

**Minutes**

56<sup>th</sup> Meeting of the Joint Advisory Committee for the Improvement of Air Quality in the  
Cd. Juárez, Chihuahua / El Paso, Texas / Doña Ana County, New México Air Basin  
IMIP, Cd. Juarez, Chihuahua / TCEQ Region 6, El Paso, Texas  
January 17, 2013

1. Welcome and Introductions

Bill Luthans (BL), USEPA Region 6, and Maestro David Parra (DP), Director of Air Quality Programs - SEMARNAT, welcomed all to the 56<sup>th</sup> meeting of the JAC. A quorum was established. The meeting was conducted at 2 venues. The primary venue was at the IMIP in Juarez while the secondary venue was at the TCEQ Region 6 office.

JAC Members Present	
U.S.	México
Bill Luthans – EPA	Mtro. David Parra – SEMARNAT
*TCEQ staff, Alt for L Gardner – TCEQ	C. Sergio Zepeda- PROFEPA
Thomas Ruiz – NMED	**Araceli Salazar – COESPRIS
**Doña Ana County – vacant	Obdulia Mendoza – Gob. Edo. de Chihuahua
Candice Sifuentes – City of El Paso	Raul de Leon, DNA
John Quinn - FMR	*Quim. Pilar Leal, Alt. for Ing. Rene Franco
**Elaine Barron, M.D.	Denisse Varela - NGO
Alberto Correa, PhD	Dra. Alba Corral – UACJ
**David Dubois, NMSU	**CANACINTRA
Wen-Whai Li, Ph.D., P.E., UTEP	Dr. Alberto Ramírez – CCDS
Christine Ponce-Diaz, El Paso MPO	Ing. Vicente Lopez – IMIP
* Alternate	** Not Present

2. Presentation and approval of current agenda and minutes.

The Agenda was approved. Minutes of the 9/27/12 JAC meeting were approved.

3. Message from the Co-Chairs

Bill Luthans (BL) and David Parra (DP) welcomed all to the 56<sup>th</sup> JAC meeting. DP would be representing Mexico at this meeting. He introduced himself as the director of air quality

programs for Mexico. Co-chairing the JAC meeting was an opportunity to meet this binational committee which has done quite a bit to improve air quality.

4. Public Participation –  
Jon Williams, Texas Transportation Institute Planning Specialist, discussed a study being conducted by TTI regarding black carbon emissions into the atmosphere from mobile sources. The study is conducted in 2 phases
5. JAC Discussion on Public Comments. No JAC discussion was provided.
6. Air Quality Report

Gerardo Tarin (GT) presented an air quality summary from 1 Jan – 31 December, 2012. GT presented the regional air quality monitoring. One CO exceedance was observed in Juárez; but no violations of the CO standard occurred in the U.S. The US CO standard is violated at 9.5 parts per million (ppm) during an 8-hr averaging period. Mexico's standard is set at 11 ppm / 8-hr averaging period. VV showed a slide identifying the two monitors on either side of the Bridge of the Americas. Data indicates that the CO design value is 25% of the standard near the BOTA POE which is a high CO generating area and indicates the BOTA POE may not be a source of elevated ambient CO.

No 1-hr O<sub>3</sub> exceedances were observed in El Paso or Juarez during the 12 month period. El Paso observed 2 8-hour O<sub>3</sub> exceedances, but no violations occurred. There is a continued downward trend of 8-hour ozone design values during the past 10 years.

A graph of TEOM PM<sub>2.5</sub> Partisol data indicated several PM<sub>2.5</sub> exceedances occurred, but all exceedances occurred during high wind events. A chart of H<sub>2</sub>S emissions which are generated primarily at a wastewater treatment plant (WWTP) in north central Juarez shows a major reduction in H<sub>2</sub>S concentrations since the air monitoring station was deployed in 2004. Multiple modifications have been conducted at the WWTP that have collectively helped reduce the production of H<sub>2</sub>S at this facility.

