

**Northeast Air Monitoring Project (MoE-Phase 1)**  
**Final Report**  
**for**  
**Recipient Agreement HS-2013-01-01**

BC Ministry of Environment  
Report to the SCEK Fund, BC Oil and Gas Commission  
January 31, 2014

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## Introduction

The Northeast Air Monitoring Project was announced on June 6, 2012 as a partnership between the provincial government, Oil and Gas Commission (OGC) and the oil and gas industry (Appendix 1). The project has the “goal of capturing the required air quality data to make the best informed decisions regarding public health, pollution management and impacts to sensitive ecosystems” in areas potentially impacted by oil and gas development<sup>1</sup>. Funding for Phase 1 was provided by the Science and Community Environmental Knowledge (SCEK) Fund.

This report is a deliverable of the SCEK agreement HS-2013-01-01 with the BC Ministry of Environment. It describes the accomplishments of Phase 1 and the scope and plans for Phases 2 and 3 of the Project. Phase 1 was planned for June 1, 2012 to May 31, 2013 and was subsequently extended to March 31, 2014 due to operational delays.

The objectives of Phase 1<sup>2</sup> were to:

1. Develop an interim air monitoring working group.
2. Identify data needs, identify the appropriate type of monitoring equipment and the associated costs and obtain an emission inventory.
3. Identify public concerns, interested parties and potential partners.
4. Define organizational requirements and geographical boundaries.
5. Identify long term funding needs.
6. Oversee monitoring activities.
7. Gather existing air quality data already collected by industry and other non-MoE jurisdictions.
8. Install an initial set of monitors in high priority areas and assess data. Air monitoring data is available to the public at the following website: <http://www.bcairquality.ca/>.

Deliverables of Phase 1 are outlined in the table below:

Milestone No	Description	Deliverable	Contribution Amount (CDN \$\$\$)	Estimated Date	Delivery Date
1	Signed Recipient Agreement	Recipient Agreement	\$32,000	21 Dec 2012	11 Jan 2013
2	Interim Air Monitoring Working Group (IAMWG)	Terms of Reference for the IAMWG	n/a	1 Jan 2013	5 Feb 2013
3	Purchase of monitoring equipment for priority locations	Status report confirming equipment delivered	\$100,000	1 Jan 2013	31 Mar 2013
4	Network Design Sub-Project started	Project Charter for Initial Network Design	\$75,000	1 Feb 2013	1 May 2013

<sup>1</sup> See SCEK Agreement, p 11

<sup>2</sup> See SCEK agreement, paragraph 1, p 13

Milestone No	Description	Deliverable	Contribution Amount (CDN \$\$\$)	Estimated Date	Delivery Date
5	Installation of priority rural monitoring and preparation of a core air quality monitoring site	Progress Report	n/a	30 Jul 2013	30 Jul 2013
6	Initial Network Design	Report of Initial Network Design	\$31,500	31 Aug 2013	31 Jan 2013
7	Phase 1 completion	Final Report Final Administration Report	\$21,500	31 Aug 2013	31 Jan 2013
TOTAL			\$260,000		

## Development of an Advisory Group to Engage the Local Community

An interim air monitoring working group, subsequently renamed the Advisory Group, was developed in 2012. Its mandate was to provide advice and further context in site selection during Phase 1 of the NE Air Monitoring Project. Prospective members were invited to join the Advisory Group based on advice from OGC, the Northern Health Authority, the BC Ministry of Agriculture, Northern Lights College and the Canadian Association of Petroleum Producers (CAPP). Candidate members were to be individual stakeholders or representatives of government or of stakeholder groups. The makeup of the Group was to be proportional and representative of the demonstrated level of stakeholder interest. The final set of voting members of the Advisory Group was drawn from these agencies:

- Peace River Regional District 4 members
- Industry Representatives 3 members
- NE Health Advisory Committee 2 members
- Peace River Regional Cattlemen’s Association 1 member
- BC Grain Producers Association 1 member
- Treaty 8 Tribal Association 1 member
- Citizen Representatives 2 members

Advisory Group representatives of government agencies were non-voting members who participated in discussions, provided expertise, data and other support required by the Advisory Group to fulfill its mandate. Five meetings of the Advisory Group were held in Phase 1, during which the following was accomplished:

