

MEETING SUMMARY

Community Environmental Working Group

“Striving for Continuous Environmental Improvements at Intel”

Date: April 19, 2017
Time: 5:15–7:00 p.m.
Location: Corrales Senior Center

Members Attending

John Bartlit, NM Citizens for Clean Air & Water
Mike Williams, NM Citizens for Clean Air & Water

Hugh Church, American Lung Assc. in NM
Sarah Chavez, Intel
Dennis O’Mara, Corrales resident, Corrales Residents for Clean Air and Water (CRCAW)

Non-Members Attending

Ron Eppes, Intel

Charna Lefton, Interested citizen

Facilitator

Shannon Beaucaire, Facilitator

CJ Ondek, Recorder

HANDOUTS

- CEWG Draft Agenda
- Draft Meeting Summary, March 2017
- Action-Item Progress Report
- EHS Activity Report
- Rio Rancho Email

PROPOSED AGENDA

Welcome, Introductions,
Announcements and Brief Items
Standing Agenda Items
Action Item Progress Report

Event Opportunities
Mike Williams’ Interesting Questions
Additional Business
Adjourn

WELCOME, INTRODUCTIONS, ANNOUNCEMENTS, AND BRIEF ITEMS

John Bartlit opened the meeting by referring to the CEWG mission, which was to make environmental improvements at Intel, reduce chemical emissions at Intel, and improve community dialogue. Introductions were made.

Filename: 2017-04-19 CEWG Final Meeting_Summary.docx. Approved: May 17, 2017 Prepared or presented by: CJ Ondek & Shannon Beaucaire Prepared for: CEWG Date prepared or presented: April 24, 2017
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Agenda—Revisions and Approval

No comment.

Meeting Summaries—Revisions and Approval

No comment.

Other Announcements

Dennis O'Mara said he attended the Local Emergency Planning Committee meeting on April 12 at the National Guard Armory in Rio Rancho. Sarah Chavez said she also attended the meeting because Intel was giving a presentation.

Mr. O'Mara said the host organization, the National Guard, was prepared to respond to major emergencies, weapons of mass destruction events, terrorist attacks, etc. The person presenting on behalf of the National Guard shared their mission and said they were prepared for major emergencies, weapons of mass destruction and attacks. These were full time active duty military. One of their messages was that they were here for everyone in the community, and their services were available to public emergency response organizations because they are already federally funded. Attendees received a tour of the facility and equipment, which Mr. O'Mara said was "amazing." The National Guard could respond to emergencies within an hour, and a full response within three hours. An example of a full response was last year, when a person in Taos committed suicide using rat poison mixed with another chemical. The combination of these two substances created a highly toxic chemical that was gassing off the body. People had to evacuate and the National Guard staff had to decontaminate the entire area.

Mr. O'Mara said he did not know the degree of coordination between the National Guard unit and local /county emergency response organizations, but many of them were present at the meeting. He said the National Guard presenter also attended the previous Emergency Planning Committee meeting.

Mr. O'Mara said Chief Bervin gave an update on the Sandoval County Emergency Management Web site, where the Family Emergency Preparation Guide was located. Jeff Kinley, the emergency manager at Intel, gave a presentation on Intel's emergency management structure. Mr. O'Mara said he commented at the meeting that the presentation did not included any information about how the nearby community would be protected if a serious accident occurred. He expressed concern that Intel might not notify Rio Rancho's emergency management center in a timely way when an emergency occurred, and therefore would prevent authorities from deciding whether or not to notify community members to shelter in place or evacuate. In essence, he said Intel staff were thus making a decision that is not theirs to make. Mr. O'Mara said he offered as an example the 2014 leak of hydrochloric acid at Intel which was not reported to the Rio Ranch emergency response authorities. A state police officer asked about the leak and

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said the amount, about 200 gallons, was not significant. Mr. O'Mara then looked up information on his cell phone and found an article that said any amount of hydrochloric acid leak was a potential hazard because the impact of HCl fumes on health is not fully understood. He made this point at the meeting, and no one responded. Another topic discussed at the meeting was Code Red. Sandoval County will soon test the Code Red system. The test will include a non-emergency message describing the Code Red system and how it works as well as information regarding the availability of the Family Emergency Preparation Guide on the Sandoval County web site. Mike Williams asked about a nuclear and biological attack. Mr. O'Mara said they had a mini-public health laboratory to assist with these kinds of attacks. There were certain things they could do, at least to a point, to get a quick, initial read on situations. They seemed to have a vehicle for everything. Ms. Chavez added that they had 22 fulltime Hazmat staff, and that they coordinated with Rio Rancho and Sandoval county, worked with different agencies around the state, and provided trainings. They were responsible for a large area of the state, up toward Farmington. They also collaborated with similar groups in other states in the region. Mr. O'Mara said the National Guard was prepared to decontaminate their own people and emergency response people. They looked elsewhere for decontamination services for a broader population so they could focus on their primary mission. .