7. Presentations
  - A) Presentation on Energy Efficiency and Initiative for Climate Action in Cd. Juarez

MC David A. Parra Romero, Director of Air Quality Programs for Mexico, presented this report. He indicated the National Plan for Appropriate Mitigation Strategies (NAMA by its Spanish acronym) was included in the Bali Action Plan developed by the Conference of Parties (COP 14). During COP 15 an agreement was completed to develop a program to Monitor, Report and Verify (MRV) greenhouse gas (GHG) emissions. At COP 16, developing countries agreed to strengthen the NAMAs. Currently the NAMAs and MRVs are being defined at international negotiations of the United Nations Framework Convention on Climate Change (UNFCCC – CMNUCC by the Spanish acronym).

Several NAMA Categories have been established.

- Unilateral NAMAs: Implemented with resources from each individual country identified in Annex I;
- Supported NAMAs: Rely on financing from Annex I countries for implementation. GHG emissions reductions are accounted for by the host country;
- Credited NAMAs: Those CO<sub>2</sub> emissions reductions which can be traded in the carbon market and may be applied and credited to Annex I countries.

Strategies for NAMA implementation include several forms of financing.

- Existing federal programs funded by operational budgets; and
- International Development Agencies
- International Finance Institutions.

Legal Framework for the NAMA

- Since 2007 legislation has allowed any commercial or residential customer of the Federal Electricity Commission (CFE by its Spanish acronym) to generate their own electricity using solar energy systems. This allows interconnecting to the national grid;
- The law supporting investment and transition to renewable energy systems was developed in 2008. This law allows for development of contracts with CFE for the interconnection into the national grid of renewable energy systems as well as efficient cogeneration;
- There are national agreements supporting the transmission of electricity generated by renewable energy systems;
- There are national agreements regarding interconnection of hydroelectric power systems; and
- CFE is also allowed to develop interconnections for small and medium scale renewable energy and cogeneration power systems.

The Objectives of the NAMA include:

- Develop an emissions baseline of GHG and project these emissions in the absence of the NAMA;
- Develop a document containing the technical, economic, and feasibility analysis on the use of photovoltaic systems in different areas of interest;
- Quantify the mitigation of GHG which may be achieved as a result of implementation of photovoltaic power systems;
- Propose the development of pilot projects which may be developed through financial resources available for implementation of the NAMA; and
- Develop a NAMA which permits the registration of GHG mitigation strategies for the purpose of generating carbon credits that contribute to further feasibility of self-sufficient projects powered by photovoltaic systems.

Project Deliverables:

- Draft reports will be submitted for revision and comments as well as approval for the following components which will comprise the final draft.
  - General description of the sectors under review with potential to develop and supply electricity from photovoltaic systems;

- Potential barriers and opportunities for onsite production of electric power using photovoltaic power systems;
- Identification of baseline emissions for sectors and technologies;
- Develop a system for monitoring, reporting and verification; and
- Develop a final report and PPT presentation.

Potential solar power application:

- Mexico has an average of 5 Kwh/m<sup>2</sup>-Day;
- Regions of Mexico with greatest solar radiation include: Sonora, Chihuahua y Baja California;
- These may be considered the zones that are most appropriate for installation of PV systems which require the incidence of high solar radiation;
- Rooftops of large industrial and commercial operations provide excellent locations on which to install PV systems;
- Currently systems are being installed at these locations using large sheets of thin-film photovoltaic panels integrated into the roofing systems.

#### B) Municipality of Juarez Energy Efficiency and Renewable Energy Projects

Utilization of photovoltaic (PV) power systems is potentially the most palpable form of renewable electrical energy available for Mexico and the rest of the world give the need for electrical power for almost all human activities. However, the importance of this energy resource solar power has not substantially been exploited.

While solar energy will last for millions of years Mexico must take advantage of its geographic location and availability of plentiful solar radiation which is in the range from 4.4 Kwh/m<sup>2</sup> – 6.3 Kwh m<sup>2</sup>. This abundance of energy from sunlight makes it necessary to develop public policies which promote the sustainable utilization of solar power in Mexico. Among the multiple applications for the use of solar energy one finds direct lighting, radiant heat and electric power.

A description of power generation and interconnection systems was provided. CFE provides a bidirectional power meter capable of indicating when PV power is applied to the national grid in which case CFE provides a payment to the power generator. Juarez is developing a program to deploy PV systems in different locations across the city with the intention of supporting low-income communities and generate a savings for families living therein as well as promote the well-being of the environment.

