Final Minutes

Clean Air Strategic Alliance

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Ambient Monitoring Strategic Planning Working Group Meeting #8

Date: March 2nd, 2005
Time: 9:30 – 3:30
Place: Petro Canada Refinery (East of Edmonton)

In attendance:

Name	Organization
Justin Balko	Alberta Health and Wellness
Matthew Dance	CASA
David Graham	Alberta Environment
Bill Hume	Environment Canada
Bob Myrick	Alberta Environment
Myra Moore	Fort Air Partnership
Keith Murray	Alberta Forest Products Association
Ken Omotani	TransAlta Utilities
Ian Peace	Residents for Accountability in Power Industry Development
George Pfaff	Petro-Canada Edmonton Refinery / Canadian Petroleum Products Institute
James Vaughan	Alberta Energy and Utilities Board
B.J. Vickery	Lafarge Canada Inc / Alberta Chamber of Resources
Kevin Warren	PAMZ, PASZA, PAS, WCAS.

Regrets:

Name	Organization
David McCoy	Husky Oil / Canadian Association of Petroleum Producers
Mike Pawlicki	Lafarge Canada Inc.
Roxanne Pettipas	ConocoPhillips Canada / Canadian Association of Petroleum Producers
Michael Queenan	Residents for Accountability in Power Industry Development
Brad Watson	Lafarge North America
Chris Severson-Baker	Pembina Institute

Action Items:

Task	Who	When
3.7: Outline the AAQ monitoring requirements specified in industrial approvals.	Bob Myrick	On going
7.5: Research census numbers for Alberta communities. Define all communities in Alberta, by population, with populations over 10 000 people.	George and Matthew	Next meeting
7.6: Investigate the geographic distribution of one or two (i.e. NOx and SO2) emissions in Alberta.	Bob	Next meeting
7.7: Investigate Australia's rationale for their population density formula to determine AQ monitor	Bob	Next meeting

placement.		
7.8: Enquire about livestock density and distribution in Alberta.	David	Next meeting
8.1: Develop a table that identifies deficiencies in the 1995 plan as seen from AENV's perspective.	Bob Myrick	Next meeting
8.2: Ensure that a writer attends the next AMSP meeting.	Matthew	Next meeting

1. Administration

a. Introductions

Introductions were made around the table.

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 with the following change:

- Page 5, 4th point that read "Populations are not the source of emissions into Alberta's ambient air, industry is" was removed because if its inaccuracy.

d. Review action items.

Task	Status
3.7: Outline the AAQ monitoring requirements specified in industrial approvals.	On going
5.1: Ensure that there are links between the Ambient Air Quality Monitoring Strategic Planning Team and Ecological Effects Workshop Committee and that the potential of holding a joint workshop is explored.	Complete. Links have been established within the secretariat.
5.8: Discuss the timing of a workshop.	On agenda
6.1: Post Word versions of the 1995 and 1997 reports on the CASA web site.	Complete
7.1: Follow up with Ian regarding the jurisdictional review for Texas.	Complete
7.2: Compile a jurisdiction highlights document.	Carry forward
7.3: Circulate to the team the AAQ Monitoring Table from Bob's email.	Carry forward
7.4: Review the Bovar reports (task 4, pp4-1) to try and determine the rationale for the placement of ambient AQ monitoring stations.	Complete
7.5: Research census numbers for Alberta communities. o George and Matthew were asked to define all communities in Alberta, by populations, with populations over 10 000 people.	Ongoing
7.6: Investigate the geographic distribution of one or two (i.e. NOx and SO2) emissions in Alberta.	On going
7.7: Investigate Australia's rationale for their population density formula to determine AQ monitor placement.	On going
7.8: Enquire about livestock density and distribution in Alberta.	On going

2. Petro Canada Presentation

John Prusakowski, the Manager of Production at the Edmonton Petro-Canada refinery presented an overview of Petro-Canada's environmental commitments:

Edmonton Refinery ISO 14001 Registration

- Commitment made by CPPI for all facilities to implement environmental management system.
- Registration Audit Completed in September 2004
- Edmonton Refinery ISO 14001 Registered October 29, 2004.