- The Terms of Reference of the Advisory Group were finalized (Appendix 2).
- A survey of Advisory Group members meeting provided useful suggestions for identifying the most appropriate monitor siting. Members agreed through consensus that their three priorities for site monitoring were:
  - The most populated areas

- The highest possible concentrations (hot spots)
- Average, long term population exposure
- General areas for new monitoring were identified, two south of the Peace River and one to the north, the latter suggested by the Northern Health Authority.
- Briefings on network design and the capabilities and costs of different types of monitoring equipment (passive monitors and Air Pointer monitors) were provided to the Advisory Group by Terry Gibson and Chuck Bosgoed of the Southeast Saskatchewan Airshed Association.
- The Advisory Group agreed that sulphur dioxide (SO<sub>2</sub>) and total reduced sulphur (TRS) were high priority pollutants to consider in the monitoring program. While BTEX<sup>3</sup> emissions were also suggested, monitors to measure these pollutants are still in development.
- A program to issue air quality advisories based on SO<sub>2</sub> or H<sub>2</sub>S will not be initiated at this time because of the transient and highly variable nature of these pollutants and the difficulty in predicting their concentrations.
- Spectra Energy provided a detailed map of the current network of passive and hourly air quality monitors in the south Peace.
- Broad agreement was reached on general locations in the south Peace for three new monitoring sites. MoE took this information into consideration when identifying monitoring locations.

## **Purchase and Installation of new monitoring equipment**

The project for installing air pollutant monitoring equipment at three new locations in the south Peace began in 2012. TRS and SO<sub>2</sub> monitors (four Teledyne API 100 and two TECO 43i monitors with heater units for the TRS conversions) and three new monitoring shelters were purchased and transported to Prince George in December 2012. The shelters were outfitted with the SO<sub>2</sub> and TRS monitors along with meteorological parameters including temperature, relative humidity, wind speed and direction and communication equipment. The contract to do this work included outfitting and commissioning the shelters as well as a service agreement for the first six months of operation.

Site selection for each shelter took place in April and May 2013, with input from a technical team of experts and the Stakeholders Advisory Group (Taylor 2014). Adjustments were made to the sites selected as a result of input by CAPP at their meeting in Calgary on May 22, 2013. The final site selection was Doig River, Farmington and Tomslake. Land occupancy agreements with landowners were delayed until November by the need to have these agreements reviewed and approved by legal advisors and risk management experts in Victoria and to changes in site selection requested by CAPP. In December, 2013, the outfitted shelters were transported from Prince George and all installed at their sites in the south Peace. The Tomslake station began operation on permanent power, while the instruments at Doig River station and the Farmington station began operation on temporary power. As of January 30, 2014, all three stations were operating on permanent power.

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<sup>3</sup> BTEX is an acronym for benzene, toluene, ethylbenzene, and xylene. These compounds are volatile organic compounds (VOCs) found in petroleum derivatives.

A map of the Northeast Air Monitoring network, including the three new monitoring sites at Doig River, Farmington and Tomslake appear (in red) in Figure 1.

