the Bonnyville Nouvelle, Elk Point Review, St. Paul Journal, and the Cold Lake Sun, and the notice was provided to the Cold Lake First Nations (“CLFN”), the County of St. Paul, Municipal District of Bonnyville No. 87, and the Cold Lake Public Library. In response to the notice, the Board received intervenor requests from Mr. George and Ms. Nadia Elchuk and the CLFN.

[18] On January 6, 2009, the Operators provided the Board with a copy of the LICA Implementation Plan that was filed with the Director and that contained the proposed action plans in response to the RWDI Report.

[19] On February 3, 2009, the Operators contacted the Board requesting clarification on whether the CLFN supported or opposed the appeals. The Board wrote to the CLFN seeking clarification, and on February 9, 2009, the CLFN responded, stating they supported the Amending Approvals, but as a result of the review of the reports filed with the Director, the CLFN had a number of new concerns. On February 9, 2009, the Board acknowledged the letter from the CLFN, and noted that because the CFLN had a number of concerns with the Amending Approvals, if allowed to participate, the CFLN would be requesting the Board to vary the Amending Approvals to address these concerns.

[20] Because clarification was required, the Board extended the deadline to receive comments from the Parties on the intervenor applications. The Board received the submissions from the Director and Imperial on February 9, 2009, Ms. Stone and the Operators submissions on February 12, 2009, and Ms. Ulfsten on February 13, 2009.

[21] On February 27, 2009, the Board notified the Parties that Mr. George and Ms. Nadia Elchuk and the Cold Lake First Nations (collectively, the “Intervenors”) were granted intervenor standing.⁷

[22] On March 4, 2009, the Director provided his response to LICA’s December 31, 2008 report. In his response, the Director did not accept LICA’s proposal for three of LICA’s

⁷ See: Intervenor Decision: *Stone and Ulfsten v. Director, Northern Region, Regional Services, Alberta Environment*, re: *Imperial Oil Resources Limited, EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.)* (26 February 2009), Appeal Nos. 07-010-021-ID2 (A.E.A.B.).

recommendations, but he gave the Approval Holders until April 9, 2009, to provide an updated implementation plan on the three recommendations.

[23] On March 10, 2009, the Board wrote to the Parties, noting the updated implementation plan had to be submitted to the Director by April 9, 2009, but written submissions for the Hearing were due April 1, 2009, thereby denying the Parties and the Intervenors the opportunity to review the completed implementation plan and subsequent response of the Director. The Board requested the timeline be modified, in that the updated implementation plan be submitted to the Director by April 1, 2009, and the Director provide his response by April 7, 2009. The submissions of the Parties and the Intervenors would still be due April 1, 2009, but they would be given the opportunity to provide a supplemental submission on the three outstanding recommendations by April 15, 2009. The Director and Operators agreed to the revised schedule, and the Appellants and the Elchuks did not want an adjournment of the Hearing. Imperial and the CLFN did not provide any comments.

[24] On March 26, 2009, the Board restated the procedures for the Hearing clarifying dates for submissions.

[25] On April 1, 2009, Ms. Stone requested an extension of time to file her submission. The Board granted the extension providing the submission and all attachments were at the Board's office on April 3, 2009.

[26] The Board received the submissions from the CLFN on March 30, 2009, and from the Elchuks, the Director, Operators, Imperial, on April 1, 2009, Ms. Ulfsten on April 2, 2009, and Ms. Stone on April 3, 2009.

[27] LICA provided an updated implementation plan to the Director on March 30, 2009, and a copy was forwarded to the Board on April 6, 2009. On April 7, 2009, the Director provided the Board and the Approval Holders with his decision on the three outstanding recommendations. Supplemental submissions were received from the Appellants, the Elchuks, and the Operators on April 14 and 15, 2009.

[28] On April 6, 2009, the Board confirmed that LICA is a party to these appeals pursuant to section 95(6) of EPEA and section 1(f) of the *Environmental Appeal Board Regulation*, Alta. Reg. 114/93.⁸

[29] On April 7, 2009, the Appellants requested a community member of LICA, Mr. Ralph McGregor, be called as a witness as well as the field technician responsible for LICA's monitoring data for 2005 and 2006, and Dr. Kathy Preston, an atmospheric chemist for RWDI Air Inc ("RWDI"). The Parties were asked to provide their comments regarding the request for these witnesses.

[30] On April 9, 2009, LICA confirmed with the Board that Mr. McGregor would be attending the Hearing as a LICA airshed zone director.

[31] The Board reviewed the submissions from the Parties and, on April 14, 2009, the Board accepted LICA's offer to present Mr. McGregor on its panel. The Board did not request the field technician attend the Hearing. The Board did, however, request the attendance of Dr. Preston and that the Operators arrange for her attendance.

[32] On April 15, 2009, the Board received an email from Mr. Ian Johnson addressed to Mr. Andrew Higgins of CNRL. The Board was uncertain of the purpose of the email and requested Ms. Ulfsten clarify the intent of the email. She responded that it was to be included as part of her supplemental submission. The Board accepted the email based on her explanation.

[33] On April 17, 2009, the Board reminded the Parties and Intervenors that the Board will not accept surprise witnesses or surprise evidence at the Hearing.

[34] On April 23, 2009, LICA provided the Board with documents that LICA intended to refer to at the Hearing. On April 23, 2009, the Director provided additional documents he intended to refer to at the Hearing. The Board notified the Parties that it was concerned

⁸ Section 1(f) of the Environmental Appeal Board Regulation defines a party as:

“(i) the person who files a notice of appeal that results in an appeal,
(ii) the person whose decision is the subject of the notice of appeal,
(ii.1) where the subject of the notice of appeal is an approval or reclamation certificate under the Act or an approval, licence, preliminary certificate or transfer of an allocation of water under the *Water Act*, the person who holds the approval, licence or preliminary certificate, the person to whom the reclamation certificate was issued or the person to whom the allocation was transferred, and

regarding the late filing of the documents and that it was not possible to provide copies to Ms. Ulfsten and the Elchuks in time for the Hearing. The Board stated it would determine at the start of the Hearing if it would accept the documents.

[35] The Hearing was held April 27 and 28, 2009, in Cold Lake.

II. Submissions

A. Appellants

1. Ms. Inez Stone

[36] Ms. Stone explained the CLFSG has been active in the Cold Lake area since 1999. She stated there is strong evidence of the role petroleum plays in fibromyalgia, and SO₂ emissions play a role in vitamin D deficiencies, which has been linked to multiple sclerosis, a sister disease of fibromyalgia. Ms. Stone stated exposure to SO₂ is linked to mortality from cancer and cardiovascular and cardiorespiratory diseases in humans.

[37] Ms. Stone stated the Ethel Lake Intervenors are landowners and residents concerned with acid effects on surface water, land, vegetation, humans, animals, fish, and birds due to emissions and flaring. She explained acidification exacerbates changes in heavy metals to their more dangerous forms that enter the food chain. Ms. Stone stated the Ethel Lake Intervenors participated in the canister sample collection, but they were frustrated with delays in sample analysis, obtaining results and explanation of the reports, and getting the canisters on site in a timely manner. Ms. Stone explained the canister sampling was supposed to empower the landowners and residents with some means of protecting their lands and health and to help enforce the polluter pays principle. Ms. Stone stated the opposite has happened. She argued that more oil sands development should result in more ambient air monitoring, not less as the new regional airshed monitoring program was substantially reducing the number of monitoring stations. The Ethel Lake Intervenors questioned who is liable when releases occur and how the polluter pays principle will be applied in any prosecution of the Approval Holders.

(iii) any other person the Board decides should be a party to the appeal.”

[38] Ms. Stone questioned whether the Director's decision to turn over the ambient air monitoring of five large oil producers and 14 central processing facilities to LICA was sound.

[39] Ms. Stone submitted the Amending Approvals must be rescinded. She argued the issue of allowing joint applications should also be discussed. Ms. Stone submitted that, if the Amending Approvals are not reversed, the Board should examine the community recommendations to the draft implementation plan which follows the RWDI Report recommendations more closely and is more acceptable to the Appellants than the industry plan submitted to the Director.

[40] Ms. Stone argued the previous monitoring requirements should be incorporated into the LICA plan as a starting point. She stated that even though the Cold Lake area produces more crude bitumen than other areas, both the Peace River and Wood Buffalo areas monitor for more parameters and have more continuous monitors, co-located passive monitors, and real time on-line data than the Cold Lake area.

[41] Ms. Stone asked that good monitoring occur on the Cold Lake Air Weapons Range and to respect designated wildlife preservation areas. She stated this is an opportunity to collect and compare data between high and low industrial activity areas.

[42] Ms. Stone argued confidentiality of data should not be allowed when it comes to a resource such as air. She argued the "...public views such secrecy as a shield for corporate malfeasance"⁹ and it provides immunity from the polluter pays principle.

[43] Ms. Stone stated she would like to see increased coordination between health agencies, the ERCB, and Alberta Environment.

i. Monitoring Program

[44] Ms. Stone argued the LICA monitoring program is designed to not find problems. Ms. Stone noted health parameters such as VOCs, PAHs, and heavy metals should be measured hourly and daily in order to protect wildlife, livestock, and ecosystems and to determine human exposure to air pollutants. She stated that, although the LICA terms of reference indicate it

⁹ Ms. Stone's submission, received April 3, 2009, at page 5.

supports the Alberta Ambient Air Quality Objectives, LICA is not monitoring many of these compounds, especially mercury and benzene.

[45] Ms. Stone explained the Ethel Lake Interveners are concerned about human and soil impacts of acidification, because they are in the area of one of the highest potential acid input levels. She referred to the RWDI Report in which it stated that in "...areas of high SO₂ concentrations, monitoring at emission sources, dispersion modeling, and model validation with mobile monitors at selected receptor sites may be the only feasible method of addressing specific concerns on health and other impacts."¹⁰ Ms. Stone argued the monitoring network is inadequate to properly monitor SO₂ for compliance.

[46] Ms. Stone submitted the number of monitoring locations needs to increase and be properly defined. Ms. Stone stated there were 13 continuous monitoring stations in the airshed in 2003, but now there are only two continuous monitors in operation. Ms. Stone argued the RWDI Report advises LICA to integrate industry monitoring, which would bring back 11 continuous monitoring stations that the Director allowed to be decommissioned.

[47] Ms. Stone noted that several reports submitted to the ERCB indicate exceedances of ambient air quality guidelines, but these exceedances would not show up in LICA's averaged data. Ms. Stone argued the monitoring program is not designed to discover noncompliance of EPEA approvals and the polluter never pays. Ms. Stone commented that the reports showing exceedances would not pass an audit due to faulty data records.

ii. Facility Upset Conditions

[48] Ms. Stone argued the monitoring program is not properly designed having regard to the potential for facility upset conditions because most of the data is averaged data from passive monitors. She stated that only continuous monitoring close to the point source will indicate an upset. Ms. Stone stated that, over the past few years, her family has become ill due to odours from upset conditions. She stated the Approval Holders do not notify them of an upset because they are outside the two kilometre notification radius.

