Minutes
44th Meeting of the
Joint Advisory Committee for the Improvement of Air Quality in the
Cd. Juárez, Chihuahua / El Paso, Texas / Doña Ana County, New Mexico Air Basin
Presidencia Municipal de Juárez, Chihuahua
March 19, 2009

1. Welcome and Introductions

Carl Edlund (CE), Director - Multimedia & Permitting - USEPA Region 6, and Ana Maria Contreras (AMC), SEMARNAT, welcomed all to the 44th meeting of the JAC. A quorum was established.

JAC Members Present	
U.S.	México
Carl Edlund – EPA	Ana Maria Contreras V. – SEMARNAT
Ramiro Garcia Jr. – TCEQ	Sergio Zepeda - PROFEPA
**Michael Baca – NMED	**Araceli Salazar – COESPRIS
**Mariana Chew – Sierra Club	*Carlos Carrera R - Edo. de Chih.
*Robert Andrade – City of El Paso	Bernardo Escudero Cd. Juárez – DNA
Nicolas Chapa – Alternate for John Quinn	Ing. Rene Franco – MEM
Elaine Barron, M.D.	Enrique Suarez - SADEC
**Robert Ardovino – City of Sunland Park	Dra. Alba Corral – UACJ
Bob Currey	Ing. Ives Figueroa - CANACINTRA
**Wen-Whai Li, Ph.D.	Alberto Ramírez – CCSD
* Alternate	** Not Present

2. Presentation and approval of current agenda and minutes.

The Agenda was approved with minor modifications to order of items. Minutes were approved.

3. Message from the Co-Chairs

Carl Edlund (CE) mentioned EPA approved the redesignation of the El Paso CO Maintenance Plan. This indicated air quality is improving over the region, but there continues to be work to be done including compliance with the new O_3 standard. EPA recently issued notice on Greenhouse Gas Emissions.

4. Public Participation

No public comments were provided.

5. JAC Discussion on Public Comments

No JAC comments were provided.

6. Air Quality Report

Victor Valenzuela (VV) presented the air quality report. VV provided a map of monitoring sites across the region. A summary of 2008 until March 17, 2009 was provided. In response to a previous question regarding when a CO violation occurs, it occurs when more than one reading above 9.5 ppm occurs at the same monitoring site in the same calendar year. Juarez had several exceedances of the Mexican standard (11ppm / 8-hr period) at CAMS 662.

El Paso observed several 1-hr O_3 exceedances during 2008. All Juarez stations had 1-hr O_3 exceedances during 2008.

CAMS 414 appears to be the site in El Paso where the new 8-hr O_3 standard (above 75ppb during an 8-hr period) continues to be observed. Data indicate EP has been in violation of the new standard since 1986. The trend does not indicate O_3 air quality will improve. A final designation for El Paso may be made in a couple of years.

PM_{10} data from local Wedding samplers indicate Juarez had 2 PM_{10} exceedances during the last 6 months of 2008. This is a very good indicator of air quality improvement.

TEOMS – Tapered Element Oscillating Microbalance – data from several PM_{10} monitoring sites do indicate exceedances of the PM_{10} standard, however all exceedances were observed during high-wind events.

Elaine Barron asked if the expansion of Ft. Bliss could increase air pollution as anticipated. VV responded EP MPO is researching impacts on air quality due to increased vehicular traffic. Bob Currey reiterated his concern regarding the method in which Ft. Bliss is identified as a point source which covers several hundred square miles.

7. Presentations

A) Decision by ASARCO to discontinue operations.
Ramiro Garcia (RG), TCEQ Area Director for the Border & South Central Texas, reported the TCEQ sent a letter to ASARCO indicating that due to ASARCO's notification to cease operations at the El Paso facility several air quality permits have been voided. These included New Source Review permit Nos. 4151 & 20345. Federal Operating Permit No. 2871 is also voided.

