

WCAS Monitoring Program Set to Grow

The Genesee/Wabamun area southwest of Edmonton is an area of significant new economic and environmental activity. Both EPCOR and TransAlta are major local power generators and, with the planned expansions of their operations, there is also an opportunity to expand the regional air quality monitoring program. The four existing power plants in the Genesee/Wabamun area are now included in the recently extended boundaries of the West Central Airshed Society, which will also take in new facilities owned by the same companies.

To ensure that air quality is protected in the region and downwind, the Regional Ambient Air Quality Monitoring Plan being developed by TransAlta and EPCOR is to "take into account Alberta's Ambient Air Quality Guidelines and issues of public concern, and to provide coverage throughout the air monitoring area." The two companies combined now operate seven ambient monitoring stations in the area. These seven stations measure sulphur dioxide (SO₂) and nitrogen dioxide (NO₂). Four of the stations measure particulate matter (PM), including PM_{2.5} and PM₁₀, at Genesee,

while one station also measures ground level ozone. In addition, passive monitoring occurs in the region for total dustfall, total sulphation and total suspended particulates.

Dr. Warren Kindzierski was asked to recommend a regional ambient air quality monitoring plan, taking into account air monitoring objectives, local meteorology and topography, existing monitoring data, locations of populated areas, modeled ambient air quality, and discussions with stakeholders.

The monitoring network for the Genesee/Wabamun area should fulfill several purposes:

- collect data in order to examine and evaluate overall air quality within the network,
- assess trends in air pollutant levels over several years,
- determine whether and to what extent ambient air quality is influenced by major sources in the air monitoring area (that is, power plants), and
- satisfy Alberta Environment's conditions attached to amending approvals for construction, operation

and reclamation of the Keephills and Genesee plants.

Kindzierski's analysis concluded that four key stations should be part of the revamped monitoring network to ensure that source influences could be accurately detected: the existing Meadows station, a relocated Power station, and a relocated Wagner station all operated by West Central Airshed Society, and a relocated Genesee station. He recommended that all these stations continuously monitor SO₂ and NO₂, as well as meteorological conditions. The Power and Genesee stations should also continuously measure PM_{2.5}, with monitoring of PM₁₀ and elemental analysis (metals) on an intermittent basis. The Genesee station would also monitor ozone on a continuous basis.

The WCAS will play a key role in the coordination and integration of air monitoring and management activities, including gathering ongoing input from stakeholders and making data electronically available to the public via the WCAS website at www.wcas.ca.

KeySpan Energy Reduces Emissions in West Central Zone

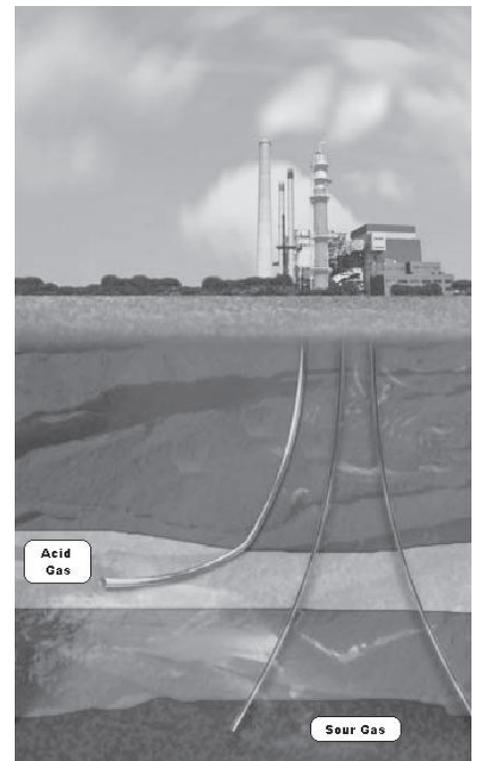
In December 2002, KeySpan Energy Canada launched a major new project that will significantly improve air quality in the West Central Area. The KeySpan Brazeau River Sour Gas Plant - Geologic Sequestration of CO₂ project is an innovative approach to dealing with two key emissions at the same time - sulphur dioxide (SO₂) and greenhouse gases (CO₂).

Rod Sikora, Environment Manager with KeySpan, says the project is a great example of his company's commitment to its overall business plan, addressing environmental and social concerns that are important to its stakeholders. "Our Brazeau River Gas Plant contributed up to 2.5% of the SO₂ emissions in the West Central airshed," he says. "The new acid gas injection scheme, operating concurrently with the sulphur plant, will reduce SO₂ emissions to less than 12.8 tonnes per day, a 32% decrease from the existing licensed conditions. We see this as

an excellent demonstration of pollution prevention."

