

Final Minutes

10035 108 ST NW FLR 10
EDMONTON AB T5J 3E1
CANADA

Ph (780) 427-9793
Fax (780) 422-3127
Email casa@casahome.org
Web www.casahome.org

Ambient Monitoring Strategic Planning Working Group Meeting #12

Date: 05 December 2005

Time: 9:30 – 3:30

Place: ConocoPhillips 16th Floor
401 – 9th Avenue SW, Gulf Canada Square

In attendance:

Name	Organization
Matthew Dance	CASA
David Graham	Alberta Environment
Brian Weins	Environment Canada
David McCoy	Husky Oil / Canadian Association of Petroleum Producers
Myra Moore	Fort Air Partnership
Bob Myrick	Alberta Environment
Michael Queenan	Residents for Accountability in Power Industry Development
Roxanne Pettipas	ConocoPhillips Canada / Canadian Association of Petroleum Producers
Chris Severson-Baker	Pembina Institute
James Vaughan	Alberta Energy and Utilities Board
Kevin Warren	PAMZ, PASZA, PAS, WCAS.

Regrets:

Name	Organization
Keith Murray	Alberta Forest Products Association
Ken Omotani	TransAlta Utilities
George Pfaff	Petro-Canada Edmonton Refinery / Canadian Petroleum Products Institute
Mike Pawlicki	Lafarge Canada Inc.
Ian Peace	Residents for Accountability in Power Industry Development
B.J. Vickery	Lafarge Canada Inc / Alberta Chamber of Resources
Brad Watson	Lafarge North America

Action Items:

Task	Who	When
9.2: Load the data to the web site and provide the working group with access information.	Matthew	ASAP
10.7: Strike a Site Selection Sub-group.	Matthew	If needed
11.1: Have the new team goal approved in a modified terms of reference by the CASA board.	Co-chairs & Matthew	January 2005
11.2: Word smith the AAQMN Vision, Goals and Objective and present to the team at the next meeting.	Co-chairs & Matthew	January 2005
ACTION 11.3: Sort the AAQMN objectives by goal statement.	Co-chairs & Matthew	January 2005
11.4: Discuss developing a formula for determining the placement of continuous monitors.	Brian, Chris, Bob, David	January 2005
11.5: Poll for a next meeting date in early January.	Matthew	ASAP

The meeting was called to order by Roxanne Pettipas at 9:40.

1. Administration

a. Introductions

Round table introductions were conducted. Brian Weins was introduced as the new representative from Environment Canada, replacing Bill Hume who is retiring.

b. Approve agenda and meeting purpose.

The agenda and meeting purpose were approved as tabled.

c. Approve the minutes from the last meeting.

The minutes were approved as tabled.

d. Review action items.

Task	Status
9.2: Load the data to the web site and provide the working group with access information.	Ongoing.
10.7: Strike a Site Selection Sub-group.	Carry forward
11.1: Forward the RWDI livestock distribution report to Matthew for distribution to the team.	Complete
11.2: Develop an AMSP Ideas Parking Lot where good ideas go to rest until they are needed.	Complete
11.3: Review the Section 4 of the 1995 plan and provide comments to CASA .	Complete
11.4: Compile the comments received by team members and forward to the team by November 30 th .	Complete
11.5: Ensure that the agenda for the December meeting includes a review of the 1995 plan.	Complete
11.6: Poll for a December meeting date.	Complete

2. Goals and Objectives

Team Goals and Objectives

At the November 2005 meeting, some members expressed concern that the team vision was unobtainable. Specifically, some members felt that it was unrealistic to have ‘...the best ambient air quality monitoring system in the world.’ as a goal.

Discussion

The following points were made in discussion:

- It will be very difficult to prove that we have “the best” system in the world. Also, it is not a credible statement to make.
- Constructing a ‘World class’ AAQMN for Alberta may be achievable

Decision:

By consensus, the AMSP Team agrees that the new team goal will be:

Alberta will possess a dynamic, effective and efficient framework that provides the foundation for the development of a world class ambient air quality monitoring system.

AAQMN Goals and Objectives

It was noted that there may have been some confusion between the goals of the AMSP Team and potential goals of the AAQMN. The team discussed the goals and objective of the monitoring network as follows:

Vision

Ambient Air quality monitoring will be such that the air quality of all areas in Alberta will be known. To do this, combine physical monitor, remote sensing and computer modeling into one integrated system.

Goal 1 – Gather data

Characterize Alberta's ambient air quality temporally and spatially.

Goal 2 – Dissemination of data and information

Using the data to provide information that is easily accessed by the public; ambient air quality data will be used to produce information that is relevant and credible that is readily (easily) accessible to the people of Alberta.

Objectives

- Integration of all levels of ambient air monitoring in Alberta (local, regional, Provincial and National)
- Appropriate intensity and parameters
- Proactive rather than reactive, with respect to changes in base conditions, ie. Population changes, emissions and scientific knowledge.
- Dynamic:
 - Ongoing review
 - Issues assessment
 - Living plan
- Collect data to support the assessment of human, ecosystem and animal health
- Support monitoring requirements for existing and new CASA, regional, Provincial, National and International initiatives.
 - Acid Deposition Management Framework
 - PM and Ozone Framework
 - Canada Wide Standards (CWS)
 - Transboundary issues
- Data for the purpose of verifying computer models and remote sensing
- To support long trend analysis and state of the environment reporting
- Ensure high quality, consistent, documented and validated air quality data.
- Economically feasible and sustainable
- Education and outreach
- Timely data and info dissemination
- Security and reliability of data

ACTION 11.1: The co-chairs will work with Matthew to have the new team goal approved in a modified terms of reference by the CASA board.

