# **DRAFT MEETING SUMMARY**

# **Community Environmental Working Group**

# "Striving for Continuous Environmental Improvements at Intel"

**Date:** January 22, 2014 **Time:** 5:00–7:00 p.m.

**Location:** Corrales Senior Center

**Members Attending** 

John Bartlit, NM Citizens for Clean Air & Sarah Chavez, Intel

Water Robinson Shields, Rio Rancho resident

Mike Williams, NM Citizens for Clean Air & Dennis O'Mara, Corrales resident

Water

**Non-Members Attending** 

Lynne Kinis, Corrales resident

Jeff Rudnik, Intel

Cassie Roberts, Intel

Liz Shipley, Intel

Roberta King, Corrales resident Daniela Bowman, NMDHSEM

**Facilitator** 

Mark Bennett, Facilitator CJ Ondek, Recorder

## **HANDOUTS**

- Draft Agenda
- Draft Meeting Summary December 2013
- Action-Item Progress Report

- EHS Activity Reports
- Media reports and articles, as available
- Summary of previous CEWG discussions about SCORR

### PROPOSED AGENDA

- Welcome, Introductions, Announcements and Brief Items
- EHS Report and EPA 114 Update
- Code Red Update
- Code Red Follow Up: EPCRA, CERCLA

- Response to Questions about HF Modeling
- Preparing for Craig Taylor presentation SCORR
- Adjourn

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

## WELCOME, INTRODUCTIONS, ANNUNCEMENTS, AND BRIEF ITEMS

John Bartlit opened the meeting by stating the CEWG mission, which was to work towards continuous environmental improvements at Intel and improved community dialogue.

Agenda—Revisions and Approval
No comments

Meeting Summaries—Revisions and Approval No comments.

## Agency for Toxic Substances and Disease Registry (ATSDR) Update

John Bartlit said he spoke with Peter Kowalski for about 30 minutes on Monday, January 20. Mr. Kowalski told him that he had spoken with the Environment Protection Agency (EPA) Region 6 by telephone and sent the draft final report to them in Dallas last week. Next week Mr. Kowalski will send the draft to New Mexico Environmental Department (NMED) and the New Mexico Department of Health (NMDOH). He should receive comments from all three agencies in four weeks. Mr. Kowalski may take up to two weeks to revise the draft based on returned comments. ATSDR would complete a full review of the final draft, which also is expected to take up to two weeks, and then the final draft would be sent for outside peer review (university researchers in the field), which would take another four weeks. Thus, after 12 weeks of review, the final report was expected for release to the general public, including the CEWG and Intel, in mid-April. Peter Kowalski told Mr. Bartlit that he read the CEWG meeting summaries, and his draft mentioned Mike Williams' Hydrogen Fluoride (HF) modeling but did not review it. Mr. Kowalski commented that Mr. Williams was using the latest version of AERMOD. Mr. Bartlit said he planned to speak again with Mr. Kowalski on February 14.

### Regulatory Engineering Update

John Bartlit reported that he met with Frank Gallegos, Andrew Moen, Jim Casciano and Sarah Chavez at Intel for two hours to discuss regulatory engineering. Mr. Casciano is a member of the New Mexico Environmental Improvement Board. During this meeting Mr. Bartlit discussed: the need for regulation, the four steps in the regulatory system (rule setting, permitting, surveillance/inspection, and enforcement), and how inefficiencies arise in each step. The inefficiencies added time and cost for all parties, and each step in the system affected the other steps. Companies might spend more time and money using the system's protocols of monitoring and reporting than are spent for reducing emissions. Ideas about overall system design might help. Mr. Bartlit said he discussed the general goal of regulatory engineering, which was to seek new ways of monitoring that gather more useful regulatory information than in the past, and faster, easier and at less cost. One promising idea was to look for ways to use the "Explore Intel" Web site, which could be used to provide near real-time data that allows regulators to know that Intel operations are running normally from a regulatory perspective. The next step

Filename: CEWG\_Draft Meeting\_Summary\_1-22-14 ver 2.doc. Approved

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

was for Intel to explore specific ideas for using the Web site, which will be further discussed at another meeting that might include regulators to get their perspective. Mr. Bartlit said he felt this was a good start. The next meeting would occur before the next CEWG meeting.