RG also discussed the potential redesignation of El Paso as nonattainment of the new 8-hr O_3 standard. The following 3 options were provided:
1) Pursue an Early Action Compact with EPA. Given El Paso's proximity to the border an EAC may be pursued.
2) Wait for EPA to make the O_3 designation. The burden would be on TCEQ to model, gather information, ID control strategies and propose an attainment SIP. EP may benefit from the Section 179B of the FCAA which is a transboundary exemption which states that a Metropolitan Statistical Area could be in attainment of the standard "but for" emissions generated outside the US.

3) The region can pursue Identification & implementation of emission reduction measures in the hope that 2009 O_3 data assists the region in being designated attainment. A public campaign would need to be implemented. O_3 levels must be below the standard for this option to work.

CE reported the EAC may be a difficult option to accomplish due to legal hurdles. Option 3 may be a more workable solution given the O_3 concentrations viewed as 3-year rolling averages appear to be dropping.

BC added that NMED is also pursuing the nonattainment of the new standard for SLP. He's concerned that SLP, NM & EP County are being viewed as separate entities, & there is no coordination. BC doesn't want to invoke Sec. 179b of the FCAA to put the blame on Juarez for bad air quality in EP. He would like for Southern NM & EP County to be considered as a single region for attainment modeling purposes.

Ana Maria Contreras (AMC) reported that all issues associated with ASARCO will be referred to the Border 2012 Waste Group which is the most appropriate group to address current conditions at the facility. Alfonso Flores will be leading this effort.

B) Data report on Wintertime PM Research collaboration between NMED & Cd. Juarez.

Hector Sandoval reported this is a joint project between NMED & DGE to observe PM over the Anapra / Sunland Park region. 6 EBAM monitors are in Sunland Park & 6 are located in Anapra.

In October 2007, Cd. Juarez received the EBAM monitors from NMED with a value of ~$100,000 USD. Shortly thereafter the monitors were deployed in regions of Cd. Juarez with historical high PM_{10} concentrations. . In February 2008, 4 Wedding Hi-Volume PM_{10} monitors were integrated into the Cd. Juarez air monitoring network.

In January 2009, NMED provided training to Cd. Juarez DGE personnel. This training included personnel from the US National Weather Service and was also provided to several of the city's firefighter corps. On 4 February, 2009, a property transfer ceremony was conducted between NMED & Cd. Juarez political leaders. Currently, Cd. Juarez personnel are downloading the data from the EBAM monitors and transferring the data to NMED for analysis.

C) *Characterization of particulate matter captured by Hi-Vol PM_{10} monitors in Cd. Juarez*. Karina Macedonio Ramirez and Dr. Alba Corral conducted a study of particles captured on PM_{10} hi-vol filters and analyzed using a SEM-EDS (Scanning Electron Microscope Energy Dispersing Spectrophotometer). Ms. Macedonio presented the method used in sample preparation and use of the SEM-EDS to determine particle morphology, chemical composition, and particle size. For most particles located on the sample the EDS provides chemical composition of 11 elements a particle may contain. For the most part, PM_{10} consists of geologic material such as alumino-silicates, carbonates, manganese, iron, zinc, potassium, etc. These research projects are excellent teaching tools for students to move on to advanced degrees.

Report on arsenic and cadmium on ambient particulate matter collected on hi-volume PM_{10} filters located near unpaved roadways. Omar Felix, UACJ graduate student presented results of his research.

General objectives: Determine the concentration of Pb & Cd adhered to PM_{10} particles in Cd. Juarez roadways. Particular objectives include PM_{10} monitoring using Wedding PM_{10} Hi-Vols,

standardize the extraction process, determine the concentration of Pb & Cd. using IC-PMS (inductive coupled plasma – mass spectroscopy). Data indicate a positive correlation of Pb & Cd on the filters regardless the mass concentration on the filter itself. Also As & Cd concentrations had a positive correlation on the filter regardless of the sample being taken near unpaved or paved roadways. The levels of As & Cd, however, were relatively low as compared to generally accepted effect screening levels, but bioaccumulation may occur over time.