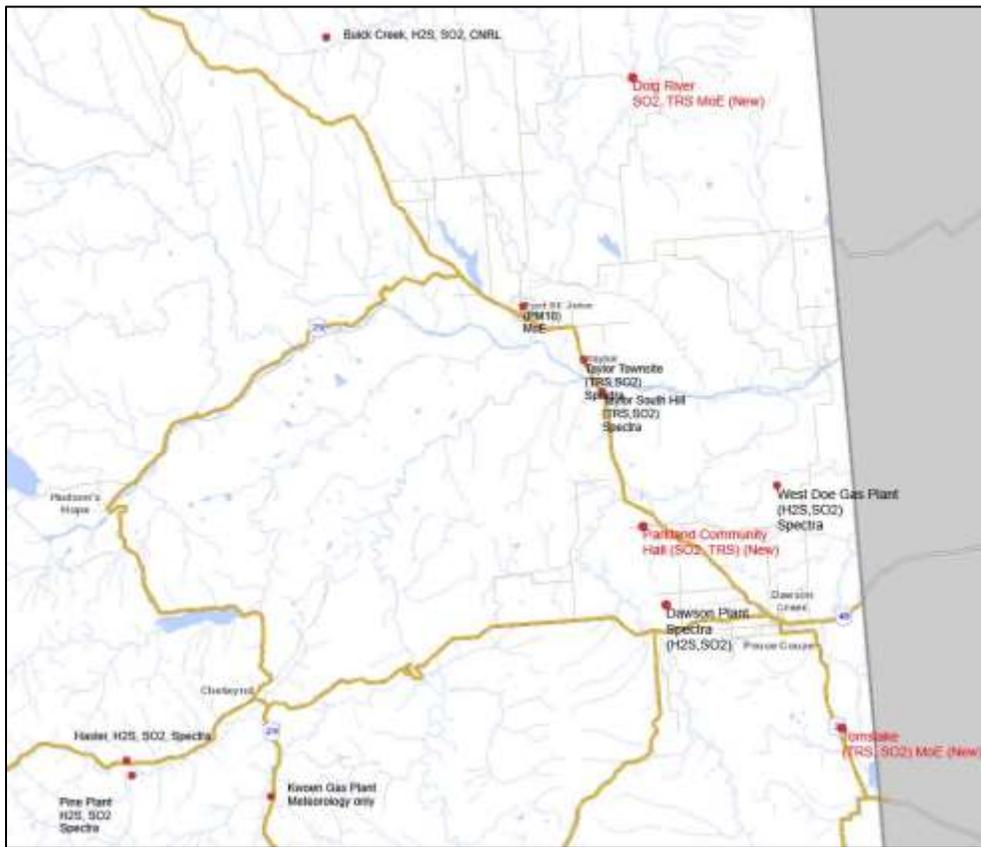


Figure 1 Air quality monitoring network including the three new stations (in red): Doig River, Farmington (at the Parkland Community Hall) and Tomslake

## Information Assessment and Reporting

The Report on Initial Network Design (Taylor 2014) provided the following information on data analysis, emissions inventories and other issues.

- The approach to siting the three new monitors was outlined and justified.
- An analysis of existing ambient air quality data from stationary monitors was summarized. This analysis compared SO<sub>2</sub> concentrations at 43 BC monitoring sites, including three south Peace sites (Taylor Townsite, Taylor South and Pine River Hasler) that had sufficient hourly measurements. Taylor Townsite had the eighth highest hourly concentration of SO<sub>2</sub> in the province and had exceeded the one hour US Environmental Protection Agency (EPA) SO<sub>2</sub> standard.
- An analysis of ambient data from the Ministry of Environment Mobile Ambient Monitoring Lab (MAML) in the south Peace was provided. The MAML was deployed at five different locations in 2010 and 2011 (Farmington, Groundbirch, Kelly Lake, Rolla and Tomslake) with each deployment lasting about 25 days. None of these locations experienced an exceedance of SO<sub>2</sub> or TRS during this monitoring project.

- The 2011 emissions inventory (EI) was provided by the Human Health Risk Assessment (HHRA) project. The EI was based on the latest National Pollutant Release Inventory from Environment Canada and was used to inform the siting of the three new monitors. It provided estimated emissions of PM (particulate matter), SO<sub>2</sub>, VOCs (volatile organic compounds), NO<sub>2</sub> (nitrogen dioxide) and other pollutants. The HHRA report also provided population densities and locations and densities of wells, pipelines (sweet and sour), batteries, gas plants and other facilities.
- Air pollutant dispersion modeling was not performed for the site selection process since it will be a deliverable of the Ministry of Health’s HHRA in the spring of 2014. The results of this modeling will be made available to MoE for selected emission scenarios to identify the pollutants that may be of high enough concentration to be of potential concern to human health in NE BC. Estimates of exposure will be calculated for people of different ages and different health status in the study area. These modeling results will be analyzed to identify areas that potentially may have high concentrations and/or elevated human exposure, in the future and therefore could be candidate locations for future monitoring sites.
- The report outlines the use of topography, meteorology and demographics in making siting decisions.
- The report describes a one-week on-the-ground survey of ten candidate monitoring sites by MoE staff in April 2013 in the south Peace that provided useful information for each site including surrounding topography, land use, tree cover, population density, proximity to emission sources and proximity to existing monitors.