ACTION ITEMS: Sarah Chavez will check on scheduling the next regulatory engineering meeting with Intel.

### Other Announcements

John Bartlit announced that Hugh Church was on a cruise ship off the coast of Brazil or deep in the heart of Brazil, so he had an explained absence.

### **Public Comment**

Dennis O'Mara said he had received a copy of a letter his Corrales neighbor wrote to Daren Zigich at NMED during the public comment period. He read that letter so as to capture it in the public record.

October 25, 2013

Daren Zigich NMED Air Quality Bureau 525 Camino de los Marquez, Suite 1 Santa Fe, NM 87505

Dear Mr. Zigich,

I understand you are now accepting public comments related to Intel's new air pollution permit now that the factories in nearby Rio Rancho are now considered major polluters for green house gases. It concerns me that it has taken many, many years for the State of New Mexico to come to this conclusion. It is clear to all of us who live in Corrales that Intel has been an unregulated and uncontrolled polluter of our air for many years. Intel uses many solvents to clean its microchips and is allowed by the State of New Mexico to release these solvents into our air with few and inadequate controls. In fact, they are allowed to monitor themselves and repot to the state on what they have found.

I think that this is unacceptable. I moved to this area in 1999 and before moving here I had no health problems. However, I have since developed asthma and other breathing problems. I am sure I cannot prove that whatever I have is caused by Intel pollutants, although I am sure that is the case. Many people in Corrales have developed similar or worse problems and this has been reported to the State many times. The State promises to look into it but doesn't. Clearly the jobs Intel brings to the state are considered to be more important than the health of its residents.

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

I think the State needs to do the right thing for its residents. That is to require that Intel install the most up to date and efficient filters and other controls for its effluent. The State should monitor Intel's emissions itself rather than rely on Intel to self-police. Thank you for considering my comments.

Sincerely,

Alfred L. Salas Corrales, NM

Mr. O'Mara said he brought this letter to the attention of the CEWG to show that there were still people in the community who had concerns about Intel emissions. John Bartlit asked if he could be pointed to information the CEWG had developed. Mr. O'Mara said he had invited him to CEWG meetings but would talk to him again.

### EHS REPORT AND EPA 114 UPDATE

Sarah Chavez said she had nothing to report on Environmental Protection Agency (EPA) 114 report. On the EHS report, there was very little activity to report. Intel did not receive any calls, and Intel provided regulatory agencies with requested information as noted on the EHS Report. John Bartlit added that Peter Kowalski was aware of the stalled EPA 114 process; he had wanted to know the status to include in his report.

- Sarah Chavez said that as part of Title V permit process, the EPA was given the opportunity to comment on Intel's Title V permit application. NMED confirmed that the EPA had seen the permit application but they had not received a comment from the EPA.
- Lynne Kinis said she would like feedback on the water reclamation study and the storm water issue because her community was affected by the water flow. Sarah Chavez said she had no other updates since their previous discussion. Intel had studied the issue and provided information to the neighbors to submit claims on damage. That was the last communication on the matter. Ms. Kinis said TLC—her condo community—had not received any communication from Intel. Lynne Kinis said she would give Ms. Chavez the TLC contact information to follow up with.

**ACTION ITEM**: Lynne Kinis will provide Sarah Chavez with TLC's contact information.

Sarah Chavez will pass the contact information on to someone at Intel to follow up with TLC.

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

• Lynne Kinis asked if there was a reason why ABCWUA was listed two days in a row. Sarah Chavez replied that Intel had submitted information two days in a row to ABCWUA, and that they were not on site.