300 families living in 2 colonias will receive the 1<sup>st</sup> systems. 250 panels will be installed in Col. Juanita Luna and 50 systems will be installed in Col. Lomas de Poleo. A 30%-50% reduction in electrical consumption is expected to be realized by the families participating in this effort. The families participating in this program were required to provide basic information regarding their income. Another larger-scale system was deployed at the Francisco I. Madero Community Center.

C) New EPA Air quality rules.

Near the end of 2012, EPA issued new rules on industrial boilers and cement kilns. Bill Luthans, EPA-R6 provided an update. EPA has initiated action on 2 fronts over the past year:

- Targeted Emission Reductions from Industry
  - Industrial Boilers, Cement Kilns and Incinerators
  - Stationary Reciprocating Internal Combustion Engines (RICE)
  - Mercury and Air Toxics Standards
  - Carbon Controls on New Power Plants
- More Protective National Ambient Air Quality Standards (NAAQS)
  - New PM2.5 Standards

The Mercury and Air Toxics Standard (MATS) affects the coal and oil-fueled power plants industries. Pollutants targeted are metals (mercury, chromium, nickel), acid gases (HF and HCl), and particulate matter.

- Rule Effective Date: April 16, 2012
- Compliance Date: New Sources – Immediately upon start-up; Existing Sources April 16, 2015 (up to two years extension possible for electricity reliability and other factors)
- Cost Benefit: \$9.6 billion annual cost. \$37 - \$90 billion annual health benefits.

Evidence indicates sources can achieve these standards. Proven control technologies include scrubbers, fabric filters, and activated carbon injection which are widely available. Many units already use one or more of these technologies. Some plants will upgrade existing controls (e.g. electrostatic precipitators). Some plants may also install new controls (e.g. fabric filters, dry sorbent injection, or activated carbon injection).

Proposed carbon pollution standard for NEW Power Plants

- Industry Affected: NEW Electric Power Plants
- Pollutants Targeted: Carbon Dioxide (GHG)
- Rule Effective Date: PROPOSED March 27, 2012
- Compliance Date: Unknown. Rule not yet final

Highlights of this new standard:

- Proposes output-based emission standard of 1,000 pounds of CO<sub>2</sub> per megawatt-hour (lb CO<sub>2</sub> /MWh gross).
- Applies to new: Fossil fuel-fired boilers, Integrated Gasification Combined Cycle (IGCC) units, and Natural Gas Combined Cycle (NGCC) units.
- New combined cycle natural gas power plants could meet the standard without add-on controls.
- New coal or petroleum coke power plants would need to incorporate carbon capture and storage technology (CCS).
- The proposal includes an alternative 30-year compliance period to allow these new plants to incorporate CCS at a later date to reach compliance.

- New power plants that use Carbon Capture and Storage (CCS) would have the option to use a 30-year average of CO<sub>2</sub> emissions to meet the proposed standard, rather than meeting the annual standard each year.

Regarding new standards for industrial boilers and cement kilns:

- This rule pertains to all industrial boilers (but less than 1% will need to meet numerical emission limits – the rest: best practices);
- Pollutants Targeted: Metals (Mercury, Chromium, Nickel), Particulate Matter, HCl, SO<sub>2</sub>, CO
- Rule Effective Date: March 2011; adjustments December 12, 2012;
- Compliance Date: Existing Major Sources - 2016 (up to one year extension possible). Existing Area Sources – March 21, 2014;
- Cost Benefit: \$13 to \$29 health benefit for every dollar spent on compliance;
- Technical Assistance: U.S. DOE Clean Energy Application Centers (e.g. CHP); USDA on biomass burning;
- There are more than 1.5 million boilers in the U.S.;
- For 86 percent of all boilers in the United States, these rules would not apply, because these boilers burn clean natural gas at area source facilities and emit little pollution;
- For almost 13 percent of all boilers in the United States, EPA's standards would continue to rely on practical, cost-effective work practice standards to reduce emissions;
- For the highest emitting 0.4 percent of all boilers in the United States, including boilers located at refineries, chemical plants, and other industrial facilities, EPA is proposing more targeted revised emissions limits that provide industry practical, protective, cost-effective options to meet the standards;
- Boilers with design heat input greater than 250 MMBtu/hour most impacted by monitoring requirements, etc. Gas-fired and small (<10 MMBtu hour not required to install controls);
- Regarding Compliance: The existing major source boilers that are subject to numerical emission limits will have until early 2016 to comply with the standards and, if needed, they may request an additional year;
- Existing area source boilers will have until March 21, 2014 to comply with these standards, if needed they may request an additional year;
- For Commercial and Industrial Solid Waste Incineration (CISWI) units, existing incinerators have to comply no later than early 2018. New incinerators will need to meet the standards 180 days following publication in the Federal Register.