ACTION 11.2: Matthew and the co-chairs will word smith the AAQMN Vision, Goals and Objective and present to the team at the next meeting.

ACTION 11.3: Matthew and the co-chairs will sort the objectives by goal statement.

3. Section IV Review

David Graham presented a straw dog proposal outlining some strategies that address some of the element of section 4 of the 1995 report. Team members agreed to review the straw dog proposal and defer a discussion of the comments on section 4 of the 1995 report until the next meeting.

Strategies

The monitoring strategies that the AAQMN could employ include:

- Permanent Continuous Monitoring
 - Long Term Monitoring (continuous stations)
 - Short Term Stations (Portable Monitoring Stations)
- Passive Monitoring
 - Long Term
 - Short Term
- Wet Deposition
 - Long term
 - Short Term

Permanent Continuous Monitoring

- All cities in excess of 20,000 people will have one or more continuous stations
- # of monitoring station based on formula
 - #Stations = 1 + Population/300,000 (truncate answer)
- # of Stations can be increased if city contains high amount of industrial air emitters
- Consideration should also be based on current air conditions

Discussion

- Long term continuous monitoring stations are permanent monitoring stations that house integrated samplers.
- The team should develop a new technology policy that addresses advances in monitoring technologies. For instance, how to integrate remote sensing into the AAQMN.
- There are two threshold levels for monitoring populations of 10 000 and 20 000 outlined in the 1995 report. There should be an intermediate step where permanent monitors are set up in populations between 10 to 20 K. Criteria should be established based on monitoring for PMO3 (or some other parameters) for the monitoring of limited parameters on a permanent basis.
- Why a 20 000 person threshold? It seems incongruous that we would monitor 20 000 people with no emissions exposure and not 19 000 people who are being exposed to emissions.
- We can gauge our populations monitoring based on a gridded inventory
- Population can be the basis – population plus other factors

Short Term Continuous

- Uses Portable Stations
 - 3-7 stations in population centers
 - 3-7 stations in environmentally sensitive areas
 - Stations in place for one year
 - Stations rotated on a 5-10 year cycle
 - If air quality values exceed CWS or if they are within the management zone then frequency of monitoring will be increased to continuous or to a more frequent cycle

Discussion

- These short term portable monitoring stations can be used to rotate through a number of smaller communities on a regular basis
- The Operations Steering Committee (OSC) will could be the multi-stakeholder body that decided what communities should be monitored.
- The AAQMN is the base system that provides provincial level monitoring. Zones monitoring will be overlaid on top of the AAQMN. If a monitoring station falls within an airshed zone, the airshed zone will control that monitoring.
- The rotating monitoring stations would operate in areas not covered by an airshed zone.
- Long term permanent monitoring supported by short term rotating monitoring is a good model to work with.
- A 5-10 year rotation schedule is not frequent enough – the monitoring stations should be rotated more frequently.
- Every 1-3 months (quarterly) would be sufficient.
- The cost of moving a monitoring trailer can be huge – the labour involved is costly.
- Passive monitoring can be used to identify hot spots and continuous monitoring used to get more detailed data from those locations identified as ‘hot spots’
 - Continuous monitoring for all parameter with 20 000 + people
 - Continuous monitoring for 1-2 parameters with 10 – 20 000 people
 - Rotational / passive combination for populations with < 10 000 people
- Forecasts will also provide the information that we need – we know where industry and populations are going to grow.
- Use the passives to verify air dispersion models and to look for hot spots.

Long Term Passive

- Alberta will be divided into a grid and one continuous passive sampling site identified for each grid point
- Suggestions is the grid would be 150km x 150km (16 squares of 150 X 150 km required for entire province)
- Used for SoE reporting

Discussion

- This passive network would balance the need for monitoring with what is affordable.
- We may need a denser grid that 150km X 150km. The grid spacing should vary for different areas of Alberta,

Short Term Passive

- 3-4 networks consisting of 10-15 passive monitors each
- Deployed one year at a time
- 5-10 year cycle for the network
- Used to make sure permanent passive monitors represent the grid point
- Used to verify models
- Long term trend analysis
- Identify areas of concern
- For areas of concern either passive monitor stays in place of a continuous monitoring station moved to site

Discussion

- Rather than set absolute threshold numbers, we can determine types of monitoring required based on a deviation from the average. For instance, if SO₂ levels are generally decreasing and below AENV Objectives, but there is a hot spot 1 standard deviation (STD) above the average, that might warrant some continuous monitoring.
- This may work for some pollutants, but it should be determined on a pollutant by pollutant basis.
- There should be shorter rotational schedule determined by the data.
- Deviation from the average could be the trigger that will determine if we move from a rotational schedule to a continuous schedule.

Funding

- Air sheds zones will continue to monitor within their air shed
- If a grid point falls within the airshed then it is the responsibility of the airshed
- Areas not covered by an airshed will be the responsibility of a Federal/provincial/industry partnership
- Monitoring within a major municipality (i.e. Calgary, Edmonton etc) will be funded partially or in whole by that municipality and industries within that municipality

Discussion

- Should the money to support the basic monitoring for the province come from AENV?
- Currently, airshed zones receive \$50 000 to take over the operation of a continuous monitoring station.

ACTION 11.4: Brian, Chris, Bob, David will discuss developing a formula for determining the placement of continuous monitors.

4. Workshop

Tentative dates were decided for a spring workshop.

- Tuesday May 30th
- Wednesday May 31st

5. Next meeting

Matthew will poll for next meeting dates in early January.

The agenda will include a review of section 3 and 4, as well as a start on section 5 of the 1995 report.

ACTION 11.5: Matthew will poll for a next meeting date for early January.