#### CODE RED UPDATE

Dennis O'Mara said one of the Code Red report recommendations was to conduct community education around the Code Red system, how it operated, and how to enroll. The previous three-person committee was now a two-person committee. Lane Kirkpatrick resigned because he was traveling for a long period. The committee invited Natasha Martell of Intel to join them, and they were awaiting her response.

- Dennis O'Mara said Sandoval County was large geographically, and there were many emergency response system elements he did not know about. Hopefully, Natasha Martell would be willing to help get approval from high-level county officials of their efforts. The Code Red Committee wanted to make sure they did not interfere with emergency response work. Mr. O'Mara said the reason the committee looked into Code Red was concern around available resources to inform the community should there be an emergency incident at Intel. The committee was concerned about Intel's internal emergency processes, at what point they would call the public emergency response team and the extent to which Intel would call 911 in a timely manner, so that the emergency response was effective rather than too late.
- Dennis O'Mara shared with the group information on timing that he pulled from the Intel Chandler Plant incident in June 2013. The accident occurred on June 29. The previous day there were two odor reports in the same area the accident occurred. In-house investigations did not indicate any reasons for the odors. At 5:51 am the morning of the accident, there was another odor report. At 6:09 am internal emergency response team arrived, and they were told about workers with symptoms. At 6:15 am, the occupational health nurse arrived and determined to call 911 for emergency medical services. At 6:24 am, they identified the source of the problem. At 6:36 am the Chandler Fire Department arrived. Therefore, it was 45 minutes from the odor report time to when the emergency medical services arrived; 21 minutes from the time the Occupational nurse made the decision to call for outside assistance. The Chandler Fire Department said they arrived at the site in less than 4 minutes after dispatch. Therefore, there was a lengthy amount of time between the decision to call and when the actual call was made, which raises concern about length of time for Intel to work through their internal protocol before calling for public emergency medical assistance. Mr. O'Mara said this took valuable time away from Code Red response. An after-incident critique with the local health department said that improvements were identified and implemented. Mr. O'Mara was wondering what these improvements were and was still trying to get hold of the Chandler incident officer to

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

learn more. He said there were valuable lessons learned from the Chandler incident that could be shared with other Intel offices

- Dennis O'Mara said there were still questions around how Intel handled the Chandler incident and how they shared it with other Intel facilities. He said he would send Mark Bennett a note about following up on obtaining additional response from Intel. Sarah Chavez said she had some information she could share at a next meeting.
- Lynne Kinis added that they wanted to learn how the community could be certain that they would be contacted in the event of an emergency. For example, if there was a chemical spill at Intel, many residents live on streets with no outlets, so quick Code Red timing was critical.

**ACTION ITEMS**: Dennis O'Mara will send Mark Bennett a note about next steps on Code Red.

Sarah Chavez will share some information about Intel's emergency response process and Chandler at the next meeting.

# CODE RED FOLLOW UP—OVERVIEW AND DISCUSSION OF EPCRA, CERCLA

Presentation by Cassie Roberts, Environmental Engineer at Intel

Cassie Roberts, Environmental Engineer at Intel, presented on the Emergency Planning and Community Right-to-Know Act (EPCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Please refer to the attached slide presentation for more information.

• Ms. Roberts began her presentation with a high level overview of Intel's regulatory process (slide 1). Intel was required to comply with the following regulations: 1. Stormwater Regulations: (Clean Water Act (CWA), Albuquerque Metropolitan Area Flood Control Authority (AMAFCA), Southern Sandoval County Area Flood Control Authority (SSCAFCA); 2. Air Regulations: Clean Air Act (CAA), New Mexico Air Regulations; 3. Hazardous Waste Regulations: Resource Conservation and Recovery Act (RCRA), Toxic Substance Control Act (TSCA), New Mexico Hazardous Waste Regulations, New Mexico Solid Waste Regulations; 4. Wastewater Regulations: Clean Water Act (CWA), City of Albuquerque Regulations, New Mexico Surface Water Quality Regulations, Isleta Water Regulations; 5. Spills and Chemical Releases: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Emergency Planning and Community Right to Know Act (EPCRA), New Mexico Water Quality Control Commission (WQCC) Regulations. Slide 1 was first presented to the CEWG in 2009.