¹⁰ Ms. Stone's submission, received April 3, 2009, at page 2, citing the RWDI Report at page 79.

[49] Ms. Stone explained she tried the canister program, which was to be used when upsets occur. She stated she was given data that she did not understand, and she waited over a year before she received any explanation of the findings. She stated she still does not know what chemicals she was exposed to. Ms. Stone argued if there was a noncompliance of a hazardous substance, the polluter would not be liable.

iii. Quality Assurance Program

[50] Ms. Stone stated she has never seen an audit on the LICA website or received a copy of an audit from LICA despite numerous requests. Ms. Stone noted that even though LICA's website indicates it has passive data for 2006 to 2008, results are missing for February and July 2006, October, November, and December 2007, and only data from the first four months of 2008 are on the website. Ms. Stone stated that no other data are archived.

[51] Ms. Stone stated the old LICA website included a disclaimer that LICA did not guarantee the accuracy, currency, or completeness of the information. Ms. Stone argued that if the LICA data will not hold up in court, then EPEA would not be enforceable and the polluter pays principle is denigrated.

iv. LICA Personnel

[52] Ms. Stone stated LICA personnel may have the training and qualifications to run the network, but she was concerned with accountability. She stated that she was proactive in gathering the canister samples, but no one was accountable to provide her with a timely explanation of the results. Ms. Stone argued that even though the public is legally obligated to report spills and releases, no one is held accountable. She has reported incidents to Alberta Environment and the ERCB, but her time, health and good faith have been abused. Ms. Stone gave examples of what she was told when reporting an incident. She stated she was told a skunk caused the odour, it was someone burning rubber, and that they could not drive down from Edmonton to check it out.

v. Supplemental Submission

[53] Ms. Stone argued the changes to the implementation plan do not meet the spirit of the RWDI Report recommendations, do not meet the requirements of EPEA, and do not address the concerns of the CLFSG, the Ethel Lake Interveners, or herself.

[54] Ms. Stone noted that, even though the commitment was made to outfit the portable monitoring station trailer with the capacity to monitor for VOCs and PAHs, no details were provided regarding what circumstances would initiate the monitoring, how much monitoring would take place, or where or when in the airshed the monitoring would occur.

[55] Ms. Stone stated the RWDI Report indicated the portable trailer should be used to ground truth potential sites for continuous monitoring stations, resolve discrepancies between co-located passive and continuous monitoring stations, and identify hot spots in the airshed. She stated the RWDI Report considered it useful to have VOC monitoring at both continuous and passive stations for emission tracking, improving understanding of ozone formation, and assessing pollutant transport.

[56] Ms. Stone argued the Amending Approvals must set out the conditions that will create legal obligations that fulfill EPEA requirements and ensure the polluter pays principle will be enforced. She submitted that, because this has not been done, the Amending Approvals should be rescinded.

[57] Ms. Stone noted the Director has not required the Approval Holders or LICA to provide reasons for the discrepancies in the data or how the discrepancies will be resolved in a timely fashion. She argued that residents are entitled to know if the calibration, sampling, and measurement protocols are being correctly followed.

[58] Ms. Stone argued that human and environmental health concerns will only be addressed with continuous, hourly monitoring of parameters relating to health.

[59] Ms. Stone noted that, according to the 2003 Whitford Report and the Alberta Environment Mobile Air Monitoring Laboratory (“MAML”), there were a few high hydrogen sulphide readings near some industrial facilities where ambient air quality guidelines were not

met. She stated exceedances of SO₂ and SO₃ were measured at monitors at facilities operated by EnCana, CNRL, and Imperial.

[60] Ms. Stone stated there were 13 continuous monitoring stations in the LICA airshed in 2003, but according to the RWDI Report, only one was functioning when the report was written in 2008. She argued a shift to regional monitoring cannot be accepted if the number of continuous monitoring stations is reduced from 13 to 1 while the number of oil and gas facilities increase. Ms. Stone argued regional, point source, and transboundary monitoring is required, and the 13 continuous monitoring stations should have been kept as a good starting point for the monitoring network.

[61] Ms. Stone stated the audits of LICA must be posted on its website, and the public must be notified when the reasons for the data discrepancies have been discovered.

[62] In response to recommendation 5,¹¹ Ms. Stone explained the original intent of this recommendation was to have a portable continuous monitor to confirm monitoring data, to discover hot spots, and determine good locations for more continuous monitoring stations. She noted the intent was to locate a continuous monitor at Elk Point/Fort George because of an identified hot spot, but there is no indication in the March 31, 2009 revised monitoring program of the intent to include the continuous monitoring station at that site.

[63] Ms. Stone stated that, even though the Director indicated that VOC and PAH monitoring is to be integrated into the network by September 30, 2009, there is no indication where it will occur, for how long, and how it will be initiated. She stated the recommendation does not clearly state whether VOC speciation will occur, if a PAH surrogate will be used, and if particulate matter and heavy metals will be monitored continuously to determine health effects.

[64] Regarding recommendation 7,¹² Ms. Stone noted the March 30, 2009 revised recommendations removed a commitment to 1-in-6 day VOC sampling at the Cold Lake

¹¹ Recommendation 5 was in relation to acquiring a portable continuous monitoring station. The Director required LICA to outfit the portable monitoring trailer with the capacity to conduct integrated monitoring for VOCs and PAHs, assess the levels of VOC and PAHs near residences that are close to heated oil storage tanks, venting from traditional oil and gas batteries, and flares from in-situ oil sands development.

¹² Recommendation 7 was in relation to measuring VOCs. The Director required LICA to outfit the portable monitoring trailer with the capacity to conduct integrated monitoring for VOCs and PAHs, assess the levels of VOC

continuous monitoring station and consideration for this at the other continuous monitoring stations. She explained LICA and Alberta Environment were to conduct a pilot project of integrated VOC monitoring, but it was removed from recommendation 7. Ms. Stone also stated there is no mention of the areas identified by LICA where monitoring should take place.

[65] Ms. Stone stated she wants compliance monitoring for the airshed. She argued that, based on the rewritten recommendations, "...the original intentions of the RWDI report are being changed or left out and the Director is not providing LICA or the Operator's [*sic*] with clear instructions to fulfill EPEA obligations in the public interest."¹³

2. Ms. Sally Ulfsten

i. Submission

[66] Ms. Ulfsten argued the Amending Approvals replaced compliance monitoring for ambient monitoring. She argued the Director's decisions violated the purpose of EPEA, Alberta's regulatory program, the Ambient Air Quality Monitoring Directive, and the Acid Deposition Management Framework.¹⁴ She also argued the acceptance of LICA's proposed handling of transboundary emissions is possibly a violation of any bi-lateral agreements with the Federal government under the *Canadian Environmental Protection Act*, S.C. 1999, c. 33.

[67] Ms. Ulfsten stated it has been three years since LICA first met and she requested a complete emissions inventory, but it still does not have a full inventory of emissions. She questioned whether LICA's monitoring program is sufficient to address the quantity of emissions produced in the airshed.

[68] Ms. Ulfsten argued the Amending Approvals repeal the compulsory monitoring of ambient air emissions. She stated the compulsory monitoring is a cost of doing business and is consistent with the polluter pays principle. She argued the LICA monitoring network is not

and PAHs near residences that are close to heated oil storage tanks, venting from traditional oil and gas batteries, and flares from in-situ oil sands development.

¹³ Ms. Stone's submission, dated April 14, 2009, at page 4.

¹⁴ Alberta Environment, "Acid Deposition Management Framework" (February 2008) <<http://environment.gov.ab.ca/info/library/7926.pdf>>.

consistent with the polluter pays principle because the Cold Lake portable continuous monitoring station is owned by Alberta Environment.

[69] Ms. Ulfsten noted that the Approval Holders' stack emission volumes, which are calculated monthly, are still in effect, but she argued this is not monitoring air quality. She acknowledged that even though VOCs and PAHs are not included in the Amending Approvals, LICA is budgeting for a monitoring program that includes VOCs and PAHs. Ms. Ulfsten questioned why total reduced sulphur is not measured, because sulphur recovery processes are a source of fugitive emissions of hydrogen sulphide that can linger in low lying areas such as valleys.

[70] Ms. Ulfsten argued LICA should be required to monitor for total hydrocarbons, including reactive and non-reactive hydrocarbons. She noted some of the hydrocarbons are carcinogenic and some are neurotoxins. She argued an inventory of emissions considering all alkylated hydrocarbon sources in the airshed and upwind should be completed as a priority.

[71] Ms. Ulfsten referred to a review completed by Dr. Karen McDonald for the EUB hearing regarding the Blackrock expansion at Hilda Lake.¹⁵ Ms. Ulfsten referred to the sections in which Dr. McDonald recommended enhancing monitoring including chemical speciation of volatile organic compounds as well as implementing an ambient air monitoring station near Cold Lake to help assess the potential human health impacts. According to Ms. Ulfsten, Dr. McDonald also suggested monitoring for secondary pollutants and their precursor emissions to identify potential human and animal health impacts and visibility impacts.

[72] Ms. Ulfsten stated passive monitors are affected by weather conditions and the operator so the data may not be comparable. She stated the RWDI Report showed the passive monitoring station differed from the co-located continuous monitoring station only 20 metres away as much as it differed from the other passive and static monitoring stations throughout the whole airshed. Ms. Ulfsten stated it would not be advisable to make recommendations about new continuous monitors based on data from the passive monitoring network that existed prior to the Amending Approvals. Because of the discrepancies between the passive monitors and the

¹⁵ See: Ms. Ulfsten's submission, dated April 1, 2009, at Tab 4.

continuous monitors, Ms. Ulfsten questioned whether LICA should rely on the passive monitoring network for compliance with the annual limits for SO₂. Ms. Ulfsten stated the RWDI Report found that, for areas of high SO₂ concentrations and for NO₂, monitoring emissions at the source, dispersion modeling, and validation with mobile monitors at selected receptor sites may be the only feasible way of addressing specific health concerns and other impacts. Ms. Ulfsten questioned how the LICA network would focus on passive monitoring knowing it may not accurately measure SO₂ and NO₂ concentrations.

[73] Ms. Ulfsten questioned whether LICA followed the recommendations regarding quality assurance and quality control that were included in the 2003 Whitford Report. Ms. Ulfsten asked why LICA's quality assurance and quality control procedures were not in place prior to the Director making his decision regarding the Amending Approvals.