ISO 14001 Standard

- Manage environmental impacts of the refinery's activities, products and services
- Commitment to three basic principles
    - Continuous Improvement
    - Pollution Prevention
    - Regulatory Compliance

Benefits

- Protect environment by minimizing refinery impact
    - Reduce environmental and safety incidents
- Independent audits increase credibility with stakeholders
    - Community, customers, regulators and suppliers
- Contribute to long-term business performance
    - Improves investor confidence
    - Competitive advantage through enhanced public image
    - Reduce costs related to management of environmental issues
- Increased awareness of compliance and regulations
    - Better equipped to adapt to frequent changes
- Move from a reactive to proactive/planning approach
- Structured allocation of responsibility and information flow for environmental issues
- Consistent and adequate documentation concerning environmental activities

2005 Objectives

- Reduce the refinery impact on the local environment
    - Sump inspection, Deep well waste stream characterization, Rail Loading line inspection, SO2 Action Plan Improvements
- Optimize raw materials consumption
    - Desalted water reuse, Reduce exchanger wash rates
- Improve the accuracy of information describing the refinery environmental impacts
    - Improve Leak Detection and Repair (LDAR) program,
    - Alarming improvements (e.g. Incinerator Temp.)

Life Cycle Value Assessment (LCVA)

- Business analysis and decision-making tool
- Adopted in consultation with the Pembina Institute for Appropriate Development
- Combines environmental, health and social information for the full life cycle of a project with financial cost benefit information
    - Encourages more direct awareness about potential impacts

LCVA – Petro-Canada Examples

- MacKay River in situ oil sands development
    - Provided justification for TransCanada to build and operate a 165-megawatt natural gas-fired co-generation power plant
- Edmonton Refinery
    - Water Management
- Selected 100% Reverse Osmosis system
- This option had the lowest environmental impact
    - Tank Dyke Containment
- Selected installation of synthetic liner as opposed to a clay liner for new gas oil tanks
    - Catalyst Recycling Options
- Recycling Alumina catalyst to Lafarge for use in cement

Strathcona Industrial Association

- 12 member companies in East Edmonton and Strathcona County
- Activities include
    - Ensure emergency preparedness and planning
    - Conduct community outreach through CAER
    - Operate an ambient air monitoring network
- Ambient Air Monitoring Network
    - 28 Air monitoring stations
        - Continuous monitoring at 7 locations
        - Intermittent monitoring at 3 locations
        - Static monitoring at 21 locations
    - Information from these stations is used to:
        - Document local air quality and trends
        - Confirm effectiveness of emissions control measures
        - Provide data to emergency response teams
    - Investigate and report on incidents that cause alarms

3. AQ monitoring straw dog proposal

AENV presented a straw dog proposal to the AMSP Team. The purpose of the proposal is to "To inspire discussion and ideas on revising the strategic plan." This presentation has received input from the AQ folks at AENV and represents the directional thinking of Alberta Environment. With that in mind, AENV acknowledges that they are one voice at this table and that the ideas proposed are for discussion.

Discussion

The following comments were made in discussion prior to the straw dog proposal:

- Specifically, this team has been tasked with redesigning Alberta's backbone ambient AQ monitoring network.
- In addition, the data should be collected in real time, posted to a web site and regular interpreted reports made available to the public.

- Backbone monitoring consists of the most basic AQ monitoring in Alberta and acts as 'base line' for all other AQ monitoring in Alberta be it local, regional or NAPS.
- Other AQ monitoring must be considered in conjunction with the backbone plan.
- The original strategic plan called for 3 scales of monitoring:
    - Provincial
    - Regional
    - Local
- Our strategy should apply and integrate elements from all of these levels.
- If we are integrating additional data (in addition to AQ monitoring data) do we have all of the necessary interests at this table?
- The what's and where's should be determined, in part, based on population distributions.
- What is our sphere of influence? Gather data, integrate and distribute data on-line.
- Monitor ambient AQ to support ecological effects and human exposure.