John Bartlit asked if it made any sense to invite them to a CEWG meeting to present? Mr. O'Mara said the primary presenter was a sergeant named Jeremy Jackson, and he might be willing to present at a CEWG meeting. Mr. Bartlit said they should make the effort to invite the community to learn about this resource. Mr. O'Mara said he would contact Sgt. Jackson and ask him if he would be willing to make a similar presentation at a future CEWG meeting.

ACTION ITEM: Dennis O'Mara will invite Sgt. Jackson to present at a future CEWG meeting.

Mr. O'Mara said the next Local Emergency Planning Committee meeting was July 12, and noted that Dr. Smolinske did not attend this most recent meeting.

Dennis O'Mara said he had asked two meetings ago if the local Emergency Planning Committee was meeting the requirements established by legislation. There are four basic required elements: 1. Write emergency plans to protect the public from chemical accidents; 2. Establish procedures to warn and, if necessary, evacuate the public in case of emergency; 3. Provide citizens and local governments with information on hazardous chemicals and accidental releases of chemicals in their communities; and 4. Assist in the preparation of public reports on annual release of toxic chemicals into the air, water, and soil.. He was told that he could go onto the Web and look at existing plans. Mr. O'Mara said he started looking at these plans and first encountered a broad plan, about 140 pages long, which didn't have specifics. The specifics were in the, annexes and this information is considered confidential. Chief Bervin gave Mr. O'Mara a copy of the

annex titled “Hazardous Materials “to review and discuss at the next meeting. Mr. O’Mara said that Sandoval County staff do not want to make the annexes public because they don’t want to provide any bad actors with advance information about how they would respond to specific incidents.

Public Comment

No comment.

STANDING AGENDA ITEMS

EHS Report

Sarah Chavez said the EHS Report contained a list of the standard reports Intel submitted this time of year.

Dennis O’Mara asked about how the Emergency Response Contingency Plan Distribution and Update got distributed. Ms. Chavez said regulations specifically identified 12 different agencies that must receive a copy of Intel’s Emergency Response Contingency Plan. She offered to send the list of agencies to anyone who wanted it. John Bartlit asked if the National Guard was one of the agencies. Ms. Chavez said the National Guard did not work directly with Intel but with other government agencies, who then worked with Intel.

Ms. Chavez said the Contingency Plan was required by hazardous waste regulations. The plan must explain who the emergency coordinator was, how they would respond to an incident, how they would evacuate personnel from the facility, local first responder coordination, etc. The plan was an outline on how they would respond to an incident and included onsite equipment. Jeff Kinley and Bryan Burroughs were listed as coordinators. The plan described what happened in case of an event and how Intel would respond in a high-level way. The plan was 14 pages long.

Regulatory Engineering Update

Sarah Chavez said there was no update.

UNM Cancer Study

Dennis O’Mara said there was no update.

REVIEW ACTION ITEM PROGRESS REPORT

Shannon Beaucaire said she was moving forward with organizing documents. She found some missing folders, and was missing 2011 January through April meeting summaries. She began scanning and uploading the documents.

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Sarah Chavez reported on #8. She said Dr. Fisher had a meeting scheduled with Dr. Kesler at the end of the month, and he agreed to ask her to respond to the CEWG's request.

Sarah Chavez said Ann Kelleher had not yet responded to the CEWG's email request about the award. In the meantime, Intel NM discussed how to promote the CEWG's award request within Intel's existing award structure. Mindy Koch sent an email memo to Intel NM and Intel worldwide about Intel's Environmental Excellence Award Nominations that included CEWG's interest in reducing HAPs emissions. The hope was to prompt employees to focus on something for next year since the deadline for this year was April 28. The Environmental Excellence Award recognized employees with outstanding achievement, and employees from all over the world applied. There was a cash award associated with it, but she didn't know the amount. The intent behind the memo was to get the message out there and let Intel employees know about the CEWG's interest in reducing HAPs.