Table 1 lists the contents of a 2011 emission inventory and facility density provided by the Human Health Risk Assessment (Fraser Basin Council 2013) related to oil and gas activity. This information was relied upon extensively in the site selection process (Taylor 2014).

**Table 1 Maps providing emission inventories and other information on facilities and population were provided by the HHRA project in 2013. The square grids mentioned in this table are approximately 25 km by 25 km.**

<b>Information content in HHRA Maps</b>	<b>Gridded Density maps</b>	<b>Map location of individual facilities and pipelines</b>
Sweet and sour pipelines, well holes (surface), gas plants, batteries <sup>4</sup>	Yes	Yes
Other facilities	No	Yes
All facilities	Yes	No
PM <sub>2.5</sub> , PM <sub>10</sub> , NO <sub>2</sub> , SO <sub>2</sub> , CO, and VOC emissions	Yes	No
Population	Yes	n/a

<sup>4</sup> Batteries are upstream facilities in an oil or natural gas field that collect raw oil or natural gas from one or more wells (Alberta Environment and Sustainable Resource Development 2014)



**Figure 2** The new air quality station at Doig River. All three of the new air quality stations were installed in December 2013 and monitor sulphur dioxide (SO<sub>2</sub>), total reduced sulphur (TRS) and meteorology including air temperature, relative humidity and wind speed and direction).

## Reporting to the Community

This section describes the communications between stakeholders, the community and MoE during Phase 1. It also outlines reporting plans for Phases 2 and 3.

Five meetings / conference calls between MoE and the Advisory Group were held during Phase 1 to provide information to stakeholders on the progress of the NE Air Monitoring Project and to collect information and advice on monitor siting. In addition, MoE participated in the monthly conference call with the NE Oil and Gas Health Advisory Committee (NEOGHAC).

New pages being developed for the website [BCAirQuality.ca](http://BCAirQuality.ca) will soon present a complete picture of the northeast BC air quality monitoring project, including:

- A description of the project
- Partners and their roles in the project
- Accomplishments to date and future plans
- Hourly ambient air quality data from all available monitoring sites, including the three new monitoring trailers
- Historical ambient air quality data and analyses

A NE BC Communications Strategy is planned for Phase 2 that will include improving the web delivery of information as well as developing newspaper articles and public service announcements to inform the wider community. If a new stakeholder committee is created in Phase 2 or 3, its mandate will include transparent communications between all committee members and partners.



**Figure 3** The new air quality station at Farmington



**Figure 4** The new air quality station at Tomslake

## **Preparation of a Core Air Quality Monitoring Site**

Scoping locations and parameters for a core air quality monitoring station in Northeast BC has been initiated by Ministry of Environment air quality scientists and technical staff. A core air quality monitoring site was defined by Sonoma Technologies Inc. as being one located in an urban area with a relatively high population and that measures a full complement of air pollutants each hour, including, at a minimum, ozone, nitrogen dioxide and fine particulate matter (PM<sub>2.5</sub>) (STI 2008).

The Ministry of Environment therefore plans to locate this core monitor in Fort St. John, the largest community in NE BC<sup>5</sup>. This will meet the requirements of a core site and, if it is located in a neighbourhood of the city where pollutant concentrations would be broadly representative of the larger urban area, it could be used in both the Air Quality Health Index (AQHI) program and as a CAAQS<sup>6</sup> reporting station in the Air Quality Management System (AQMS). Recommendations by Sonoma Technologies in their Monitoring Network Review were also used, since Fort St. John was identified by them as a gap in a review of the BC monitoring network (STI 2008). This core station may also be used to measure sulphur dioxide and total reduced sulfur.

## **Passive Monitoring**

Passive monitoring methods provide a cost-effective solution for monitoring air quality at locations where continuous monitoring is not practical. Rather than sampling hourly pollutant concentrations, passive monitors provide a long term (weeks to months) average of pollutant concentrations. They are useful for estimating long term human exposure to pollutants and can provide useful information to estimate deposition onto the earth's surface. However, they cannot detect short term (hours to a few days) peak concentrations that are easily detected by the population. Their advantage is that they can monitor without the need for electricity, data loggers or pumps. Passive sampling devices are lightweight, portable and relatively simple to operate. No active movement of air through the sampler is necessary.