Background

- The CASA Strategic Plan for Air Quality Monitoring was endorsed by CASA in 1995.
- The associated Implementation Plan was endorsed by CASA in 1997.
- Several CASA project teams have indicated a need for a new, updated plan.
- The new plan should integrate both the strategic and implementation components from 1995 and 1997 respectively.

Why are we revising the 1995 plan?

- Increased industrial activities and population in the province with further increases expected.
- A shift to more monitoring being carried out by airsheds.
- A fundamental shift to management of air quality through air quality management zones.
- The network needs to be collecting the right information to report against targets such as those defined by the acid deposition framework and CASA PM/Ozone framework.
- The development of new monitoring, data collection, and data management technologies.

Discussion:

- This is a monitoring plan, not a management plan
- Need to describe management system and how does the monitoring plan fit into it.

CASA Ambient Monitoring Strategic Planning Team

- Goal: "Alberta will possess a flexible, effective and efficient framework that provides the foundation for the development of the best ambient air quality monitoring system in the world."
    - We need to establish criteria and performance measures to prove that this is the best system in the world.
    - Perhaps we could use a consultant for this work.
    - This is a vision statement not a goal.

AENV Comments

- We should recognize the national monitoring scale as well in the new document (NAPS network).
- We should focus on a monitoring plan that supports the management strategy.
- Monitoring needs to be linked to management.
- Need to evaluate the 1995 strategic plan in terms of what was implemented effectively and what was not implemented.
- We need to provide reasons why certain portions of the 1995 plan were not implemented.
- We can learn from our mistakes as we develop the new plan.
- We should recognize the national monitoring scale as well in the new document (NAPS network).
- We should focus on a monitoring plan that supports the management strategy.
- Monitoring needs to be linked to management.
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- We need to provide reasons why certain portions of the 1995 plan were not implemented.
- We can learn from our mistakes as we develop the new plan.

Discussion

- What do we want to do with the data and how do we know that what we are doing is adequate?
- Simple EMS system: Plan, Do, Check, Adjust.
- Build a regular review into the recommendations that we bring to the CASA board as part of the 'adjust' phase of the EMS. For instance, the EPT has built a 5-year review into their recommendations.
- Our objective is to revise the strategic plan. We don't need a new one.
- All applicable management plans should be pulled together to ensure that our AQ monitoring plan will meet their management needs (for instance, PMO3, EPT, Acidifying Emissions, etc.).
- Should we be monitoring GHG? Substances such as N2O, Methane?
- A table should be developed to address the deficiencies in the 1995 plan.

ACTION 8.1: Bob Myrick will develop a table that identifies deficiencies in the 1995 plan as seen from AENV's perspective.

Objectives for a New Integrated Air Quality Monitoring Network

- Focus on ambient and ecological effects monitoring.
- Why not human health and livestock monitoring? We should only be focused on ambient air monitoring and possibly emissions monitoring.
- Air quality monitoring network will provide:
  - Provincial scale information for decision makers.
  - Data that will enable correlation with human health exposure, ecosystem and emission data (animal health).
  - Readily accessible data.
  - Data for analysis of trends (SOE reporting).

- Transboundary and visibility issues.
- Cost-effective data representing human and ecosystem exposure.

AENV Comments

- The new plan should focus on air quality monitoring that is linked to (to support) ecological, human, livestock health.
- This is an air quality monitoring plan, NOT an ecological, human and livestock monitoring plan.
- We should discuss ecological, human and livestock health monitoring and show how the backbone air quality network is linked to this monitoring.
- Other CASA teams are looking at ecological, human and livestock health monitoring.
- Need a mechanism for meshing local, regional and provincial "backbone" monitoring.
- Need background station to support airshed zones.
- Difference between personal effects monitoring; not human health.
- Need links on CASA Data Warehouse to these other monitoring programs or do we need to have these summary documents on the site.
- Reports are hard to find on CASA, need a method to pull together all data.