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

- In slide 2, Ms. Roberts explained Emergency Planning and Community Right to Know Act (ERPCRA). This act addressed the importance of responding to chemical emergencies and had nothing to do with accident prevention. Its purpose was to increase public awareness regarding chemicals, chemical hazards, and response plans for chemical hazards, and made it possible for first responders, facilities, and the public to be involved in the emergency preparedness process.
- Cassie Roberts said EPCRA's four major provisions were (slide 3): 1. Emergency planning; 2. Emergency release notification; 3. Hazardous chemical storage reporting requirements (Community Right-to-Know); and 4. Toxic chemical release inventory. The first provision established the basis for creating local and state emergency planning and response commissions and required facilities using listed chemicals above a certain thresholds to report those once brought onsite. Thresholds change from list to list, and lists changed based on the regulation.
- In slide 4, Ms. Roberts gave more details on emergency release notifications. Facilities must immediately notify local and state emergency planning commissions if listed chemical released in quantity were greater than the minimum reportable quantity. The regulation included a list of chemicals and defined the threshold for each listed chemical. Ms. Roberts continued that notification must include the chemical name, time and duration of release, media affected, and nature of hazard (slide 5). Written notification as follow-up occurred "as soon as is practicable."
- With slide 6, Ms. Roberts explained how Intel complied with required notification. When an event occurred, security and the site emergency response team were notified for assessment, mitigation and containment. They also determined if they needed to call in outside emergency response (fire departments, emergency medical response). Next, the internal notification chain began. EHS manager coordinated with appropriate parties to determine if regulatory reporting was required (listed chemical released greater than the threshold). Intel was obligated to report to the National Response Center (NRC), state emergency response (SERC) and local emergency planning commissions (LEPC). Sarah Chavez said it was similar to how the Chandler event was handled by a team of people.
- In slide 7, Ms. Roberts explained the community right-to-know. Facilities using chemicals above the listed thresholds must provide material safety data sheets (MSDSs) or list MSDS chemicals to the state and local emergency planning commissions and the local fire department. Covered facilities must submit Tier I or Tier II reports to the LEPC, SERC, and fire department annually

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

- Ms. Roberts detailed how Intel complied with community-right-to-know in slide 8. Intel NM provided the LEPC, SERC, and local fire department with MSDSs of chemicals used above the listed thresholds. The federal requirement necessitated Intel NM to submit an annual Tier II report for those chemicals above the listed thresholds. The report also listed chemicals stored onsite and their storage locations. The State (NMED) required Intel NM to submit quarterly updates when the quantity of listed chemicals stored above the threshold levels onsite changed. If there were no changes in quantity, then no updates to the State were necessary.
- Ms. Roberts discussed the toxic chemical release inventory (TRI) in slide 9. The
  regulation included a list of chemicals and defined the threshold for each listed chemical.
  The EPA maintained a public database with this information. Firms must annually
  quantify toxic chemical releases (including permitted releases) into air, water and land.
  Certain criteria existed for having to report TRI data, and Intel NM was a covered facility.
- Ms. Roberts said that based on chemicals that exceeded the thresholds, Intel NM complied by reporting annually (slide 10): how each reportable chemical was used; an estimate of the maximum amounts of regulated chemical present at the facility at any time during the year; quantity entering different media; off-site locations where regulated chemicals were shipped; waste treatment/disposal methods; and information on source reduction, recycling, and treatment.
- Ms. Roberts looked at CERCLA in slide 11. CERCLA established provisions and requirements for closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous wastes at these sites; established a trust fund to provide for cleanup when no responsible party could be identified; and listed response actions such as short-term removals (releases or contamination requiring prompt response) and long-term removals (remediation occurred over time; contamination not immediately dangerous to life or health). Ms. Roberts discussed how CERCLA affected Intel NM in slide 12,. Intel NM was required to report spills of chemicals that were above threshold quantities considered hazardous chemicals under CERCLA, and there was some overlap with the EPCRA list.
- John Bartlit asked how to access EPA's public database. Jeff Rudnik said to go to the EPA Web site and type in inventory. It would bring up a map of the USA, and each organization and their chemicals stored were listed. Intel NM reported 10 chemicals last year. Roberta King asked if she could get a copy of Cassie Roberts' presentation. Sarah Chavez said she would send her a hard copy of the presentation.