[74] Ms. Ulfsten asked how the Director will ensure the residents of the airshed that exceedances will be known if compliance ambient monitoring is not required by the Approval Holders. She questioned how the use of passive monitors would overcome the issue of possible 1-hour or 24-hour exceedances.

[75] Ms. Ulfsten did not agree with the Director's reason for accepting two more continuous monitoring stations as being consistent with the level of monitoring in other airsheds. Ms. Ulfsten stated the LICA airshed is not just another airshed because of the oil sands activity in the area. Ms. Ulfsten requested the Director provide scientific based reasons for accepting that two of Imperial's existing continuous monitors be integrated into the LICA network.

[76] Ms. Ulfsten stated the RWDI Report pointed out problems LICA had in responding to requests for data in a timely manner and that descriptive information could be improved. Ms. Ulfsten explained that her experience has been that LICA is not completely transparent, such as in the minutes for LICA meetings. She stated that if the committee chairs are not receptive to matters presented, these matters will not be reported in the minutes. Ms. Ulfsten stated that dissenting points of view, regardless of their value, are never recorded. She also stated that comments provided by Alberta Environment representatives are never recorded so the public reading the minutes would not know if Alberta Environment had concerns with the management of the airshed. Ms. Ulfsten explained LICA's annual report did not clarify that

some of the data was collected from one continuous monitoring station on the eastern boundary of the airshed. She argued this one station cannot assure residents in the rest of the 15,000 square miles of the airshed that local pollution events are not possible.

[77] Ms. Ulfsten expressed concern regarding the operation of the canister program. She stated that when the results were shown to a chemist, he explained that he needed the raw data before he could evaluate the results to determine if the compounds associated with bitumen extraction were present. Ms. Ulfsten stated there are people who have been waiting for over a year to receive a canister.

[78] Ms. Ulfsten explained there is a cold flow site only 200 metres upwind from her home. She stated there has been a substantial decrease in the number of birds and bees in her yard since the site was constructed. She stated she grows her own food and is concerned about toxic compounds falling on her soil and her food.

[79] Ms. Ulfsten explained there have been concerns regarding air quality associated with the oil sands extraction process for over a decade. Ms. Ulfsten stated Alberta Environment conducted an air quality monitoring survey in 2001 and 2002 in response to public concerns. She explained the mobile air monitoring laboratory was used, but she questioned whether the monitoring sites were based on science or if the location of the sites were determined by where members of LICA lived.

[80] Ms. Ulfsten referred to a study done by Dr. C. Ian Johnson, in which he stated aromatic and alkylated hydrocarbons are released from heated bitumen tanks, and as temperatures increase, there will be higher emission rates of a more toxic hydrocarbon mixture.¹⁶ In Dr. Johnson's report, he stated that concentrations of alkylated aromatics downwind of heated tanks could pose a potential hazard. Ms. Ulfsten stated the compounds identified using the canisters were saturated hydrocarbons rather than the toxic alkylated aromatic hydrocarbons. Ms. Ulfsten argued the use of PUFF cartridges for sampling does not provide for accurate evaluation of the sample.

¹⁶ See: Ms. Ulfsten's submission, dated April 1, 2009, at Tab 10: C. Ian Johnson, Technical Report – Assessment of Hydrocarbon Emissions from Heated Bitumen Storage Tanks (2007).

[81] Ms. Ulfsten questioned whether the quality assurance and quality control document included data quality objectives, the required documentation, and standard operating practices. She stated that proper sampling requires the laboratory personnel to take the samples under proper conditions. She argued that had LICA done an evaluation of the monitoring data prior to the RWDI Report, it would have known the data from the continuous monitoring station and the co-located passive monitor were not comparable and LICA could have corrected the problem. Ms. Ulfsten stated they still do not know if the problem was with the monitors, the person preparing the samples, or the laboratory.

[82] Ms. Ulfsten stated that she has been refused copies of Alberta Environment's audits of LICA's data.

[83] Ms. Ulfsten stated that because it is an active oil sands region, monitoring should include VOCs, NO_x, and SO_x. She argued an airshed with major oil sands and cold flow facilities should have a comprehensive monitoring system for VOCs and PAHs. She stated the community canister program is not adequate. She added that samples are taken when the resident perceives an odour, but many toxic pollutants associated with VOCs and PAHs may not have a detectable odour.

[84] Ms. Ulfsten questioned why LICA is testing for compounds that are not present. She explained that a complete, proper investigation is needed to characterize the hazardous pollutants created by the heating of bitumen in the extraction processes and then air quality guidelines need to be established for the compounds. Ms. Ulfsten stated rigorous monitoring needs to be installed and the data properly managed. Ms. Ulfsten stated this could lead to policies that prevent the release of pollutants from the point source rather than allowing industry to use the lowest cost monitoring methods. She argued the data currently gathered are not trusted by most residents and they are possibly not relevant to assessing the health risk in the airshed.

ii. Supplemental Submission

[85] Ms. Ulfsten questioned why other operators in the airshed were not encouraged to participate in LICA to ensure a properly designed monitoring network.

[86] Ms. Ulfsten argued that ambient air quality monitoring requiring 1-hour and 24-hour measurements at 11 continuous monitoring stations would protect residents more than several passive monitoring stations because possible exceedances would have to be reported to Alberta Environment immediately and the emission problem investigated and hopefully stopped. Ms. Ulfsten argued the Approval Holders now have less legal responsibility for their point source emissions because the emissions can be dispersed into the airshed.

[87] Ms. Ulfsten argued the Approval Holders do not want the Director to require them to conduct point source monitoring for VOCs and PAHs near residences close to heated storage tanks, venting, or flares. She stated the Approval Holders' argument is that these emissions are not licenced under EPEA, but she argued this omits an important human health factor.

[88] Ms. Ulfsten noted these are the first airshed approvals appealed, and the Board has a responsibility to ensure its recommendations to the Minister leads to changes in the administration of EPEA. She argued this would include changes to the Amending Approvals to include proper monitoring for all toxic emissions produced in the entire airshed that relate to human, animal, and plant health. Ms. Ulfsten pointed out that EPEA does not define air quality, pollution, airshed, or airshed management, and therefore, according to Ms. Ulfsten, EPEA was not intended as the instrument to create regional ambient air monitoring networks operated by third parties.

[89] Ms. Ulfsten submitted that monitoring alone is not environmental protection, and protection requires obtaining scientifically defensible raw data that can be evaluated by an expert in the field.

[90] Ms. Ulfsten noted Alberta Environment began researching heated storage tank emissions, but no final, peer reviewed or scientifically defensible report was completed. Ms. Ulfsten stated the Minister should encourage the development of ambient environmental quality objectives related to the oil sands emissions, leading to airshed approvals properly designed to monitor ambient air quality in relation to human health, rather than stack emission output. Ms. Ulfsten submitted there is a demonstrated need for special monitoring requirements in the oil sands area. She argued their airshed cannot be compared to other airsheds in the province.

[91] Ms. Ulfsten stated the Director has recognized that monitoring of VOCs and PAHs is needed. She explained there are compounds in the oil sands which heat volatilizes that no one has considered monitoring for. Ms. Ulfsten noted EPEA defines oil sands and bitumen but not VOCs or PAHs.

[92] Ms. Ulfsten questioned why LICA ignored the suggestion in the RWDI Report that the identified objective to “determine human exposure to air pollutants” was not given a higher priority because it is the underlying reason for most of the other network objectives.

[93] Ms. Ulfsten stated that in December 2006, LICA agreed to measure cold flow tank emissions. She stated that LICA has never provided a professional evaluation of the results from the canister program. Ms. Ulfsten explained she had requested the raw data from the canisters, but she was refused, so she does not know if the laboratory tested for the compounds being emitted from the heated storage tanks only 200 metres from her home.

[94] Ms. Ulfsten argued the RWDI Report showed the monitoring program that was in place previously was not designed or implemented properly. She stated that, although LICA claimed to welcome any air quality issues or concerns, the Appellants’ concerns have been blocked every step of the way. Ms. Ulfsten stated it appeared LICA returned to the recommendations of the 2006 Whitford Report, even though the Director did not accept the report and monitoring plan because he required a third party network review and a new implementation plan.

[95] Ms. Ulfsten stated an emission inventory needs to be completed that includes other industries and cold flow tanks. Ms. Ulfsten argued the Approval Holders have accepted the responsibility for monitoring the airshed, not just their specific plant emissions, and if they did not want the responsibility for other operators’ emissions, they should not have applied for the amendments.

[96] Ms. Ulfsten stated the Approval Holders were directed to outfit the portable monitoring station with the capacity to conduct integrated monitoring for VOCs using a SUMA canister and PAHs using PUFF samplers to assess levels of VOCs and PAHs near residences close to heated storage tanks, venting from traditional oil and gas batteries, and flares from in-

situ oil sands developments. However, in the revised implementation plan that was accepted by the Director, the Approval Holders have not included the phrase “near residences close to heated storage tanks, venting from traditional oil and gas batteries, and flares from in-situ oil sands developments.”

[97] Ms. Ulfsten submitted the Board should recommend the Minister review EPEA and develop new policies that will ensure all airshed zones are designed to protect human, animal, and plant life rather than to protect the producers of pollution.

B. Intervenor

1. Mr. George and Ms. Nadia Elchuk

[98] The Elchuks explained their family has farmed in the area since 1926, and they continue to operate a mixed farm on the original farmstead.

[99] The Elchuks stated they got involved because they were having “smog” days, and when they asked what the cause was, no one, including LICA and Alberta Environment, could give them any answers. The Elchuks explained Alberta Environment set up a mobile air monitoring unit at the Elchuks’ gate one day to take air samples. The Elchuks stated they asked for a copy of the readings for that day, but they never received the report.

[100] The Elchuks stated they both have been diagnosed with cancer, and they were told by a doctor at the Cross Cancer Clinic that the northeast part of Alberta had a very high incidence of cancer. The Elchuks also stated the local veterinarian mentioned that he noticed an increase in abnormalities and deformities in the calves born in the region.

[101] Mr. Elchuk stated he sat on the LICA airshed committee, but after a few meetings, he discovered the committee was highly influenced by industry and that the funding was solely by industry. He explained LICA got a number of passive monitors that tested four compounds, namely SO₂, NO₂, NO₃, and H₂S, but there are only small amounts of these compounds produced and emitted by the oil industry in the area. Mr. Elchuk stated a continuous monitor was acquired from Imperial and located at the end of the Cold Lake airport runway. Mr.

Elchuk commented that very little data were acquired that was of any value, and this was confirmed in the RWDI Report.