Discussion

- The strategic plan should focus on ambient monitoring with a recognition of the requirements for other kinds of monitoring. For instance, ecological effects and human exposure monitoring should be supported by this plan, not restricted.
- The names of types of monitoring identified by the 1995 plan are misleading and not reflective of the actual types of monitoring that are occurring:
- Human health
- Ecological effects
- Transboundary and Visibility
- Mobile monitoring
- The goal should be to mesh local, regional, provincial and NAPS monitoring
- Are background monitoring stations needed?
- How do we define background? What is pristine in this context?
- Background monitoring has several barriers in addition to the basic question "What is background?" such as remoteness and providing power.
- Other types of monitoring reports should be linked to casadata.org. For instance, human exposure, ecological effects data / reports should have links.

Proposed Provincial Integrated Air Quality Monitoring Network
Ambient Air Quality Monitoring Techniques

- Continuous, intermittent and passive sampling techniques are discussed.
- The AENV strategic plan discusses continuous, active integrated, diffusive (passive), mobile, special projects, biomonitoring, acidic deposition (wet and dry) monitoring – we can cut and paste into the CASA plan.
- The plan proposed:
    - Human Health Effects Stations

- Ecological Effects Stations
- Transboundary Transport and Visibility Stations
- Mobile Monitoring Units

AENV Comments

- Stations that are part of the backbone provincial network are intended to be permanent.
- Therefore, airsheds or other organizations should not be able to shut these down.
- Consistent funding is required to ensure these stations are permanent.
- Who should fund these stations?
- The stations names should be changed to reflect more what the stations actually do.
- We need a different terminology for stations types.
- Should mobile monitoring be part of the backbone network?
- Should we include open path monitoring?
- Do we need a background station type or pristine station type?
- Do we need portable monitoring stations on a provincial scale?
- Maybe include portable stations as a technique or capability.
- Need to include in plan where each type of monitoring will be applied or used.
- Will emerging issues of hot spots be dealt with as part of the objectives?
- Emerging issues should be addressed with research.

Discussion

- This table should carefully consider the implementation part of the plan. Who is going to implement, fund, monitor and evaluate progress made?
- We should also evaluate the value and role of mobile (portable) monitoring stations.
- Should criteria be set for background stations? Background monitoring should be included in the new strategic plan, but it should also be recognised that the build / pristine environment is changing and that functionality of station placement may also change.
- Mobile monitoring should also be considered within the context of emerging issues. The capacity to locate portable stations next to potentially emerging issues is intrinsic to the new monitoring strategy.
- In addition, a periodic review of progress and needs should also occur.
- Room should also be made for emerging technologies. For instance open path monitoring.
- Rather than prescribe specific types of new monitoring technology, provide criteria that these new technologies should meet for consideration.

Human Health Component

- Monitor air quality at locations where people live and where there are air pollution emission sources.
- Focus on pollutants that are important to human health (particulates, ozone, nitrogen dioxide, sulphur dioxide, hydrogen sulphide and volatile organic compounds).
- We need address to Alberta's growing population.

- We need to address CWS achievement and the CASA PM/Ozone framework.
- How are we going to do this?
- The 1995 strategic plan proposed 35 human health effects stations:
    - 14 continuous stations at centres with a population greater than 20,000 people (likely more than 14 stations needed)
    - eight intermittent stations at population centres between 10,000 and 20,000 people (does "intermittent" sampling at these locations make sense?)
    - ten passive air quality stations at centres between 5,000 and 10,000 people (may be able to use passive sampling at smaller centres)
    - three continuous stations at locations to fill existing gaps in air quality data (are there other gaps?)