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

• Dennis O'Mara asked what "threshold" meant. Cassie Roberts said it was different for each list and determined within the regulations, but it was basically the minimum quantity stored onsite or used annually. Once that quantity was hit then an organization was obligated to report on it.

**ACTION ITEMS**: Sarah Chavez will send Roberta King a hard copy of Cassie Roberts' presentation.

<u>Presentation by Daniela Bowman, Hazmat Coordinator NM Department of Homeland Security and Emergency Management</u>

Daniela Bowman, Hazmat Coordinator NM Department of Homeland Security and Emergency Management, gave a presentation on the Emergency Planning and Community Right-to-Know Act (EPCRA) from the perspective the State of New Mexico. She said the purpose of EPCRA was in its name: "the community-right-to-know".

- Daniela Bowman said if the CEWG or any citizen wanted to request an EPCRA report on any facility, they could go directly to her, the facility or to any state or local emergency response committees. There were different stages in emergency management, the most important being mitigation and prevention. "Mitigation" referred to lessening the effects of an accident or emergency, and this was where an entity, either local or facility, developed plans to lessen the effects of an accident. The facility had the most responsibility. The community of jurisdiction was also involved. In the case of Intel, the response jurisdiction was Rio Rancho.
- Daniela Bowman said with emergency preparedness, many different agencies and first responders (fire, ambulance, police, etc) were involved at the federal, state and local levels. The State agency was divided into bureaus, for example, the Preparedness Bureau, the Response and Recovery Bureau, and the Intelligence Bureau (Homeland Security).
- Ms. Bowman said the State adopted all regulations from the federal Emergency Planning and Community Right-to-Know Act (EPCRA), with the only difference being that the State was fined for not reporting on time. The State Emergency Response Commission (SERC) consisted of seven members appointed by the governor. Their purpose was to oversee the EPCRA program at the state level, Local Emergency Preparedness Committees (LEPCs), procedures, forms, running programs, grants, etc. In New Mexico, historically SERC did not oversee the HAZMAT program. Also New Mexico's SERC had not adopted specific directions around overseeing the LEPCs but left it more to the locals. Current SERC members were appointed as of July 2013. In some states such as Arizona and Nevada, the SERC was very powerful.