[102] Mr. Elchuk stated he stopped attending the airshed meetings because his suggestions were never looked upon favorably by the committee. He explained he had suggested taking samples from the cold flow storage tank to determine what compounds are being emitted when the oil is heated to provide an idea what compounds should be monitored. Mr. Elchuk stated he was told by an industry member that the cold flow operations were exempted from being monitored for emissions and did not have to comply. The Elchuks stated they discovered later these emissions are toxic and help create the smog. The Elchuks argued the smog is detrimental to the health of those in the area that breathe in the smog and to the production of the food they eat.

[103] The Elchuks indicated their preference was that air monitoring be undertaken by Alberta Environment, because Alberta Environment have the proper funding, can hire qualified personnel, have the proper technology, and because they issue the approvals, they have the power to revoke, create, and enforce standards.

[104] The Elchuks noted that in the revised implementation plan, LICA deleted the phrase “near residences that are close to heated storage tanks venting from traditional oil and gas batteries and flares from in-situ oil sands development” in recommendations 5 and 7. The Elchuks did not agree with the Director accepting these deletions. They stated they need proper monitoring for VOCs and PAHs near residences.

2. Cold Lake First Nations

[105] The CLFN stated they are uniquely and directly affected by adverse effects on air quality within the LICA airshed. The CLFN explained that over 1,000 CLFN members live on three reserves and surrounding areas within the airshed and are affected by the air quality through respiration and dermal absorption. They stated the members drink the local water, which may be impacted by air pollutants, and they eat plants, fish, and animals from within the airshed, increasing their risk of consuming pollutants through the food chain. The CLFN stated they have cultural, spiritual, and economic ties to the environment within the airshed that are

unlike any other community's. The CLFN argued they are particularly vulnerable to changes in air quality in the airshed.

[106] The CLFN explained its traditional territory comprises over half of the airshed. The CLFN argued that, even though LICA does not consider the Cold Lake Air Weapons Range a high priority for monitoring, the CLFN considers it a high priority area for monitoring given the sensitivity of the area and the CLFN's unique connection to and reliance on the region. The CLFN stated that pollution haze is evident even over areas with little development.

[107] The CLFN stated the area south of the Cold Lake Air Weapons Range is heavily developed by industry or used for agricultural and other purposes so these lands are not available to the CLFN members for traditional uses. The CLFN explained that most of their traditional territory lands which share a common location with the Cold Lake Air Weapons Range and the airshed are relatively undeveloped. The CLFN stated they are the only non-industry non-military group that has access to the Alberta side of the Cold Lake Air Weapons Range. The CLFN stated it is important to protect the ecosystems in the non-developed areas of the Cold Lake Air Weapons Range.

[108] The CLFN stated their ability to exercise their Treaty rights and the health of their members requires a healthy ecosystem and environmental safety, so it is important that LICA ensures the air monitoring programs and data are accurate, thorough, and representative. The CLFN argued it is also important that appropriate soil and vegetation quality monitoring is undertaken. The CLFN explained that data from soil and vegetation quality monitoring sites will indicate when there is or may be environmental stress or if stress is likely to occur in the future with the existing industrial development.

[109] The CLFN recommended the existing LICA passive monitoring network related to acid deposition be expanded and that LICA establish soil and vegetation monitoring sites in the Cold Lake Air Weapons Range. The CLFN argued that unacceptable data gaps exist under the terms of the Amending Approvals. The CLFN argued the proposed monitoring will not provide sufficient data to accurately describe current conditions or to predict future air quality and related ecological health in the Cold Lake Air Weapons Range.

[110] The CLFN explained the soils in the LICA portion of the Cold Lake Air Weapons Range are either sensitive to acid deposition or are a mixture of sensitive and moderately sensitive soils. They stated a significant portion of the Cold Lake Air Weapons Range contains vegetation that is highly sensitive to acidifying emissions. The CLFN stated a major portion of the Cold Lake Air Weapons Range is projected to have potential acid input levels between the monitoring load (0.17keq/ha/yr) and the critical load (0.25keq/ha/yr) based on approved emissions from existing and approved facilities that emit SO₂ and NO₂. The CLFN stated that more than 476,724 ha, and potentially 939,832 ha, will be subject to potential acid input levels at the monitoring load or higher for highly sensitive ecosystems, including 30,831 ha to 45,418 ha that would be exposed to greater than the critical load level.

[111] The CLFN explained a major woodland caribou population resides in the Cold Lake Air Weapons Range. They stated the woodland caribou have traditionally been and continue to be a valued food source for the CLFN members. The CLFN stated the woodland caribou are considered “at risk” by the Alberta Government and “threatened” by the Federal Government. The CLFN explained lichens are a food source for the woodland caribou, but lichens are sensitive to acidifying emissions. The CLFN was not aware of any programs monitoring the health of the lichens or studying the impacts of acid input on lichens in the airshed.

[112] The CLFN believed there will likely be additional SO₂ and NO₂ emissions from new and expanding heavy oil facilities in the airshed. They stated the airshed is also impacted by long range transport from the oil sands facilities in the Fort McMurray area.

[113] The CLFN submitted that passive monitoring related to acid deposition and quality monitoring related to soil and vegetation needs to be undertaken to establish baseline levels for the Cold Lake Air Weapons Range and to predict potential impacts on the ecosystem before they occur. The CLFN stated that if “...impacts are predicted through the monitoring programs, then industry will be able to take protective actions before negative impacts on the ecosystem and human health are experienced.”¹⁷ The CLFN argued that without enhanced monitoring in the Cold Lake Air Weapons Range, there will be inadequate data that could have

short and long term impacts on the environment and the health and way of life of the CLFN members.

[114] The CLFN was pleased the Amending Approvals require a comprehensive independent review of the LICA monitoring network program and the potential acidification impacts program.

[115] The CLFN stated that, in order to protect environmental integrity and human health, network design and operations must change. The CLFN explained the airshed is dynamic, industrial operations and emission patterns change, monitoring technology improves, and scientific understanding of the relationship between air pollution and impacts on the environment and human health develops. The CLFN believed LICA would be able to deal with day-to-day or month-to month changes in the environment, but periodic reviews would better reflect current technological capabilities and community needs. The CLFN suggested such a review be completed at least every 10 years or sooner if required. The CLFN recommended four objectives for the next comprehensive airshed review:

- “(a) Conduct a comprehensive independent review of the design and results to date of the Network;
- (b) Assess the current levels of deposition of acidic and acidifying substances;
- (c) Assess potential impacts of acidification on surface water, soils and vegetation...;
- (d) Assess potential impacts of air pollutants monitored by LICA on ecosystem components including, but not limited to humans, animals, vegetation.”¹⁸

[116] The CLFN noted their unique connection to their traditional territory and their reliance on sustainable environmental health within the airshed. They stated the Cold Lake Air Weapons Range is one remaining land base on which the CLFN people can engage in their traditional economic, cultural, and spiritual pursuits.

[117] The CLFN argued the protection of their traditional territory inside and outside the Cold Lake Air Weapons Range is of immediate concern, but available information indicates

¹⁷ CLFN’s submission, dated March 30, 2009, at page 7.

¹⁸ CLFN’s submission, dated March 30, 2009, at page 8.

there is very little air monitoring in the Cold Lake Air Weapons Range and very little monitoring of the possible impacts on soils and vegetation. The CLFN recommended the passive monitoring network related to existing Cold Lake Air Weapons Range acid deposition be expanded and soil and vegetation monitoring sites be established.

[118] The CLFN asked that the air monitoring program properly account for their uses of the airshed and their reliance on the health of the airshed and ecosystem.

[119] The CLFN reserved its right to apply for costs.

C. EnCana, CNRL, Husky Oil, and Shell

[120] The Operators explained the Amending Approvals provide for the implementation of a regional air monitoring network by LICA as set out in the Implementation Plan for the LICA Airshed Zone (2006) (“the 2006 Implementation Plan”) and the Air Quality Monitoring Plan for the Lakeland Industry and Community Association (2003). The Operators stated the purpose of the 2003 monitoring plan was to guide the completion of the air emission inventory and dispersion modeling, selection of station locations, review of equipment options, air quality monitoring program design, and public communications and open house presentations.

[121] The Operators stated the 2006 Implementation Plan was developed to guide the full implementation of the monitoring network. According to the 2006 Implementation Plan, LICA was to provide air quality data that would help to understand the ambient air quality in the region. LICA was to enhance the monitoring of expected “hot spots” and extend coverage of most substances throughout the region. The Operators noted the 2006 Implementation Plan considered the changes in monitoring that would improve the existing collection of compliance monitoring programs that focus exclusively on hot spots and rely on a dense network of outmoded static monitors. The Operators noted the 2006 Implementation Plan provided a network design that would provide data important from a local and regional perspective and that would be similar to the kinds and amount of data collected in other airsheds and urban areas in the province.

[122] The Operators noted the 2006 Implementation Plan identified a monitoring network that utilize monitoring technologies to measure regional air quality by implementing passive, continuous, and intermittent/integrated monitoring. It stated the existing static networks would be decommissioned, but three of the static sites would be replaced with passive stations to measure SO₂ and H₂S. The continuous monitors would be redistributed and not clustered around a limited number of industrial point sources.

[123] The Operators explained the Amending Approvals required the implementation of the monitoring network and an independent third party review of the network, which was completed by RWDI. The Operators quoted the summary of the substances that are measured under the LICA network:

“Sulphur dioxide (SO₂) is measured at all 25 passive monitoring stations extending across the LICA region. Nitrogen dioxide (NO₂) and ozone (O₃) are monitored at 22 passive stations while hydrogen sulphide (H₂S) is measured at 14 passive stations. The continuous station located at Cold Lake provides hourly average measurements of nitric oxide (NO), NO₂, nitrogen oxides (NO_x), fine particulate matter (PM_{2.5}), SO₂, total hydrocarbons (THC) and O₃.”¹⁹

[124] The Operators explained the objective of the RWDI review was to ensure LICA developed a strategy that met community, provincial, and federal goals to maintain and improve air quality in the region.

[125] The Operators explained that LICA provided an implementation plan to the Director on December 31, 2008, and on March 4, 2009, the Director authorized the implementation plan, conditional on further directions respecting recommendations 2, 5, and 7. The Operators stated LICA submitted a revised implementation plan on March 30, 2009, incorporating the Director’s directions on recommendations 2, 5, and 7.

[126] The Operators stated the public was involved at various stages of the network design process, and LICA meetings are open to the public and public input is encouraged. The Operators explained that, in addition to the public’s ability to file a Statement of Concern, RWDI held a stakeholder workshop to provide an opportunity for stakeholders to provide input on the purpose and objectives of the network, and a public open house was held to discuss the findings

¹⁹ Operators’ submission, dated April 1, 2009, at paragraph 5, quoting page ii of the Executive Summary of

of the RWDI Report. The Operators stated LICA issued an invitation for public input on the LICA implementation plan.