The company made a substantial effort to find a geological formation that could meet its requirements, and then installed "best-in-class" technology for the acid gas injection system. KeySpan's goal is to completely decommission the existing sulphur plant in less than three years and inject all the acid gas, making the Brazeau facility a "zero discharge" operation in terms of SO₂ emissions.

The second major benefit of the project is the geological sequestration of carbon dioxide, the main greenhouse gas emission that causes climate change. The project has the potential to sequester 35,000 tonnes of CO₂ thus reducing greenhouse gas emissions for the entire plant by 12%. In recognition of KeySpan's innovation, this project was chosen as a finalist for a 2003 Emerald award in the Climate Change category.



Meet Greg Gabert, WCAS Treasurer

Greg Gabert is in a very good position to understand and contribute to the challenges of dealing with local air quality issues in the west central region. He was raised on a mixed farm in central Alberta and has worked in the oil and gas industry for 20 years. Greg currently works for Penn West Petroleum Ltd. and represents the oil and gas sector on the West Central Airshed Society board of directors. "I can relate to the challenges when one of these sectors converges on the other," he says. "This insight allows me to step back and see a bigger picture and look for solutions that meet everyone's needs."

Penn West has been an active member of the WCAS since 1997. The company recognized the value of an independent



Greg Gabert

air monitoring network that was not tied directly to the oil and gas sector. "The WCAS program gives us real time ambient air quality data that is scientifically credible and acceptable to

industry and members of the public alike," notes Gabert.

Although the WCAS was the first airshed monitoring network to be established in the province seven years ago, it continues to evolve. As treasurer, Greg Gabert has seen the significance of these changes. "We now have our own staff doing the day-to-day maintenance and operations, and this was a good move. It has enabled us to improve our network and reduced our operating costs. We're proud of our program, but we will continue to look for ways to deliver solid results in a cost-effective manner for all our members."

Greg Gabert is a Field Production Superintendent with Penn West Petroleum Ltd. in Drayton Valley. He has served as treasurer of the WCAS for four years.

Meet Larry Williams, WCAS Secretary

As a regulator, Larry Williams brings a key perspective to the West Central Airshed Society. "Alberta Environment is a strong believer in the airshed approach to air quality monitoring and, ultimately, management. Often, the issues in a region fall outside the regulated jurisdiction of the Department of

Environment. This gives airsheds an important and unique role to play in collecting information and providing it back to stakeholders in the zone to address their particular needs and concerns," says Williams.

When zones are formed, Alberta

Environment typically allows the ambient air monitoring at individual plants to be replaced by regional monitoring programs operated by the airshed. This approach, coupled with the other initiatives of the WCAS, allows for a broader monitoring program that provides more information than could be obtained through individual

monitoring programs only at the regulated facilities.

Through his participation on the board, Williams brings any site-specific issues of his department forward and, with other board members, can ensure that the monitoring program seeks to address them. "Information provided by airshed monitoring will guide future decisions on air quality management and point out areas where we need to know more. And not least of all, good monitoring programs help us validate the important modeling work on air quality impacts and assumptions." He adds, "Alberta Environment is pleased to see more zones being formed and regards this approach as the way of the future."

Larry Williams is Regional Approvals Manager, Central Region, for Alberta Environment, and is based in Red Deer. He has been on the WCAS board since January 2002.



Larry Williams

Resources

Do you know what to do when the oilpatch comes to your backyard? A couple of years ago, the Pembina Institute published a document to tell landowners, tenants and those living near existing or proposed energy developments what they need to know when dealing with the oil and gas industry. Titled *When the Oilpatch Comes to Your Backyard: A citizens' guide to protecting your rights*, this 174-page publication includes sections on the legal rights of landowners and occupants, as well as information on the legislation and regulatory bodies related to energy development in Alberta, contents of a lease agreement, compensation, negotiations and forming a local group. The Guide contains dozens of websites for those with Internet access. Written by Mary Griffiths, a member of the WCAS board, the guide is now being updated to reflect recent regulatory and other changes. More details on this publication, which can be purchased for \$32, are available online at: http://www.pembina.org/publications_item.asp?id=32.

New Air Quality Index. Alberta introduced a new Air Quality Index (AQI) on June 4, National Clean Air Day. The AQI is the first provincial air quality reporting system in Canada to include hourly concentrations of fine particulate matter, which can cause adverse health effects. The new AQI replaces the Index of the Quality of the Air, which did not accurately reflect air quality during events such as forest fires. Go online to <http://www.casadata.org/airqualityindex/> for more information.

WCAS 2002 Annual Report now available. The WCAS held its annual general meeting in May and released its 2002 annual report. This document summarizes the society's activities for the last year, and includes an analysis of the air monitoring data and trends. For a free print copy, contact the WCAS at the address overleaf or visit the WCAS website at www.wcas.ca to download a copy.