AENV Comments

- The backbone network should contain the minimum number of stations that we need to effectively measure air quality in Alberta.
- The backbone is the number one priority. Make it clear in the report.
- Should we talk about wants versus needs, maybe in an appendix?
- How will we address the PM/O3 framework, will we recommend specific stations.
- We may want to consider including other stations (nice to have stations).
- How did we come up with the 20K threshold? Should we consider 1% of the population as the threshold?
- For the less comprehensive stations, we may wish to consider a combination of:
    - Use portable stations that rotate to each of the locations, 1 year in each community.
    - Use less expensive equipment such as a minivol or EBAM.
    - Use a graduated approach, if less expensive equipment shows higher concentrations of pollutants, use more continuous methods to monitor.
- Why only ten stations for populations between 5 and 10K. Which communities would we choose?

Discussion

- One goal of the strategic plan is the long term delivery of the function of ambient air quality monitoring.
- Must have some flexibility in how that functionality is met.
- The needs of air quality management frameworks must also be met (e.g. PMO3).
- Air quality information must be provided in a way that is accessible to the public.
- Using human exposure to define the locations of monitoring stations is all well and good, but we may want more rigid criteria for the placement of these stations.
- Can compliment the location of AQ monitors within urban environments with additional monitors located upwind and downwind locations a more rural population base.
- Less expensive equipment can be used to support the 'standard' monitoring stations.

- A graduated approach to monitoring (less expensive to more expensive equipment) makes sense as long as the credibility of the data is not questioned.

- It was noted that time was running short on the agenda, but that AENV was only half way through their presentation and that more conversation was needed.
- The team agreed to carry on with the presentation at the next meeting.

4. Next steps

1. Matthew will compile up to section 4.2 Human Exposure Monitoring of the AENV presentation and the discussion it generated into meeting minutes.
2. AENV will work the team feedback into their presentation and continue in house consultations.
3. A writer will come to the next AMSP meeting.
4. The remainder of the AENV proposal will be presented at the next meeting.

ACTION 8.2: Matthew will ensure that a writer attends the next AMSP meeting.

5. Workshop

The AMSP government co-chair indicated that we must start thinking about a workshop for the fall.

Discussion

- Would it be possible to dovetail with the Airshed Workshop during the week of October 24th?
- It is likely that we will only need a one day workshop to present a strategic plan.
- The formation of a workshop sub-group should be on the next meeting agenda.
- It was noted that EC's funding for the workshop will not be available after March 31st.

6. CASA updates

a. Ecological Effects Workshop

Matthew provided an update on the ecological effect workshop:

- The purpose of the workshop is to acquire knowledge and shared understanding on:
  1. The science of ecological effects monitoring;
  2. What is required for an effective ecological effects monitoring program for Alberta;
  3. The alternatives to improve capability to measure air quality effects on ecosystems in Alberta;
  4. The values at risk of not acting.
- The workshop is in two parts. First, board members will attend the 37th Air Pollution Workshop & International Symposium (APW 37) in Banff from April 25 to 29, 2005. The Banff meeting will provide opportunities for CASA board members and alternates to hear from scientists and individuals from the academic community, government, industry and the public concerned with environmental protection. They will have the opportunity to discuss the current knowledge and future needs related to air pollution effects on vegetation.

- Second, there will be a one-day workshop organized by CASA on June 15, 2005 in Edmonton. The purpose of the CASA-organized workshop is to address Alberta's specific ecological programs.
- Visit http://www.asl-associates.com/apworkshop for more information on the Banff workshop.

b. Zones workshop

Kevin Warren provided an update on the Airshed Workshop Organizing Committee (AWOC):

- First meeting of the AWOC was held on March 10th.
- The Environment Minister will be invited to give a key note address
- The workshop will be held over 2 days during the week of October 24th
- There is likely going to be a trade fair as well.

7. Next meeting

The next meeting of the AMSP team will be:
Date: Friday April 1st
Time: 9:30 – 3:30
Place: Calgary. The venue has not yet been determined.

Agenda

The agenda for the April 1st meeting will include:

1. OSC – CASA Data Warehouse Update
2. AENV Presentation

8. Adjournment

David Graham adjourned the meeting at 3:30 PM.