Passive sampling involves the exposure of a reactive surface to the air, and transfer of the pollutant occurs by diffusion from the air to the surface. Sulphur dioxide, nitrogen dioxide, ozone, hydrogen sulphide and volatile organic compounds are common pollutants monitored using passive samplers. A major advantage of using a passive sampling system is that a network of multiple samplers can be used over a large area to determine the spatial variation of pollutant levels. Passive samplers are also useful for looking at long-term trends of air pollutants at specific locations (CASA 2006).

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<sup>5</sup> Fort St. John census subdivision population in 2011 was 18,609 (Statistics Canada 2012)

<sup>6</sup> Canadian Ambient Air Quality Standards

## **New Low Cost, Real Time Monitoring**

Installing multiple modern monitoring stations throughout vast areas of the south Peace to assess air quality is prohibitively expensive using current technologies. Emerging technologies are producing new low cost, low power, real time, autonomous monitoring systems that would enable the Ministry to better evaluate air pollutant concentrations in rural areas. These systems are based on miniaturized light scattering designs for measuring PM2.5 and metal oxide and electrochemical sensors for measuring gaseous pollutants. These systems are still being perfected, as they are affected by temperature and relative humidity. Many use post processing algorithms to adjust to these influences. Most systems have not been thoroughly evaluated and some, including AQMesh, are currently not reliable below minus 20C (Hagler et al 2014). These new monitoring systems are not yet ready for operational use but some of the more promising systems could be tested by locating them beside current monitors in the south Peace, possibly in concert with Environment Canada.

## **Proposal for Phase 2 and 3**

Phase 1 focused on initial engagement with the local communities, information assessment and priority monitoring. It is proposed that Phase 2 (2014/15) focus on ongoing community engagement, characterizing air quality, developing governance options, and expanding air quality monitoring and reporting. Phase 3 (2015/16) would consider the new data generated from expanded monitoring, assessment and modelling to inform the structure of an ongoing Northeast Air Quality monitoring network and a governance model that is suited to the nature of the network and takes into account input received through the community engagement process.

The proposal for phases 2 and 3 of the Northeast Air Quality Monitoring Project closely reflects those originally proposed in May 2012 (Appendix II - SCEK agreement HS-2013-01-01).

## **Phase 2 Proposal**

With the scope and initial network design being developed in the first phase, it is anticipated that the second phase will focus on completing the network in key areas identified by the working group. An essential component is a core monitoring site in a populated area to meet the reporting requirements under the national Air Quality Management System. This phase could also include an expansion of the passive monitoring network, additional continuous “hot spot” monitoring in highly developed areas, and potentially acid deposition monitoring.

**Table 2 Estimated components and costs for Phase 2 of the program**

<b>Component</b>	<b>Deliverables</b>	<b>Total Cost (\$k)</b>	<b>Gov't Portion (\$k)</b>	<b>Industry Portion (\$k)</b>
Engaging the Community	Establish a stakeholder group with a mandate to convene on a quarterly basis to review and analyze data collected by the 3 moveable monitors, and data collected by the 8 continuous monitors and 17 passive monitors already operating in the NE.  Develop and implement a public communications strategy	115	80 (40 in kind)	35
Information assessment and Reporting	Data reporting from all available sources on BCAirQuality.ca  Review and assessment of industry data, Environment Canada emissions inventory, HHRA modelling, and air quality data to inform the final network design	65	40 (all in kind)	25
Core Monitoring	Installation of a core air quality monitoring site (e.g., Fort St. John or Dawson Creek) and maintenance of the priority air quality monitoring sites.	320 (180 Capital, 40 Installation, 100 Operational)	210 (50 In Kind)	110
Additional Monitoring <sup>7</sup>	Initiate additional monitoring as determined by the program partners and/or stakeholder input. <sup>7</sup>	125 (30 Capital, 95 Operational)	25	100
Governance	Research and develop governance options for air quality monitoring in Northeast BC	40	20 (all in kind)	20 (all in kind)
Project Management and Coordination	Managing the activities and resources for the program.  Coordinating communications between the program partners.	60	50 (all in kind)	10 (all in kind)
	<b>Totals</b>	<b>725</b> (230 in kind)	<b>425</b> (200 in kind)	<b>300</b> (30 in kind)

<sup>7</sup> – Additional Monitoring - Estimated primarily based on operation of a passive monitoring network and potentially testing some Esampler technology operated in tandem with core and rural monitoring sites.