The final purpose of this report is to highlight the health impact of PM_{10} on respiratory health given coarse and fine particles settle deep into the lungs causing asthma and other respiratory distress and health impacts.

D) Discussion on upcoming Border 2012 Climate Change Workshop.
Carl Edlund & Ana Maria Contreras reported on an upcoming meeting in Monterrey, N.L. to discuss issues of mutual interest regarding GHG & climate change. The EPA recently announced a GHG rule, & there is a decision pending on how GHG may be tracked and reported. Part of the discussion is GHG are a global issue and the US is looking at methods of working with its international partners. AMC reported that the meeting will take place in April, and all are invited to attend. The agenda for the workshop includes activities taking place in both countries to register GHG emissions.

MX will soon present a protocol to be followed to calculate GHG emissions. The Energy Secretariat is participating in this workshop given power plants are major contributors to GHG emissions. An agreement between the U.S. and Mexico to address GHG emissions will be finalized and signed at this event.

World Bank and NADBank will also participate and offer methods of financing strategies to reduce GHG emissions and combat climate change. Issues still pending are methods of reporting emissions. The US and MX are debating methodologies based either on IPCC used in MX and the method proposed for use in the U.S. AMC and EC report there is a close correlation between results obtained using the AP42 & IPCC methods, and as we move forward we should find a solution to the differences between the 2 methods.

E) Report on Air Toxics Study conducted by Sandia N.L.
Dr. Alberto Correa reported on the Chemresistor Technology.
Background:
-Methods for monitoring contaminated sites with toxic chemicals are expensive, time consuming, and misrepresentative of in-situ conditions.
-Sandia National Labs developed a microsensor monitoring system that can be used to characterize VOCs.
-The sensor system consists of an array of miniature sensors, called chemiresistors that can operate in soil, water and air.
-The sensor is packaged in a unique, waterproof housing designed to protect the sensor from harsh environments.
-The patent has been licensed to Team Technologies, Inc. a company in Albuquerque, NM, partnering with D'Informatica 21, a Mexican company in Chihuahua City for the technology commercialization in Mexico.
Chemresistor Technologies:
-Each chemresistor is fabricated by mixing a commercial polymer dissolved in a solvent with conductive carbon particles.
-When VOCs are present, the chemicals absorb into the polymers, causing them to swell.
-The swelling changes the electrical resistance that can then be measured and recorded.

-The amount of swelling corresponds to the concentration of the chemical vapor in contact with the polymers.
-The process is reversible, and the polymers will shrink once the chemical is removed, reverting the resistance to its original state.

Project Status:

-Team Technologies (Albuquerque) and D'Informatica 21 (Chihuahua) have sign a partnership contract to develop and commercialize the product in the US and Mexico
-Team Technologies is manufacturing several lots of prototypes for monitoring VOCs in air, calibrated to different concentrations
-D'Informatica 21 has developed the contacts in Chihuahua city for monitoring fumes in gas stations
-The Bi-National Sustainability Laboratory has done preliminary market surveys based on the analysis of the potential applications, promoted the product with the environmental authorities of both countries along the border region, analyzed the competition and determined the technical and economical feasibility of this project

Chemresistor Applications:

-Sites containing toxic chemical spills, leaking underground storage tanks, and chemical waste dumps will require characterization and long-term monitoring to reduce health risks and ensure public safety.

Next Steps:

-Approach EPA's Verification Programs Managers to introduce the concept and obtain proper support for technology verification
-Apply additional survey questionnaire to representative samples of the several market segment identified in both countries to expand the market survey
-Field test the prototypes by approaching the market and the environmental authorities of both countries, since both of them are interested in testing the product, even at a prototype level

AMC commented SSA is working on a VOC standard for Mexico and this device would be helpful in this process. SEMARNAT is also looking into this. She will contact the Delegado Nacho Legarreta to see the possibility of field testing this device in Cd. Juarez

8. JAC Subcommittee Reports and Discussion –

PM Technical Commission: Alba Corral, Ph.D. reported her group was working on a Border 2012 project in conjunction with Desert Research Institute. The following was provided:

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Mobile Sources – Cd. Juarez Ecology Department was identified as the new Chair of this committee with Ing. Bernardo Escudero as the lead.