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

- Ms. Bowman said Local Emergency Preparedness Committees (LEPCs) were local organizations that dealt with emergency preparedness at the local level (city, town, county, parishes, etc). In New Mexico, LEPCs were formed by county. For rural counties, the State encouraged two-to-three counties to combine to form an LEPC. Currently there were 17 active LEPCs, and 36 counties in New Mexico; thus, there were many LEPCs that were not active or yet formed. David Bourbon had been steering Sandoval County's LEPC efforts. Doña Ana County had a strong LEPC with wideranging membership that they encouraged with many social events. Members determined an LEPC's purpose, goals, and work. New Mexico did not have rigid requirements for LEPC membership or work. LEPCs were self-governing entities.
- John Bartlit noted answers to questions on the second page of Ms. Bowman's handout. Mr. Bartlit submitted those questions, which he had heard asked often at CEWG meetings. For the record, there was no time to discuss these questions/answers during the presentation.
- Sarah Chavez said there used to be an active LEPC in Sandoval County, but it was abandoned because of lack of interest. Dave Bourbon said he would look into reactivating the group.
- Lynne Kinis said a couple years ago two drunken men shot out streetlights on Intel's property. She became upset because it could have been a different picture. The shooters could have hit a storage tank causing a spill that affected the lives of community members immediately down hill. Ms. Kinis had asked what Homeland Security had in place in these kinds of scenarios. She was interested in the role Ms. Bowman's organization might have with protecting the community. Ms. Bowman responded that local government had jurisdiction and first responsibility to the community. She had found a Mitigation Plan on Sandoval County's Web site dated 2004. She suggested putting pressure on Sandoval County to update the plan. Intel was identified as one of the top three highest risk facilities around terrorism.

**ACTION ITEM:** Mark Bennett will contact Daniela Bowman to get Sandoval County's Mitigation Plan in electronic form to distribute to the group as well as other important documents noted in Ms. Bowman's presentation, including the hazardous chemical list.

• Daniela Bowman said the Comprehensive Emergency Response Plan (ERP) was prepared by the LEPC in jurisdiction as dictated by law. The State had grant money available to assist LEPCs with developing an ERP, and Ms. Bowman was in charge of administering these grants. The fiscal agent needed to be local government. She had the funds but few

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

applied for funding. She emphasized that it was good to have a plan that devised an efficient response during emergencies.

- Sarah Chavez said Intel regularly met with Rio Rancho and Sandoval County responders to conduct drills specific to Intel. Lynne Kinis added that the community could not depend on Intel calling for outside assistance in a timely manner. She noted that Intel did not call regarding the shooters; someone in her community did. She recognized Intel was well organized internally, but she was concerned with the safety of people outside the plant. Sarah Chavez reminded it was not Intel's responsibility to contact the community but the emergency responders. Ms. Kinis replied that she did not believe that Intel would call emergency response quick enough to meet community needs.
- Daniela Bowman discussed specifics in EPCRA. Section 302 was concerned with hazardous materials and extremely hazardous substances; hazardous materials were defined by what OSHA considered hazardous. Every time Intel got a new EHS, they were required to notify Ms Bowman within 60 days as well as notify the local LEPC. Citizens could approach LEPCs to request this information. If no LEPC existed, then citizens could go directly to Ms. Bowman for the information on Intel. The law stipulated that citizens could ask for information on chemicals below threshold, and they always get information on chemicals above threshold. Also, citizens could sue a facility for withholding information. Facilities were fined \$25,000/day for withholding information, so they were unlikely to withhold information. Ms. Bowman had a complete list of chemicals and their thresholds, which was also available as a pdf file.
- Daniela Bowman said EPCRA's Section 304 was concerned with chemical emissions. If a chemical was emitted above a certain threshold, then the facility had to report it within 24 hours. CERCLA chemicals were part of this list, which was accessible to the public. EPCRA's Section 311 concerned material safety data sheets (MSDS), which contained information on health effects of certain chemicals, among other information. Tier II reports were submitted to SERC and the Hazmat Coordinator (Ms. Bowman) and LEPCs. Ms. Bowman said they were not concerned with Tier 1, only Tier II. These reports often contained important information that first responders needed to be aware of.
- Daniela Bowman said EPCRA's Section 313 discussed the Toxic Release Inventory. This
  was an inventory of chemicals that were emitted over an entire year. The report was listed
  by codes, so was difficult to read. Ms. Bowman had information on how to read codes,
  and it was important to know these codes. She said she had the ability to share many
  different plans and reports with the CEWG. Also, the EPA had a free program available
  about different hazardous chemicals called Canyon Suite. This program was easy to use
  and very useful.