### Phase 3 Proposal

If determined by the steering committee in the first two phases, a third phase would initiate and complete the transition of the air monitoring working group into an airshed management committee similar to the CASA model, covering a broad spectrum of air quality issues and airshed management. This third phase is entirely dependent on the success of the 1st two phases, and only if required.

**Table 3 Estimated components and costs for Phase 3 of the program**

<b>Component</b>	<b>Deliverables</b>	<b>Total Cost (\$k)</b>	<b>Gov't Portion (\$k)</b>	<b>Industry Portion (\$k)</b>
Engaging the Community	Establish governance model for air monitoring in place. Continued public communications.	140	127.5 (27.5 in kind)	12.5
Information assessment and Reporting	Data reporting from all available sources including core site(s) developed in previous phase. Reporting out to the public	25	20 (In kind)	5
Core Monitoring	Implement ongoing network design. Ongoing maintenance of the priority and core air quality monitoring site (s).	69	29	40
Additional Monitoring	Ongoing maintenance of additional monitoring.	105	20 (10 in kind)	85
	<b>Totals</b>	<b>339</b>	<b>196.5 (57.5 in kind)</b>	<b>142.5</b>

## Glossary

AQHI	Air Quality Health Index
AQMS	Air Quality Management System
BC OGC	BC Oil and Gas Commission
CAAQS	Canadian Ambient Air Quality Standards
HHRA	Human Health Risk Assessment
MAML	Mobile Air Monitoring Laboratory
MoE	BC Ministry of Environment
MoH	BC Ministry of Health
NEOGHAC	NE Oil and Gas Health Advisory Committee
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitrogen oxides
NPRI	National Pollutant Release Inventory. This is Canada's legislated, publicly-accessible inventory of pollutant releases
PM <sub>10</sub>	Particulate matter, up to 10 microns (millionths of a metre) in diameter
PM <sub>2.5</sub>	Particulate matter, up to 2.5 microns (millionths of a metre) in diameter
SO <sub>2</sub>	sulphur dioxide
SO <sub>x</sub>	Sulphur oxides

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# Appendix 1 News Release

For Immediate Release  
2012ENV0035-000810  
June 6, 2012

Ministry of Environment

## **New air monitoring program responds to residents' concerns**

DAWSON CREEK — The Province and partners from the oil and gas industry are embarking on a three-year air monitoring and community engagement program in the Northeast, Environment Minister Terry Lake announced today.

Following on the heels of phase one of the oil and gas health assessment, the air monitoring program is in response to growth in the oil and gas industry and concerns from residents over its potential impact on air quality.

Funding for the first year is more than \$550,000 with contributions from government, the BC Oil and Gas Commission and members of the Canadian Association of Petroleum Producers. To date, the following companies will be involved in the program: ARC Resources Ltd., ConocoPhillips Canada, Canadian Natural Resources Limited, Devon Energy Corporation, Encana, Imperial Oil Limited, Penn West, Progress Energy, Shell Canada, Spectra Energy, Suncor Energy and Talisman Energy Inc.

During the first year of the program, actions will focus on:

- Starting monitoring immediately at two priority rural locations in the South Peace. This will draw from the experience of Alberta's Sentinel Monitoring and the work of Alberta's Peace AirShed Zone Association (PAZA).
- Funding a co-ordinator to establish a locally based air-monitoring working group to review air quality data currently collected in the Northeast and determine the scope, plan and design of the broader network requirements.
- Making air quality data easily accessible to the public to help citizens make daily decisions about air quality and their health requirements.