Emerging Issues: Bob Currey reported he was tasked with identifying projects that could improve air quality with an amount ranging from $50,000 - $300,000. The air q. improvement should be measurable or at least quantifiable. He focused on the what, when, how, and why; not necessarily who would do the project. We met the 1st time in February to suggest proposals and ideas. Ideas such as HOV lanes were brought up. The 4 that remained after the 1st meetings were the idea of HVLP paint gun trade-out, convert brick kilns from the old style kiln, install vapor recovery systems in PEMEX gas stations, and reduce emissions from the CFE peaking power plants in Cd. Juarez. Bob expressed several personal concerns with the proposals regarding sustainability, enforcement associated with VRS systems, to location of brick-makers, etc. 3 ideas will be presented to EPA.

AMC proposed we have a meeting with a representative from PEMEX to accompany this proposal with a regulation. In the States of Mexico & Puebla, regulations already exist to control VOC emissions from gas stations. She would like to follow-up with a method of getting this regulation in place in Cd. Juarez. Carlos Rincon added that the gas stations in Juarez are franchises so the JAC should approach only PEMEX or the association of service stations. BC indicated all the gas stations already have the basic plumbing in place for Stage I VRS so all we need is a bit of hardware and a regulation requiring compliance.

Bernardo Escudero, Director of DGE read a letter written to SEMARNAT requesting action to address the refrigerants that have been collected in Cd. Juarez since the refrigerant collection program initiated. A large volume of refrigerant has been captured and no method has been devised to destroy this pollutant. AMC replied that SEMARNAT has had this issue in mind and may soon develop a method which destroys the CFCs by incineration.

Ways & Means: Biol Gerardo Tarin reported the group has discussed adding a new seat on each side of the JAC. The proposal is to add the El Paso MPO & Cd. Juarez IMIP to the JAC. Bob Currey commented this is a great proposal and those 2 groups should have been on the JAC a long time ago. His observation is the JAC was formed via diplomatic note between the 2 countries and the Appendix I to Annex V of the La Paz specifies the membership. If we were to add the 2 groups he would suggest the position be added as part of the government sector and not the private sector. He doesn't want to jeopardize the unique standing the JAC has by modifying the current agreement. CE commented he would seek comment from the Department of State to see if there is the flexibility to clear up this issue.

EPA has a State Dept liaison that can look into this.

9. Observations and Comments from the Public –

-A representative from the Cd. Juarez Vehicle Verification program suggested a technician certification exam be provided to technicians to strengthen this program.

-José Mario Sánchez Soledad, Cd. Juárez City Council member brought up a point for consideration dealing with exposure to suspended PM by school children. Cd. Juarez has schools which do not have infrastructure allowing children to play without kicking up a bunch of dust. Many schools in the city's periphery do not have a conscience to control dust using vegetation or other methods. When thousands of kids are stomping around the school ground in the morning or evenings dust becomes entrained and impacts the children. He needs help from the JAC to promote this environmental consciousness.

AMC commented this is a theme that the JAC can undertake including a strategy that can be

undertaken or promoted. We'd like a bit more information to proceed forward.

10. Highlights and consensus items of the meeting.
    a) Continue working in the emerging issues Bob C. suggested.
    b) Continue working with the ASARCO issue.
    c) Participation and development of the climate change issue as sit relates to local sources.
    d) Consult with the US Department of State and SRE to add 1 chair on each side of the JAC.
    e) Follow-up with the O3 designation for El Paso and options that can be undertaken in case O3 concentrations fall below the standard during the summer of 2009.
    f) BC would like to follow up with the data committee to bring air quality data to the public in one singular format.
    g) Move the ASARCO issue to the Waste Task Force.

11. Next meeting June 11, 2009 in Sunland Park, NM

12. Adjourn