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

 Daniela Bowman wrapped up by saying it was commendable for the CEWG to be involved. They should focus on leaning more, inviting speakers, dialoging with Intel, and putting together an LEPC. She said she was available to return to a CEWG meeting and do more focused presentations.

### RESPONSE TO QUESTIONS ABOUT MODELING

Mike Williams gave a presentation in response to questions about his HF modeling project.

- Mike Williams said one question that came up was around longer-term HF averages. He compared 2012 data for one hour, 24 hours and 2012 annual. The highest one-hour figure was  $7.5 \,\mu\text{g/m}^3$ , which translated to  $.40 \,\mu\text{g/m}^3$  24-hour period, and  $.025 \,\mu\text{g/m}^3$  annual. He continued to present the estimates, including a dispersion graphic (see attached slide presentation). He said his modeling did not answer the question about long-term danger.
- Mike Williams said the second question was about the role of precipitation (rain or snow) in air dispersion. Storms brought in neutral or unstable atmospheric stability, which enhanced the vertical spread of plume and reduced ground-level concentrations. Rain or snow collected soluble gases and deposited them on the ground, which reduced air concentrations. Mr. Williams said scrubbers simulated rainfall. Clouds tops cooled the air so that it sinks and causes air next to the surface to mix upward during nighttime conditions, which created eddies that mixed air rapidly. Mr. Williams said he did not know the health effects of being in a fog or smog that had absorbed the particles, but he worried about it due to having asthma. He had no way to address this because he was not a toxicology expert.
- Sarah Chavez asked if Mr. Williams' model, which used a full year of meteorological data, accounted for rain and snow. Mr. Williams replied yes, but it didn't say how much, and it rarely rained in New Mexico
- John Bartlit said except for fog issue, the rain and snow removed particles from the air. Dennis O'Mara questioned how this would contaminate the ground over time. Mike Williams said that usually involved enormous quantities, which was not the case here.
- Mark Bennett asked what remained to be done in HF modeling. Mike Williams replied that he could rerun the data using a beta model, however he didn't expect it would change outcomes very much. If they wanted to run the tracer comparison, he would need assistance. Mr. Williams said he was uncertain if this data would be ready for the next CEWG meeting.

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG

**ACTION ITEM**: Mike Williams will inform the agenda committee of his beta modeling timing.

# PREPARING FOR CRAIG TAYLOR PRESENTATION ON SUPERCRITICAL CARBON DIOXIDE RESIST REMOVAL (SCORR)

John Bartlit reported Craig Taylor would be happy to come to a CEWG meeting to talk about SCORR. The CEWG should develop questions for him to address. He asked the group to send a list of questions to Mark Bennett so he could send them to Mr. Taylor. Mr. Bennett said he would compile the information on SCORR from previous CEWG meetings and send to the group to think about and develop follow up questions.

**ACTION ITEMS**: Mark Bennett will send compiled SCORR information within the next week.

- John Bartlit said Mr. Taylor didn't really work in this field anymore, but he still followed it. He reported that Mr. Taylor thought it was good timing to talk about SCORR, as industries changed their processes as computer chips got smaller and smaller. Mr. Bartlit said he wanted Mr. Taylor to discuss what parts of Intel's operations the supercritical CO2 process would change if it were used here. Dennis O'Mara said that an article mentioned it would be reduced by 10, and he would search for this article to share with the group.
- Sarah Chavez said Intel would do another orientation meeting for new members Dennis O'Mara and Robi Shields, but everyone was invited. It would be a refresher on what the CEWG talked about since 2004. The goal was to do it before the next CEWG meeting.

### **MEETING ADJOURNED**

### **NEXT MEETING**

February 19, 2014, 5 to 7 p.m., Corrales Senior Center

Filename: CEWG Draft Meeting Summary 1-22-14 ver 2.doc. Approved: [not approved]

Prepared or presented by: CJ Ondek & Mark Bennett

Prepared for: CEWG