John Bartlit said he thought this email memo effort was useful, but he did not want anyone to get the idea that this effort closed CEWG's request for an award. Ms. Chavez said that Mindy Koch and Liz Shipley had done everything they could to get a response from Ann Kelleher.

Dennis O'Mara said he was disappointed that Ann Kelleher had not yet responded. The CEWG communicated with her in January, so four months have gone by without a response. He felt that Intel was not going to give a response and just wanted the request to go away. He said the CEWG must not just let it "go away." He believed it was a powerful approach to get the intellectual capacity of Intel to focus on HAPs emissions reduction. If the powers at Intel do not want to implement CEWG's proposal, they should at least have the courtesy to so indicate.

John Bartlit said he agreed with Mr. O'Mara's position, but there wasn't much the CEWG could do. He did not think the CEWG even had the power to insist on a response. He said he appreciated Mindy Koch's email, but it did not close the issue of the CEWG's award proposal. Dennis O'Mara said the email memo was Intel's attempt to substitute one thing for another—a ruse. Mr. Bartlit said he did not think the email memo was a ruse. The memo explains the weak point in HAPs regulations.

Dennis O'Mara suggested writing Ann Kelleher again. John Bartlit said they could send a polite email reminder. Sarah Chavez said she didn't think it would hurt, nor did she know if it would help. Mr. Bartlit said he would draft a short reminder and send via email for approval.

ACTION ITEM: John Bartlit will draft a polite reminder email note to Ann Kelleher and send it around for approval. Shannon Beaucaire will send the finalized email before the next meeting.

EVENT OPPORTUNITIES

Shannon Beaucaire said Dana Sharp, a student at University of New Mexico, emailed her inviting the CEWG to participate in her capstone sustainability project, the Rio Rancho Sustainability Expo, held April 8. Specifically, she requested that the CEWG have a table with information on its work. Ms. Beaucaire said the email was too short a notice to get an educational handout together, but she asked the group if they would like to pursue developing an information sheet, or other ideas, for future opportunities.

John Bartlit suggested having a handout or computer set up with the CEWG Web site, but the notice was too short. He suggested developing something for the future.

Sarah Chavez said her thought was to create a one-to-two-page handout that addressed who the CEWG was and what they did by using existing information. She looked at the first page of the Web site, and came up with these suggestions: the mission statement, the most relevant accomplishments, and updating John Bartlit's short introduction memo, "A Message from the Acting Chair," that talked about what the group did. He wrote it in 2011. She suggested updating this letter annually might be useful. Also, they could use part of Carolyn O'Mara's graphic artwork in the CEWG advertisement, and talk about how the group worked, which was listed in the meeting guidelines, and included their commitment to open dialogue.

John Bartlit said they could use this kind of document for other things, such as recruiting more members. Shannon Beaucaire said she would email Sarah Chavez's draft to the group for their comments. Dennis O'Mara said he would ask his wife Carolyn to look at it from a design perspective.

- ACTION ITEM:**
1. Shannon Beaucaire will email Sarah Chavez's draft for group comments.
 2. Dennis O'Mara will ask his wife Carolyn to look at the document from a design perspective.

MIKE WILLIAM'S INTERESTING QUESTIONS

Mike Williams gave a slide presentation update on his list of interesting questions. In the first slide, Mr. Williams presented the full list of interesting questions. Then he proceeded to provide an update on each question in subsequent slides.

Question 1: *Significance of HNO₃ emissions.*

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What fraction of the nitric acid concentration in the ambient air is likely to be associated with Intel's emissions? Is that fraction considered significant as defined by EPA?

Mr. Williams said he had not fully addressed this question, but found that HNO₃ emissions were not considered significant enough to be included in the toxic release inventory.

Dennis O'Mara asked if this conclusion was based on further analysis on his part or conversations with experts. Mr. Williams said it was based on his own analysis.

Question 2: Are the screening levels previously suggested by ATSDR appropriate for HF?

ATSDR person concluded that the levels were appropriate

Ms. Stephanie Heath of the Texas Commission on Environmental Quality Air Permits Division (responding to Dr. Jong-Song Lee) stated that only gaseous HF emissions would be expected, so that the levels were appropriate

We had no response from Dr. Jonathan Samet

We had not heard back from Dr. Smolinske

We had not heard back from the scrubber vendor on the form of the HF released by the scrubbers

How efficient were the mist eliminators TCEQ was relying on?

Was all the HF deposition in the upper respiratory system?