1. Monitoring Program

[127] The Operators submitted the monitoring program is properly designed to monitor ambient air quality in relation to human health and environmental safety.

[128] The Operators stated RWDI identified eight objectives for the LICA network and all were adopted, including the human health objective (Determine Human Exposure to Air Pollutants) and the environmental safety objective (Support Protection of Wildlife, Livestock and Ecosystems).²⁰ The Operators recognized the fundamental importance of human health and environmental safety.

[129] According to the Operators, RWDI did not have any concerns with the compounds to be monitored under the existing network as they applied to the human health and environmental safety objectives. The Operators explained that, in the updated implementation plan, 1-in-6 day VOC monitoring has been added to the network plan at the Cold Lake south continuous monitoring site, and LICA's portable air monitoring laboratory will monitor VOCs using SUMA canisters and monitor PAHs with PUFF samplers.

[130] The Operators submitted that "...the purpose of the Amending Approvals is to allow ambient air quality monitoring to occur on a regional scale, taking into account emissions sources, geography, meteorology, and population concentrations."²¹ The Operators stated that

the RWDI Report.

²⁰ The eight objectives identified at page 52 in the RWDI Report were:

1. Support Public Communication and Awareness;
2. Determine Background Air Quality and Track Trends;
3. Support Protection of Wildlife, Livestock and Ecosystems;
4. Support Regulatory Compliance;
5. Characterize Pollutants in the LICA Region;
6. Determine Human Exposure to Air Pollutants;
7. Assess Trans-boundary Effects; and
8. Support Model Evaluation.

²¹ Operators' submission, dated April 1, 2009, at paragraph 15.

regional monitoring provides several benefits as compared to site-specific monitoring, including increased opportunity for data integration and the ability to perform trend analysis, increased opportunity for public access through annual reports and website access, and consistency with the Clean Air Strategic Alliance (“CASA”) approaches and best practices.

[131] The Operators submitted that passive monitoring technology is a substantial improvement from static monitoring, because in passive monitoring, the volume of air sampled is controlled by a diffusion barrier and the volume of sample can be accurately estimated by calculation, resulting in more accurate data than in static monitoring technology.

[132] The Operators referred to the RWDI Report regarding the types of monitoring to be conducted and the spatial aspects of the monitoring network as it relates to the human health objective. The Operators submitted that the implementation of the Maskwa and St. Lina continuous monitoring sites, the LICA portable air monitoring laboratory, and the use of Alberta Environment’s MAML when necessary are sufficient measures to fulfill the recommendations and concerns raised in the RWDI Report.

[133] The Operators submitted that the commitment to install co-located passive monitors at each of the three continuous monitors for the purpose of correlating data between the two sampling technologies, plus an increase from 10 percent to 50 percent duplicate samples for two years, will provide additional data quality confidence.

[134] In response to the concerns in the RWDI Report that improvements could be made to better support the protection of wildlife, livestock and ecosystems, the Operators explained the implementation of the Maskwa and the St. Lina continuous monitoring stations will address the concern, particularly since the St. Lina station will be implemented in a rural area with minimal industrial activity.

2. Facility Upset Conditions

[135] The Operators submitted that the Amending Approvals are properly designed having regard to the potential for facility upset conditions.

[136] The Operators explained the spatial placement of the passive monitoring stations covers a broader area and has a greater potential to identify regional impacts. The Operators noted the RWDI Report stated the 20 passive monitoring stations would provide data that are useful for assessing spatial variation of the monitored parameters throughout most of the airshed and would identify long-term and regional-scale air quality trends.

[137] The Operators explained the Amending Approvals leave all source monitoring and reporting and occupational health and safety requirements intact. The Operators stated these requirements are designed for the specific facility to which they apply and are appropriate and capable of monitoring with regard to potential facility upset conditions. The Operators explained they also have fully developed emergency response programs for each of their facilities as required by the ERCB. The Operators stated the emergency response programs provide for public awareness and notification processes and procedures to protect employees and the community as required.

3. Quality Assurance Program

[138] The Operators submitted the LICA network has an appropriate, adequate, and fully documented audit, quality assurance, and quality control program. The Operators recognized the RWDI Report recommended specific quality assurance and quality control procedures be developed for the monitoring network, including improved documentation of the monitoring network operations. The Operators stated this was addressed in the LICA implementation plan and was accepted by the Director.

[139] The Operators explained that LICA has undertaken and developed the LICA Quality Assurance Plan, a comprehensive document specific to the monitoring network and includes fully documented audit, quality assurance, and quality control programs and procedures.²² The Operators stated the LICA Quality Assurance Plan addresses the concerns raised in the RWDI Report.

²² See: Operators' submission, dated April 1, 2009, at Tab 2.

4. LICA Personnel

[140] The Operators submitted that the personnel responsible for the operation of the LICA Network have appropriate training, qualifications, and accountability. The Operators stated Maxxam Analytics (“Maxxam”) has been contracted by LICA for the day-to-day operations of the monitoring network. The Operators explained Maxxam was selected through a bid process, which included an evaluation by a technical team that made its selection based on the specific training and qualifications needed to operate the monitoring network. The Operators stated Maxxam and its staff must have the technical expertise to meet or exceed all service requirements set out in the LICA Request for Proposal for Regional Air Quality Monitoring Services.²³ The Operators stated the LICA Quality Assurance Plan ensures all personnel involved in the monitoring network are required to have obtained the level of competence required for all operations which they will perform, and the level of competence must be documented and updated as required.

[141] The Operators explained the Maxxam air services technician must have, at a minimum, a two-year diploma in a related environmental, chemistry or instrumentation field, and all of Maxxam’s ambient air technicians must have sufficient experience to complete all field calibrations and maintenance. The Operators explained Maxxam’s accountability for the day-to-day operations is set forth in LICA’s Quality Assurance Plan, where it states the data and reporting technicians are responsible for daily data retrieval activities, identification and communication of operational problems to the LICA program manager, data validation, data archiving, and data reporting. The Operators stated the field technicians are responsible for daily review of the network operations, site audits, maintenance and calibration visits, trouble shooting activities, performing and managing all equipment and laboratory repairs, calibrations, and preventative maintenance. The Operators stated Maxxam has 20 years experience in ambient air monitoring and is an internationally respected firm in the air quality analysis and technical support industry. The Operators noted that Maxxam has its own quality assurance plan which complies with the International Organization of Standardization, and its laboratories are

²³ See: Operators’ submission, dated April 1, 2009, at Tab 3.

accredited by the Standards Council of Canada and the Canadian Association of Laboratory Accreditation Inc.

[142] The Operators requested the Amending Approvals be confirmed.

5. Supplemental Submission

[143] The Operators clarified that LICA is to implement the updated implementation plan. They stated the higher rate of duplicates (50%) for the passive monitoring network shall be implemented by July 15, 2009, for a two year period, and the additional portable air monitoring station, equipped with the SUMA canister and the PUFF sampler, will be integrated to the monitoring network by September 30, 2009.

D. Imperial

[144] Imperial explained the LICA airshed zone was formed with the encouragement of Alberta Environment and local stakeholders and was endorsed by CASA. Imperial stated the amendments apply only to ambient air monitoring and do not alter or replace provisions in its approval which deal with emission limits, source monitoring, and reporting. Imperial recognized the mandate of LICA is much broader than, and addresses issues and concerns that are unrelated to, Imperial's operations or the conditions in its approval. Imperial explained LICA and the LICA board of directors operate using a consensus model of decision-making and no single party is in a position to direct the activities of LICA. Imperial acknowledged that design of the monitoring network includes measurement criteria and parameters that do not relate to Imperial's operations and over which it has no control.

[145] Imperial voiced concerns that issues relating to LICA's broader mandate and possible enforcement consequences may be linked to Imperial's approval and its operations. Imperial stated issues relating to cold flow tank emissions are beyond the jurisdiction of the Board to consider, because Imperial does not operate any cold flow tanks in the area or under the auspices of its approval or Amending Approval which is the subject of the appeals. Imperial further stated that trans-boundary monitoring done by LICA is unrelated to Imperial's operations

and any discussion of this measurement parameter is outside the Board's jurisdiction at the Hearing.

1. Monitoring Program

[146] Imperial stated the monitoring network was designed in accordance with the 2006 Whitford Report. Imperial noted public consultation and review played a large part in the preparation of the report, and the review of the plan conducted by RWDI included further extensive public consultation. Imperial explained that LICA responded to the RWDI Report and submitted the plan to the Director for approval. Imperial stated the Director recommended some additional improvements which were adopted by LICA and filed with the Director on April 1, 2009.

[147] Imperial submitted the monitoring program is "...reasonable, appropriate and properly designed to monitor the ambient air quality in relation to human and environmental safety as they may be affected by the activities conducted by Imperial Oil pursuant to its operating Approval for its Cold Lake operations."²⁴

[148] Imperial stated it is easily explained why there are changes in the static monitoring for total sulphination and hydrogen sulphide, in passive monitoring for ozone, and in continuous monitoring for hydrogen sulphide. Imperial explained it installed a new monitoring system in 2001 and has operated 50 static monitoring stations for total sulphation and hydrogen sulphide. Imperial stated the system used old technology. Imperial noted the system never recorded an exceedance of total sulphation as a result of its production activities, and less than one percent of the readings exceeded $0.1 \text{ mg } 100 \text{ cm}^{-2}$, an order of magnitude below the acceptable level of $0.5 \text{ mg } 100 \text{ cm}^{-2}$ (SO_3 equivalent per day as a 1-month accumulated loading). Imperial stated the static monitoring stations never registered an H_2S exceedance and less than five percent of the readings exceeded $0.01 \text{ mg } 100 \text{ cm}^{-2}$, an order of magnitude below the acceptable level of $0.1 \text{ mg } 100 \text{ cm}^{-2}$ (SO_3 equivalent per day as a 1-month accumulated loading).

²⁴ Imperial's submission, received April 1, 2009, at paragraph 11.

[149] Imperial argued that, based on the data, its activities and other activities in the area are not causing a concern in regard to the monthly SO₂ loading. Imperial explained this is the only information provided by the static monitoring stations. Imperial stated the new passive monitoring devices are far superior and appropriate than the static monitors and would provide more meaningful data. Imperial argued continued use of the old monitoring system would not provide meaningful information on the regional air quality.

[150] Imperial explained it recently installed 11 passive monitoring stations outside the “fence line” of its facility which it will continue to operate to measure total sulphation and hydrogen sulphide.

[151] Imperial stated it included ozone in its monitoring system at the request of the Marie Lake Air and Watershed Society, but after obtaining consent from the society, it discontinued the measurement and relied on the LICA measurement. Imperial stated its measurements and those of LICA did not vary from the provincial averages.