D) Point Source Emissions Inventory in Cd. Juarez.

Marty Wolf, Eastern Research Group (ERG), provided a description of a limited-scope emissions inventory initiative focusing on particulate matter and ozone-forming pollutants.

The objective of this project is to develop a 2008 base year emissions inventory for ozone modeling.

The scope of this project covers the following pollutants: NO<sub>x</sub>, SO<sub>2</sub>, VOC, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Source types: point, area, on-road motor vehicle, nonroad mobile, biogenic.

Inventory domain: Municipality of Juárez / Spatial resolution: Municipality-level

ERG is working with Mexico-based contractors, Dr. Arturo Woocay and Dr. Jose Maria Mares, who are responsible for all the field work in Juarez. We are developing skills and capacity for Mexico's engineers to develop emissions inventories. The importance of having skilled and experienced engineers working in the field and teaching skills to students attending the local universities cannot be understated. In this case we are working with both the UACJ and ITCJ to develop skills and capacity in 2 distinct Juarez universities.

Prior to this project ERG completed Phase I in August 2011. This phase includes area, on-road, nonroad, and biogenic emissions. Point sources were not included; they are the focus of Phase II.

The following sources were assessed during Phase I:

- Area sources (which includes emission from fuel combustion, evaporative, fires, other);
- On-road motor vehicles;
- Nonroad mobile sources (aircrafts, locomotives, and construction and agricultural equipment);
- Biogenic sources (vegetation VOC and soil NOx).

Phase II which is currently underway includes the following assessments:

- 2008 point source emissions inventory provided by SEMARNAT with 182 point sources;
- Focus will be on QA of SEMARNAT inventory;
- Geographic coordinates check for 45 point sources;
- QA of COA data;
- Largest emitters;
- Pollutant inconsistencies;
- Comparison of input material consumption with reported emissions; and
- Stack parameters

QA is required of data collected by EPA and TCEQ. Inventory development is an iterative process in which inventory data is constantly reviewed and improved. SEMARNAT's point source emissions inventory has been extremely helpful. One of the first steps involved QA'ing geographic locations of the Juarez point sources. For geographic coordinates, some coordinates that were initially assessed were definitely incorrect (outside of Juarez). Others are possibly incorrect (outside of urban area, located in residential area, etc.). A total of 26 facilities out of 182 were plotted outside of the municipality of Juarez based on the reported coordinates – even though the facilities had addresses and phone numbers that are consistent with Juarez.

The following sources were also checked during the QA process:

- Large emitters;
- Facilities with “questionable” data;
- No reported emissions;

- Controlled emissions are greater than uncontrolled emissions;
- Reported paint, solvent, or other evaporative input materials, but no process VOC emissions;
- Reported natural gas fuel use, but only reported PM emissions without NOx or CO emissions;
- Reported natural gas fuel use, but reported high PM combustion emissions.

This project should wind down by the end of summer and a final report submitted by the end of August. Marty requested further participation from SEMARNAT regarding the QA process. David Parra indicated Mexico was ready to help with any information requested that could improve the emissions inventory.

E) Roundtable to firm-up the Air Policy Forum 2-Year Action Plan  
A review of the 2-year action plan was provided by Carlos Rincon.

9. Observations and Comments from the Public
10. Highlights and consensus items of the meeting.
11. Next meeting May 16, 2013.
12. Adjourn