For background to this question, Mr. Williams said he was worried about droplets showing up in Intel's scrubbers. He had looked into mist eliminators, and the most sophisticated ones had trouble with small droplets. He said mist clouds could be seen coming out of Intel's scrubbers on cold winter days with high relative humidity.

Dennis O'Mara asked if Intel scrubbers had mist eliminators. Sarah Chavez said yes. Mike Williams said he did not know what form of mist eliminator Intel had, so that would be another question. Mr. Bartlit asked if information on the mist eliminators was part of the question, and if not, could it be. Ms. Chavez said it was not part of the question. Mr. Williams reminded that the question was "in what form was HF coming out of the scrubbers."

Mr. O'Mara asked whether the vendor who had sold scrubbers to Intel had responded. Mr. Williams said the vendor needed approval from Intel to respond. Sarah Chavez said that the approval had to come through the Oregon site, and she was working on it. Answering a question from a community group was not a priority for Oregon, as they were busy doing work involving other sites. Ms. Chavez said she continued to follow up monthly with them, but it could take another six months, since they were busy installing equipment at other sites, etc. Dennis O'Mara added that the CEWG was not just any community group, but one that Intel sponsored. Ms. Chavez said they understood who the CEWG was. Mr. O'Mara said that it was a simple question, and if they hadn't replied yet it meant

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that they had no intention of ever replying. John Bartlit responded that it wasn't so simple; answers had to go through several channels.

Dennis O'Mara asked if there was anything on the Web that could answer this question. Mr. Williams said he hadn't looked specifically into it. Sarah Chavez reminded that they needed information specific to Intel's scrubbers, because they were designed for Intel's emissions.

On the question, "Was all the HF deposition in the upper respiratory system?" Hugh Church said if it was all gaseous, then it should be distributed throughout the entire lung and not trapped in the upper respiratory system. Mr. Williams said it was an issue of droplet size, and the droplet getting caught in the upper respiratory system. Also, for allergy sufferers, perhaps it went through the mouth, which was a different system altogether.

Mr. Williams said he was eager to get more input from experts on Question 2. Dennis O'Mara said he would contact Dr. Smolinske to remind her about responding to this question. He asked if he could get a copy of the email to Dr. Smolinske. He also asked if Dr. Smolinske was familiar with the ATSDR's response. Mr. Williams said no. Mr. O'Mara requested a copy of the ATSDR's response so he could convey it to Dr. Smolinske.

ACTION ITEM: Shannon Beaucaire will send a copy of Dr. Smolinske's email and the ATSDR's response to Question 2 to Dennis O'Mara.

Question 3: *What would it cost to substantially reduce HF emissions from the scrubbers?*

We haven't received a response from the scrubber manufacturer

Mr. Williams said he believed HF was probably the largest quantity of compounds found in Intel's emissions and therefore worth considering. Sarah Chavez said HF quantities actually fluctuated and varied.

Question 4: *Do other semiconductor manufacturing facilities have community complaints?*

Mr. Williams asked Dennis O'Mara if he had a chance to check into this question.

Mr. O'Mara said he did not recall being asked to look into this, and he was only aware of community concerns regarding Intel Oregon. He did not believe there were any organized community groups expressing concerns about emissions at Intel Arizona. He said there were obviously other semi-conductor facilities, but he had not read anything about them. John Bartlit brought up Eastman Kodak in Rochester, NY. Sarah Chavez said they didn't know anything about community complaints in Rochester. Mr. Williams concluded no progress was made on this question.

Question 5: *Does the pattern of HNO₃ and/or aldehyde concentrations in urban areas produce patterns consistent with the conditions of the complaints?*

High levels of heavier aldehydes were measured by the FTIR during the Corrales Air Quality study together with significant levels of HNO₃. The only aldehyde emitted by the Intel facility is formaldehyde produced by the boilers, which are not restricted to semiconductor manufacturing.

In response to our concerns about heavier aldehydes Roger McClellan pointed out that older diesel trucks were large emitters of heavy aldehydes and that new model trucks have much reduced aldehyde emissions because of regulations designed to reduce urban haze. McClellan provided papers by other investigators reporting aldehyde reductions exceeding 10 fold for the newer vehicles.

We no longer need to pursue the photochemical aldehyde issue.

Mike Williams explained that Roger McClellan responded to a meeting summary and explained that older diesel trucks were large emitters of heavy aldehydes, but now aldehyde emissions were reduced in newer model trucks because of regulations designed to reduce urban haze. Because of these changes, Mr. Williams said they no longer needed to pursue this issue.