[152] In response to Ms. Stone’s questions as to why a number of chemicals are not included in the parameters which LICA undertakes, Imperial explained that because in-situ oil recovery operations are not significant sources of polycyclic aromatic hydrocarbons, volatile organic compounds, ammonia, or heavy metals, measurement of these compounds would not be meaningful. Imperial stated methane gas and reactive hydrocarbons are measured by monitors located at every Imperial operation. Imperial explained NO_x emissions are calculated and recorded in continuous emissions monitors located in stack tops and, twice a year, are verified by actual stack collections. Imperial stated particulate matter is monitored in the LICA network at the Cold Lake station.

[153] Imperial explained the portable monitoring station that will be used by LICA previously belonged to Imperial, and the continuous monitoring station at Maskwa is owned by Imperial and will be used jointly by Imperial and LICA. One of the other continuous monitoring stations that will be used by LICA at St. Lina also belonged to Imperial.

2. Facility Upset Conditions

[154] Imperial stated the LICA monitoring program is not intended to be relied on in an operational upset condition. Imperial confirmed the condition in its approval that addresses emissions sources and the measurement of emissions in upset conditions was not altered by the Amending Approval and is not open for review at the Hearing. Imperial stated it operates a comprehensive emergency response plan in accordance with ERCB directives.

3. Quality Assurance Program

[155] Imperial stated the LICA Quality Assurance Plan was prepared in accordance with Alberta Environment's Air Monitoring Directive.

4. LICA Personnel

[156] Imperial stated the contractor qualifications and accountability are described in LICA's Quality Assurance Plan, terms of reference, and in the job specification in LICA's advertisements for the lab and field work. Imperial argued LICA conducted a review to ensure the activities undertaken by the contractor are completed by individuals with the necessary skills.

[157] Imperial explained it holds LICA accountable for managing the LICA monitoring network by: Imperial holding an industry seat on the LICA airshed and attending the LICA airshed meetings; receiving monthly reports from the program manager; participating on the airshed technical committee; and supervising the contractor bid selection.

E. Director

[158] The Director explained the Amending Approvals provided for an independent review of the LICA monitoring network, and the results were provided in the RWDI Report. The Director stated the Approval Holders were required to submit a plan to address the independent review with implementation of the plan to occur as authorized in writing by the Director. The Director explained that, on March 4, 2009, he accepted the implementation plan with a number of modifications.

1. Monitoring Program

[159] The Director submitted the monitoring program is properly designed and was developed recognizing the specific needs and expectations of Alberta Environment.

[160] The Director explained the monitoring technology employed by LICA is the same type of technology used by Alberta Environment in air monitoring and used by seven operating airsheds in Alberta. The Director stated the passive monitors and continuous monitoring analyzers are proven technology and have been used across Alberta for over a decade.

[161] The Director explained the monitoring locations were determined through analysis of air monitoring conducted by Alberta Environment's MAML, preliminary passive air monitoring, atmospheric dispersion modeling, consideration of populated centres, and locations of industrial emissions. The Director stated the locations for the two permanent continuous monitoring stations were chosen to "... assess three levels of air pollutant concentration varying from high (near the largest air emissions facility); medium (located in the largest populated center) and low (located in a rural setting away from large industrial and urban sources)."²⁵ The Director stated the station located in the largest populated centre has the most extensive suite of continuous air monitoring parameters. The Director stated the passive monitoring sites are on an enhanced grid pattern with sites chosen across the entire zone to evaluate spatial distribution of air quality and with several sites chosen to monitor trends in air quality near populated centres, specifically Bonnyville and the Cold Lake First Nations reserve. The Director explained the only static monitors in the new monitoring network are at sites that previously showed exceedances of the Alberta Ambient Air Quality Objectives.

[162] The Director considered the monitoring locations appropriate to address regional and compliance monitoring objectives. The Director stated the "...addition of modern accurate passive monitoring at locations for regional monitoring objectives (away from industrial sources)

²⁵ Director's submission, dated April 1, 2009, at paragraph 15.

and deployment of co-located passives near the large industrial emitters is an acceptable re-deployment of the previous ambient air monitoring.”²⁶

[163] The Director commented that the LICA monitoring program compared favourably with airshed monitoring in other regions, specifically in the Red Deer region. The Director noted the LICA monitoring network does not include carbon monoxide or ammonia as it does in the Red Deer region because the Red Deer region has a large transportation corridor and large confined feeding operations. The Director noted the LICA monitoring program was enhanced as a result of the independent review by RWDI, the Approval Holders’ response, and additional requirements the Director imposed on March 4, 2009.

2. Facility Upset Conditions

[164] The Director argued the monitoring program and conditions required under the Amending Approvals are properly designed given the potential for facility upset conditions. The Director stated there will still be a continuous monitoring station at the largest in-situ facility, the Imperial Maskwa site, to monitor for upset conditions. The Director explained continuous monitoring at various locations in the past have not shown exceedances of the Alberta Ambient Air Quality Objectives due to plant upset conditions. The Director stressed the Amending Approvals did not affect pre-existing requirements for source monitoring of the stacks for appropriate parameters, and the Approval Holders are required to calculate SO₂ emissions from flare stacks.

²⁶ Director’s submission, dated April 1, 2009, at paragraph 20.

[165] The Director explained that during upset conditions at in-situ operations, emissions of SO₂ and volatile organic compounds are generally lower than upsets at upgraders or refineries. The Director stated that, even during upset conditions, the potential of emissions from in-situ operations being large enough to cause an exceedance of the Alberta Ambient Air Quality Objectives is very low from in-situ operations.

3. Quality Assurance Program

[166] The Director noted all of the Approval Holders' EPEA approvals require data collection, analysis, and reporting to be conducted according to Alberta Environment's Air Monitoring Directive. The Director explained the Air Monitoring Directive requires approval holders to establish a comprehensive quality assurance and quality control system, including internal audits conducted a minimum of every three years.

[167] The Director stated he reviewed LICA's Quality Assurance Plan dated March 27, 2008, and he was satisfied it conformed to the Air Monitoring Directive requirements.

[168] The Director explained Alberta Environment's Environmental Assurance Division, Environmental Monitoring and Evaluation Branch, oversees an audit program that includes periodic auditing of monitoring conducted in airsheds throughout the Province. The Director stated this program provides some protection against quality assurance and quality control system problems. The Director noted the LICA monitoring network was audited on September 25, 2007, and February 24, 2009.

4. LICA Personnel

[169] The Director explained the Air Monitoring Directive requires personnel performing tasks related to environmental monitoring and reporting activities be competent based on appropriate education, training, and/or experience. The Director stated the Air Monitoring Directive requires approval holders identify training needs, provide training, ensure the training is current, and maintain records relative to personnel competency.

[170] The Director stated LICA prepared a quality assurance plan that addresses these requirements, and the Approval Holders should be able to provide detailed information on training, qualifications, and accountability.

[171] The Director submitted there is no basis for reversing or varying the Amending Approvals and the appeals should be dismissed.

III. Discussion

A. Legislation

[172] Under section 98 of EPEA, the Board can make recommendations to the Minister to confirm, reverse, or vary the decision that is being appealed, in this case, the Amending Approvals issued to the five Approval Holders.²⁷

B. Preliminary Matters

[173] On April 23, 2009, after 4:00 pm, the Director provided additional documents to the Board that he intended to refer to at the Hearing. The Board was concerned about accepting the documents at such a late date because it could not ensure delivery to all of the Parties and Intervenors prior to the start of the Hearing.

[174] At the start of the Hearing, the Board asked the Parties and Intervenors for their comments as to whether the documents should be accepted as evidence.

[175] The documents provided by the Director were all publicly available documents and pertained to Alberta Environment's policies regarding ambient airshed monitoring. As none

²⁷ Section 98(2) of EPEA provides:

“In its decision, the Board may

- (a) confirm, reverse or vary the decision appealed and make any decision that the Director whose decision was appealed could make, and
- (b) make any further order the Board considers necessary for the purposes of carrying out the decision.”

of the Parties or Intervenors took issue with the admission of the documents, and since all of the documents were relevant to the appeals, the Board accepted the documents as an exhibit.

C. Analysis

1. Monitoring Program

[176] The Appellants live in a rural area in which industry has encroached. They want to protect their rural environment from the negative effects of industrial growth. They presented their concerns to the Board in these appeals, as did the Intervenors.

[177] Alberta Environment, through its airshed policies, is developing a province wide program to monitor air quality on a regional basis in addition to a facility-based approach. This does not mean that the requirement for each facility to control and monitor their emissions is being replaced by a region-only program.

[178] The main issue in these appeals focused on the thoroughness of the monitoring program and the capability of the airshed monitoring agency (LICA) to undertake the monitoring program required under the Amending Approvals. The Appellants did not oppose the regional air monitoring program, but they wanted the regional monitoring in addition to the existing “fence line” monitoring that was required under the pre-amended approvals.

[179] The Appellants questioned the ability of the Director to monitor emissions from all tanks and facilities within the airshed. A memorandum of understanding exists between Alberta Environment and the ERCB delineating which department has jurisdiction over specific aspects of the oil and gas industry.²⁸ If a particular activity is not delineated within Alberta Environment’s jurisdiction, the Director will not issue approvals or regulate emissions.

[180] As a condition of the Amending Approvals, a third party review of the monitoring program was conducted. RWDI, who conducted the review, made nine recommendations in the RWDI Report to improve the monitoring network:

1. Adopt proposed objectives;

²⁸ See: EUB/AEP Memorandum of Understanding on the Regulation of Oil Sands Development at www.ercb.ca/docs/ils/ids/pdf/il96-07.pdf.

2. Investigate discrepancies between co-located passive and continuous data;
3. Integrate remaining industry monitoring;
4. Increase the number of continuous monitoring stations;
5. Acquire a portable continuous monitoring station;
6. Increase monitoring along the boundaries of the airshed zone;
7. VOC monitoring;
8. QA/QC procedures; and
9. Improve documentation.

[181] LICA proposed a monitoring program taking into consideration these recommendations. The Director, however, had concerns with LICA's responses to recommendations 2, 5, and 7. As a result, LICA submitted a revised plan for those three recommendations, taking into account the Director's comments. The Director asked for additional co-located duplicate passive monitors and co-located passive and continuous monitors. The Director also required the portable air monitoring trailer be outfitted with the capacity to monitor VOCs and PAHs near residences close to heated oil storage tanks, venting from traditional oil and gas batteries, and flares from in-situ oil sands development. In LICA's revised plan, these requests were incorporated into LICA's air monitoring program.

[182] With the implementation of the LICA monitoring network, the type and number of monitoring stations will be changed. Prior to the issuance of the Amending Approvals, the Approval Holders primarily used static monitors to gather data. All of the expert witnesses at the Hearing agreed that static monitors do not provide the same level of information with the same degree of accuracy as passive monitors. Data from the passive monitors can be collected and read on a monthly basis. Continuous monitors provide even more information as they record data all of the time.