Initial monitoring will focus on hydrogen sulphide (H<sub>2</sub>S), sulphur dioxide (SO<sub>2</sub>) and volatile organic compounds (VOCs) traditionally associated with oil and gas development. In larger communities, where a wide variety of emission sources are seen, there will be a more broad-based monitoring suite of criteria for air contaminants such as PM<sub>2.5</sub> (particulate matter), Ozone, oxides of nitrogen (NO<sub>x</sub>) and SO<sub>2</sub>.

Beyond the initial year, the geographic scope and characteristics of the monitoring network will be determined by the emissions inventory and the local air monitoring working group.

## **Appendix 2 Advisory Group Terms of Reference**

**February 2013**

### **1) SCOPE**

The Advisory Group (hereafter referred to as the “Group”) will provide advice to British Columbia’s Provincial Government in Phase 1 of the development of a monitoring network in the northeast region of British Columbia. The initial purpose of the monitoring network is to collect ambient air quality data in response to concerns expressed about the potential influence of ongoing oil and gas sector operations on air quality in the region. It is expected that the ambient air quality data collected through this initiative may be used to facilitate future studies however it is outside of the expertise of this group to provide interpretation of data in regards to human health or environmental effects.

### **2) TERM OF SERVICE**

The Group will be constituted through Phase 1 of the project, ending in May 2013.

### **3) MEMBER RESPONSIBILITIES**

- Speak on their own behalf or from the perspective of his/her respective organization or community.
- Actively participate in Group meetings and support discussion, knowledge sharing and direction setting.
- Work collaboratively towards the goals/objectives of the Group.
- Participate in transparent decision making in support of identified priorities, resolving issues when necessary and encourage other members to share their insights.
- Act as a liaison between the Group and his/her own member organization, and advise the Group of strategic input from his/her organization’s executive if and when appropriate.

### **4) GOVERNMENT RESPONSIBILITIES**

Representatives of government agencies will be *ex-officio* members of the Group. They will participate in discussions, provide expertise, data and other support required by the Group to fulfill its mandate but do not have voting privileges.

### **5) FUNCTIONS**

- The Group will provide advice and information relevant to the:
  - geographical scope of the project;
  - criteria for the siting of monitors;
  - pollutants to be monitored; and
  - sharing information with the public.

## 6) MEMBERSHIP

The membership of the Group will be as follows:

- |  |           |
|--|-----------|
| • Peace River Regional District                | 4 members |
| • Industry Representatives                     | 3 members |
| • NE Health Advisory Committee                 | 2 members |
| • Peace River Regional Cattlemen’s Association | 1 member  |
| • BC Grain Producers Association               | 1 member  |
| • Treaty 8 Tribal Association                  | 1 member  |
| • Citizen Representative                       | 2 member  |

Once the initial membership is established, other representatives may be appointed as required.

### **Participating Government Agencies:**

- Ministry of Environment
- Ministry of Energy and Mines
- Oil and Gas Commission
- Ministry of Agriculture
- Ministry of Health
- Northern Health Authority

## 7) FACILITATOR

- A representative from the BC MOE will facilitate meetings.

## 8) MEETINGS

- The Ministry of Environment will convene meetings and conference calls.
- It is anticipated that most meetings will be by teleconference.
- Attendance at meetings is restricted to Committee members, Government Representatives, their appointed alternates, and invited guests.

## **9) GOVERNANCE**

- Decisions will be made by consensus.
- Recommendations will be submitted to the Assistant Deputy Ministers of the participating Ministries, the Chief Operating Officer of the Oil and Gas Commission, and the Regional Director of Public Health of the Northern Health Authority for consideration and response.

## **10) RESOURCES AND BUDGET**

- The Ministry of Environment will arrange meeting space and provide food/beverages for the Group meetings as required. Travel, meals and accommodation to in-person meetings will be the responsibility of the members' employers if applicable. On request, the Provincial Government will reimburse members for travel and other out of pocket expenses related to their participation in the Group

## **11) SECRETARIAT**

- The Ministry of Environment will provide secretarial and facilitator services including the drafting and dissemination of meeting minutes and other materials.

## **12) REVIEW OF THE TERMS OF REFERENCE**

- The Terms of Reference will be reviewed and revised or confirmed by the Group as necessary.