Question 6: *The modeling indicates that the highest HF concentrations are expected on the east side during limited conditions. Community complaints occur under similar conditions. Can this relationship be made more precise?*

Mr. Williams said he had not made any progress on this problem

Mr. Williams said he needed to dig in to old data and see if he had enough information to address this problem

Hugh Church said that to get data for below 10 meters in height, the air quality bureau had a trailer below Intel with sensors that were 3 or 4 meters above the ground vs. the 30-meter tower. Mr. Church said Mr. Williams needed data closer to where people were located. Mike Williams recalled that the air quality station was put in recently, and the complaints were from 2003-04. Sarah Chavez said they didn't know if the data existed, as they had tried to get it in the past but it seemed to have disappeared.

Mr. Williams said he was also concerned about wind direction and wind data. Mr. Church suggested he speak with balloonists, since they understood how the air was stratified. Mr. Williams said the wind direction did not tell path of travel, and the air fluctuations were bigger than wind' there weren't good tools to measure this.

Mr. Church suggested that there were complex terrain models that addressed it; he didn't know if the models solved the problems, but they addressed them. Mr. Williams said one way to handle it was to use a large simulation model and run an enormous amount of scenarios.

Dennis O'Mara asked if many of the complaints were associated with dead calm-type weather. Mr. Williams said that was at nighttime, and it was the fluctuation and not so much the wind that was the issue.

Sarah Chavez asked if this type of modeling would produce higher results than the current regulatory models, which were very conservative and based on worse case scenarios, high emissions, worse wind conditions, modeling at the fence line, and were modeled every hour in a 24-hour period. Why was the modeling Mr. Williams talking about better?

Mr. Williams said this modeling would get better data for a particular time and place, but not necessarily show a higher value. The wind event would be linked better to a particular location. He was not saying that the current regulatory modeling was wrong. He added that they were not taking enough atmospheric measurements and therefore did not have enough atmospheric data to really answer the question.

Question 7: *Are there ambient monitoring techniques we could use to collect additional data on the HF concentrations in the community?*

Peter Kowalski provided an ATSDR response that they had no practical experience with ambient air monitoring for HF, but they did provide information about an occupational health monitoring system that could measure 5 micrograms of collected sample and might reach our area of interest with sufficiently large sample volumes

Mr. Williams needed to examine the references Mr. Kowalski supplied to see if they could help

Question 8: *Does modeling support any significance of wastewater plants or crematoriums as explanations for community complaints?*

Mr. Williams said this question was a low priority, and he did not make any progress on this task.

Dennis O'Mara said he did not think Mr. Williams should spend any time on this question, since he thought it irrelevant.

Next Mr. Williams summarized his list of questions as follows to wrap up the presentation:

Question 1: HNO₃—Probably not worth pursuing

- Question 2: HF levels—Awaiting further responses and needed further research
- Question 3: Scrubber costs—Awaiting response from scrubber vendor
- Question 4: Other Facilities—Needed Dennis O’Mara’s input
- Question 5: Aldehydes—Probably not worth pursuing
- Question 6: Complaint circumstances—Mr. Williams needed to examine data
- Question 7: Monitoring methods— Mr. Williams needed to follow up on suggestions
- Question 8: Wastewater, etc.—Low priority

Mr. Williams said he would provide another update in a couple of months.

ADDITIONAL BUSINESS

Shannon Beaucaire asked how the group felt about meeting frequency or meeting length, since a lot of the agenda items involved waiting for information. Mike Williams said he did not see a need to change. Dennis O’Mara said it was fine as it was. If they didn’t have an agenda that filled the entire time, then they adjourned early, and if they did, then they adjourned on schedule.

Sarah Chavez said the question was how should they fill the time if they were waiting for information. It was getting harder to come up with a monthly agenda. John Bartlit said things came up during meetings. Sarah Chavez asked if having monthly meetings was the right time frame based on the priority list and what the group was discussing. She suggested keeping this in mind throughout the summer.

Shannon Beaucaire said that for the month of May, they were waiting for information, and she was concerned that they would end at the Action Item Progress Report. She just wanted to check in with the group to see how they felt about it.

Dennis O’Mara said he had been very passive when it came to the agenda, and he would try to be more proactive and offer topics.

ADJOURN

NEXT MEETING: May 17, 2017, 5:15 to 7 pm, Corrales Senior Center.