[183] Prior to the issuance of the Amending Approvals, the Approval Holders were responsible for 78 static monitors, 10 passive monitors, and three continuous monitors that operated throughout the year, three continuous monitors that operated six months of the year, and two continuous monitors that operated two months of the year. Under the Amending Approvals,

there will be three stationary continuous monitors, one portable continuous monitoring station, and 25 passive monitors.²⁹

[184] The Appellants asked that reasons be provided that would explain the discrepancies in the data collected at the co-located passive and continuous monitors. None of the witnesses could say with absolute certainty why there were discrepancies. However, additional passive monitors have been added to the LICA monitoring network to have co-located passive monitors with each of the permanent continuous monitoring stations and 50 percent of the passive monitors will have duplicated monitors for at least two years. This should provide additional information as to why discrepancies existed, and when this information becomes available, it should be shared and explained to the residents of the airshed. At a minimum, the additional monitors will provide a better understanding of the cumulative impacts of industrial development in the airshed.

[185] With the use of passive and continuous monitors, although the number of monitors may have decreased, the data being produced from the passive and continuous monitoring stations should be more useful for measuring and analyzing regional emissions. Also, the continuous monitors will be spread throughout the airshed instead of being located in proximity to one facility.

[186] The monitoring stations, including the portable station, will be owned by LICA. The continuous monitoring station at Maskwa is owned by Imperial, who will continue to use the station in conjunction with LICA. The portable station also belonged to Imperial but will now be operated by LICA. The other two continuous monitoring stations will be owned and operated by LICA. MAML is owned and operated by Alberta Environment and will be available, when requested by LICA, to take samples from different areas within the airshed. The Approval Holders all contribute financially to the operation of LICA based on their share of production in the area. Alberta Environment has contributed equipment to assist in getting LICA started, but is not a major financial contributor to LICA.

²⁹ See: Exhibit 7: Table Pre-LICA and Current LICA.

[187] Part of the challenge the Appellants faced in these appeals was trying to understand some of the data presented in the various industry reports. For example, the Appellants reviewed the data provided, and on a map provided by Ms. Stone, there appeared to be 11 continuous monitors operating in the airshed.³⁰ However, the Director and Approval Holders explained that, in fact, there were only three continuous monitors operating all year. Some of the monitors only operated for a few months or weeks each year. Other points marked on the map included sites where a continuous monitor once operated but is no longer operating. LICA needs to prepare a clear, concise map indicating the sites where passive monitors and continuous monitors are located. The map should also include industry operated monitors outside the facility “fence line.” Past monitoring sites should also be clearly indicated. An explanation why certain monitors were decommissioned would also be helpful. If monitoring sites are changed, this information should be reported and marked on a revised diagram or map. This would assist in providing the public with a clear depiction of the monitoring program and how it is evolving. To appear truly open and transparent, LICA and the Approval Holders must provide information to the public in a timely, concise, user-friendly manner.

[188] The Board recognizes that LICA is an evolving entity. The Board had concerns with the way in which the sites were selected for the passive monitors as well as the determination of the number of monitors that were required. The evidence before the Board disclosed that the airshed was divided into a 3-by-3 township grid and passive monitoring stations were located as close as feasible to each of the intersecting points. Additional monitors were then added. The Board appreciates LICA had to use some system as a starting point to ensure the entire airshed was included in the monitoring network and that a degree of randomness was used to locate the monitors. Dr. Preston suggested population concentrations be studied and used as an indicator as to where to place some monitors. As an evolving entity, the Board expects LICA will modify its monitoring program as information becomes available about the airshed and the dispersion of emissions.

³⁰ See: Director’s Record at Tab 1.e: Jacques Whitford Limited, Implementation Plan for the LICA Airshed Zone, (2006) Figure 2.2 Locations of past and present air quality monitoring sites in the LICA region as of 2003.

[189] In her testimony, Dr. Preston stated that she did not understand why a continuous monitor was placed in the “bull’s eye,” an area designated as a hot spot for SO₂ emissions that was not anticipated. She recommended the monitor be moved a distance from the bull’s eye to record a more representative sample of the airshed, but the recommendation was not based on any scientific reasoning. However, it was clear from the Director’s evidence that he requested the monitor be placed at the bull’s eye. It was identified as an area of sufficient concern to the Director considered sufficient enough to require the additional monitoring.

[190] The Appellants suggested an inventory of emissions be conducted to determine what emissions are being released and what potential emissions could be released within the airshed. Having this knowledge base could assist LICA in its monitoring program planning. A number of environmental impact assessments have been completed for the various projects proposed and constructed in the area. It could be useful to review the various environmental impact assessments and collate the data available regarding emissions within the airshed. This would provide additional confidence in knowing that the appropriate substances are being monitored and that the location of the monitors is reasonable given the predicted and known emissions from those facilities.

[191] When LICA, the Approval Holders, or Alberta Environment undertakes studies in the area or becomes aware of research being conducted, it would be useful to provide copies of the results to interested residents and to provide them with an opportunity to discuss the results in an open forum. This again would assist in LICA being a transparent group that is willing to receive valuable information and feedback and can respond to the concerns of airshed residents.

[192] The Appellants expressed concern that some of the monitoring requirements included in the December 31, 2008 network plan were removed in the March 30, 2009 revised monitoring network plan for recommendations 2, 5, and 7. In particular, the Appellants noted the commitment to a 1-in-6 day VOC sampling at specific continuous stations and monitoring near residences was removed. At the Hearing, the Director clearly stated that the approved requirements in his April 6, 2009 letter were in addition to the requirements in his March 4, 2009 letter. In other words, the requirements for the 1-in-6 day VOC sampling and monitoring near residences still apply.

[193] The CLFN was mainly concerned with ensuring the Cold Lake Air Weapons Range was also monitored. The Board cannot recommend that the Amending Approvals be amended to include the air weapons range because it is federal property. However, LICA should try to work with federal representatives to determine whether it can include some portion of the air weapons range as part of the airshed monitoring network. This would provide additional information about the airshed in area where there are plants and soils that are sensitive to acid deposition.

[194] LICA and the Appellants explained that a canister program exists that allows individual residents to collect air samples when there is an issue with air quality, particularly when odours are present. The individual sends the canister to a specified laboratory to have the air sample analyzed. The first attempts at the program were not successful because of misplaced canisters, delays in receiving results, and results that were not interpreted for the individual in any meaningful way. The Board understands LICA plans to continue the canister program and has made changes in how it will be run. The Board hopes the results can be given to the participants in a timely manner and in a way that explains the significance of the results in easily understood language. If the laboratory does not decipher the results, someone from LICA should be available to answer the individual's questions.

[195] Part of LICA's role is to share data with residents in the area. It is important that data are collected and presented in a form that can be easily understood by the public. It should be available by various means, including at the LICA office and on the LICA website. The Appellants had questioned the accuracy of the data on LICA's website because it had included a disclaimer not to rely on the data. LICA explained the disclaimer has been removed from the updated website, and it was included only because the data accuracy had to be verified.

[196] By implementing a regional airshed, the Approval Holders must also co-operate with LICA and between themselves, allowing for sharing of data and recognizing concerns in the area. Pursuant to the terms of the Amending Approvals, the Approval Holders were given the responsibility of implementing and participating in a multi-party stakeholder regional airshed monitoring policy, which in this case appears to be evolving effectively and methodically. As such, and in spite of the concerns of the Appellants as expressed, at this time the Board is of the

view that those concerns are not sufficient to warrant recommending any of the Amending Approvals be varied. The Board is of the view the Approval Holders are supportive of a comprehensive airshed monitoring program and LICA is capable of carrying out that program. Further, the Board is also of the view that it would be beneficial if LICA could obtain the cooperation of other operators in the area to participate in the airshed monitoring network.

[197] The Approval Holders agreed at the Hearing to share with LICA monitoring information they collect from passive monitors around their facilities. The Board encourages this. The more data that are collected and deposited in one central place, the better understanding there will be of the effects of industry on the LICA airshed and the better the monitoring program can be.

[198] It is important for LICA to analyze the data that will be provided from all the monitoring stations and from the Approval Holders to assess not only concerns in ambient air quality, but also to enable improvements to the monitoring network, including the locations of monitors and substances monitored.

[199] Throughout the Hearing reference was made to mobile or portable monitoring stations. When reference is made to the monitoring station that can be moved from one place to another for use by LICA, it is probably more appropriate to classify it as a portable monitoring station rather than a mobile monitoring station. The Board heard that the portable unit that will be used actually takes almost one month to disassemble and reassemble in another location. It is not a small mobile unit like the MAML operated by Alberta Environment. By making this distinction it will make it clearer for residents in the area that the portable monitoring station cannot be quickly moved to respond to a specific incident that is occurring.

[200] What was being appealed in this case was the Amending Approvals issued to the Approval Holders to give effect to a mandated requirement on the part of the Approval Holders to participate collectively in a regional air monitoring system managed by an outside agency (LICA). The facility specific monitoring conditions and stack emission monitoring conditions in each of the Approval Holders' approvals were not changed as a result of the issuance of the Amending Approvals. Alberta Environment developed the policy and issued the Amending Approvals as part of the move towards regional airshed monitoring. The Board accepts that this

appears to be a sound approach to assessing cumulative impacts of development in a specific area. Although the Appellants had concerns regarding the implementation of this approach, the Board had no evidence presented to it to recommend changes to the Alberta Environment airshed monitoring policy and program.

[201] A regional air monitoring network is intended to measure air quality throughout a defined airshed in a systematic fashion instead of limiting measurements to the perimeters of individual facilities. The Appellants were not necessarily opposed to a regional monitoring system; they wanted the regional system in addition to all monitoring requirements in place prior to the issuance of the Amending Approvals. Based on all the evidence, the Board is satisfied the steps taken to date to implement the airshed monitoring program by LICA are reasonable and appropriate. Nevertheless, the Board believes that steps can be taken by LICA to improve communication with residents about the overall LICA monitoring program. Accordingly, the Board recommends the Amending Approvals be confirmed as issued.

2. Facility Upset Conditions

[202] The Appellants expressed concern that the reduction in the number of monitoring stations from what previously existed through the original approvals would adversely impact the monitoring of facility upset conditions.

[203] It is clear from the Amending Approvals and the evidence provided at the Hearing that all of the Approval Holders are still required to monitor stack emissions at their respective facilities. Stack emission monitoring registers any emission exceedances that occur at the facility. The requirement for stack monitoring was part of the original approvals issued to the Approval Holders and these conditions were not changed by the Amending Approvals. The Approval Holders are still required to conduct the same monitoring at the stacks as they were required to do prior to the issuance of the Amending Approvals, provide the information to the Director, and report any exceedances.

[204] Although it may inadvertently serve as an archive of the measurable attributes associated with such events, the primary intent of regional airshed monitoring is not to catch exceedances resulting from plant upsets. The main purpose of regional monitoring is to measure

cumulative impacts of the various facilities on the air quality in a specific airshed. The Director clarified that even though the passive and continuous monitors may register the exceedance, it cannot be used as an enforcement tool except to identify the extent of an effect resulting from the upset. Although the data collected through the regional monitoring network cannot be used for enforcement purposes, the Board anticipates that if ambient levels are found to be higher than anticipated, the Director will take steps to ensure the environment is protected, which steps could include lowering point source emission levels.

[205] Compliance monitoring still applies to all of the Approval Holders. The regional monitoring network is not intended to allow polluters to avoid enforcement action being taken against them. No punitive actions can be taken based on ambient monitoring alone, but compliance monitoring is still in effect. If there is an exceedance of the allowable limits under the Approval Holders' respective approvals, Alberta Environment can take action and the polluter pays principle remains intact.

[206] As the ambient air monitoring network is not intended for detecting facility upset conditions, and further, as conditions still exist in the Approval Holders' original approvals to record and measure stack emissions and upsets, the Board recommends the Amending Approvals be confirmed as issued.

3. Audit and Quality Assurance

[207] In reading the submissions of the Appellants and Intervenors and hearing their evidence at the Hearing, one of the major issues is trust that LICA and the Approval Holders will do what is required of them and that communication between the Approval Holders, LICA, and residents will be open and transparent.

[208] The LICA Quality Assurance Plan³¹ submitted includes an internal audit be completed by a third party every three years, as required by Alberta Environment. The intent of the internal audit is to ensure protocol is being followed and that procedures conform to Alberta Environment's Air Monitoring Directive.

³¹ See: Operators' submission, dated April 1, 2009, at Tab 2.

[209] The Director explained that Alberta Environment can and will do audits of LICA's monitoring equipment to ensure the data being provided are accurate. This external audit is conducted without prior notification to LICA or the Approval Holders. The Appellants wanted to ensure the results, including raw data, of internal and external audits would be accessible by the public. This is a reasonable request considering LICA is entrusted with ensuring the regional airshed monitoring program is operated correctly and effectively.

[210] In this case, LICA has additional external observers. Each of the Approval Holders has a responsibility to ensure the monitoring is conducted correctly and accurately. Compliance with the provisions of the Amending Approvals is the responsibility of each Approval Holder, and any necessary enforcement action is the responsibility of Alberta Environment. LICA itself does not have an approval, so it is incumbent on the Approval Holders to provide their own checks and balances to ensure LICA operates as intended.

[211] The appeals were filed in late May and early June 2007. The issues for this Hearing were determined by the Board on October 16, 2008. Subsequently, on November 19, 2008, LICA provided and the Director accepted a quality assurance plan.³²

[212] The LICA Quality Assurance Plan was not available at the time the Appellants filed their Notices of Appeal. The Board observes that this is one of the challenges associated with milestone approvals. By the time an appeal must be filed, not all of the relevant information may be before the appellant. If the LICA Quality Assurance Plan had been available, the Appellants may not have raised it as an issue because their concerns may have been addressed. In this case, the real issue is trust. LICA and the Approval Holders must take appropriate measures to gain the trust of the public and demonstrate the effectiveness and adaptability of the regional airshed monitoring program through its implementation and evolution over time.

[213] The LICA Quality Assurance Plan is consistent with the requirements under the Air Monitoring Directive. As such, the Board will not recommend any variations to the Amending Approvals.

³² See: Operators' submission, dated April 1, 2009, at Tab 2.

4. LICA Personnel Training

[214] Concerns were expressed about the qualifications of LICA to operate the monitoring program. The Board notes that the Appellants did not voice any concerns about the present program manager, and in fact, one of the Appellants commended his efforts to provide information whenever she requested. From his resume, it is apparent the present program manager has experience with air monitoring and emissions reporting.

[215] A third party, Maxxam, has been retained by LICA to conduct the actual monitoring of air parameters and to maintain monitoring equipment. LICA receives the data from Maxxam and the program manager collates and submits the required reports. The program manager is also responsible for preparing annual reports and submitting the required documentation to the Director. The Board questioned the program manager as to whether the position he held should be part time or full time. He stated that, except when there are extra matters that must be dealt with, the work can be completed working part time. Although this may be adequate for the time being, LICA may consider making this a full time position if it starts to conduct further research programs such as the acidification impacts on soils and surface water study completed in 2007.³³

[216] LICA itself will not be maintaining the monitoring equipment and it will not be taking the readings from the monitoring equipment. LICA tendered the day-to-day operations, and Maxxam was the successful bidder. The evaluation criteria used to select the successful bidder weighted experience of the team members as the most important criteria with costs as the second most important consideration. According to the information provided, Maxxam has experience conducting monitoring in the region as well as other areas in the Province. It also has one technician who lives in the area, thereby providing an opportunity for quicker responses if an urgent matter arises.

[217] LICA is a community based not-for-profit association. It has a board of directors with three representative positions reserved for industry personnel, four from the public sector, one representative from the Métis community and one position for the First Nations community,

³³ See: See: Director's Record, November 7, 2008: AMEC Earth & Environmental, Exploratory Study of

a member from both Alberta Environment and the ERCB, one position is vacant for a health representative, and there is a position for other sectors. The Board encourages LICA to fill the vacancy for the health representative as soon as possible to ensure a balanced representation of viewpoints on the board. In order to provide an additional perspective, LICA may consider having a seat for an environmental organization from the area. The Board understands the consensus approach taken by the board of directors, and having an environmental representative as a member should not affect the process and would enable other perspectives, such as those presented by the Appellants and Intervenors, to be presented and heard. The Board observed that the Appellants and Intervenors felt their concerns were not being taken seriously by the LICA board members, and yet the Board also notes that the interests of both LICA and the Appellants are common: that is, protecting the air quality of the area.

[218] It appears that when LICA was first given the responsibility of monitoring the airshed, there was some question as to what was expected from LICA. It appears that the Statements of Concern filed by the Appellants and their persistence in attending public meetings regarding the regional airshed monitoring program persuaded the Director to include the requirement in the Amending Approvals for a third party review of the proposed network and to provide recommendations to improve the efficiency and effectiveness of the airshed monitoring. The Board commends the Director for considering the views of the Appellants and for requiring this additional step in the Amending Approvals. This process has provided for greater certainty in respect of the effectiveness of the airshed monitoring program for the benefit of area residents, the public, and also, ultimately, for the Approval Holders, LICA, and the Director.

[219] The Appellants and Mr. Elchuk argued that Alberta Environment is passing its obligations to protect the environment to local entities that do not have the experience to do the job properly. Alberta Environment is still responsible for ensuring the environment is protected and that the Approval Holders comply with all the requirements set out in their approvals and Amending Approvals. Alberta Environment will continue to have the overseeing role in the regional airshed monitoring program. Monitoring data must still be provided to Alberta Environment where they will be reviewed. Steps will be taken to determine the cause of

readings that exceed allowable limits. Alberta Environment also sits on the board of directors for LICA, thereby providing another avenue for input into LICA's monitoring program and ensuring compliance with the approved monitoring program.

[220] The Board recognizes LICA is still at an early development stage and that over time, changes will be made to suit the demands of the area. Alberta Environment is there to oversee the progress made and ensure that LICA's mandate to properly monitor the airshed is carried out.

[221] Because the actual data collection is being collected by a third party with experience in the airshed monitoring, there should be less concern from the Appellants' perspective regarding the skills and experience of the personnel performing the measurements. Internal and external audits are also required to ensure the monitoring complies with monitoring standards and the data reported are accurate. Based on all of this, the Board will recommend the Amending Approvals be confirmed as issued.

IV. CONCLUSION

[222] The Board recognizes the value in the policy shift from site specific "fence line" monitoring to regional airshed monitoring networks. It appears LICA is functioning well, although the evidence at the Hearing raised a number of issues that should be considered to improve residents' confidence in LICA's operations and the transparency of the monitoring program. Accordingly, while the Board will not recommend changes to the Amending Approvals, the Board suggests LICA:

1. complete a review of recent environmental impact assessments for the area to assist it in developing a complete emissions inventory for the airshed, and continue regularly updating the inventory as more facilities are developed within the airshed;
2. provide a map and description of locations of all the passive and continuous monitoring stations, demarcate sites where all monitors had been previously located, and continue regularly updating such maps and descriptions as the monitoring program evolves;
3. ensure air quality data, including the raw data, are readily accessible to residents and other interested persons, particularly on LICA's website and at LICA's office;

4. continue with the canister program and implementing improvements to ensure the program's success; and
5. obtain additional on-site monitoring data from the Approval Holders and from other operators in the airshed to augment its ongoing airshed database for future planning of monitoring requirements and modeling of emissions dispersion.

[223] Although none of the suggestions warrant recommending the Amending Approvals be varied, the Board considers it important for the success of the regional airshed monitoring program for LICA, and the Approval Holders, to consider the concerns of the Appellants and Intervenors expressed at the Hearing.

[224] With respect to sections 100(2) and 103 of EPEA, the Board recommends that copies of this Report and Recommendations, and of any decision by the Minister, be sent to the following:

1. Ms. Inez Stone;
2. Ms. Sally Ulfsten;
3. Mr. George and Ms. Nadia Elchuk;
4. Mr. Garry Appelt and Ms. Keltie Lambert, Witten LLP, on behalf of the Cold Lake First Nations;
5. Mr. Ron Kruhlak, McLennan Ross LLP, on behalf of the Lakeland Industry and Community Association;
6. Mr. Shawn Munro and Mr. Blake Williams, Bennett Jones LLP., on behalf of EnCana Corporation, Canadian Natural Resources Limited, Husky Oil Operations Limited, and Blackrock Ventures Inc. (now Shell Canada Ltd.);
7. Mr. Peter Miller, on behalf of Imperial Oil Resources Limited.; and
8. Ms. Michelle Williamson, Alberta Justice, on behalf of the Director, Northern Region, Regional Services, Alberta Environment.

V. COSTS

[225] The Cold Lake First Nations reserved their right to apply for costs. The Board requests the Cold Lake First Nations provide their application for costs to the Board within two weeks of the date of the Minister's Order with respect to this Report and Recommendations. The Board will then provide the Parties and Intervenors with an opportunity to respond to the application before making its decision.

Dated on May 27, 2009, at Edmonton, Alberta.

“original signed by”

Eric O. McAvity, Q.C.
Panel Chair

“original signed by”

Jim Barlishen
Board Member

“original signed by”

Dan L. Johnson
Board Member