

## MEETING SUMMARY

### Community Environmental Working Group

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#### *“Striving for Continuous Environmental Improvements at Intel”*

**Date:** October 16, 2013  
**Time:** 5:00–7:00 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  
 Robi Shields, Rio Rancho resident  
 Dennis O’Mara, Corrales resident  
 Lane Kirkpatrick, Corrales resident

#### **Non-Members Attending**

Lynne Kinis, Corrales resident  
 Natasha Martell, Intel  
 Phil Gasteyer, Mayor of Corrales

Paul Wade, Class One  
 Jane Dalgren, Corrales resident

#### **Facilitator**

Stephen Littlejohn, Facilitator

CJ Ondek, Recorder (in absentia)

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#### **HANDOUTS**

- Draft Agenda
- Draft Meeting Summary September 2013
- Action-Item Progress Report
- EHS Activity Reports
- Media reports and articles, as available
- CEWG Planning Update
- HF Preliminary Progress Report
- Code Red Report

#### **PROPOSED AGENDA**

- Welcome, Introductions, Announcements and Brief Items
- EHS Report, EPA 114 and Permit Updates
- Code Red Report
- HF Discussion
- Additional Business
- Adjourn

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**WELCOME, INTRODUCTIONS, ANNOUNCEMENTS, 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. Introductions were made.

Agenda—Revisions and Approval

No comments.

Meeting Summaries—Revisions and Approval

No comments.

Facilitator Recruitment Update

Sarah Chavez said Intel would interview five professional facilitators scheduled for the last two weeks of October. The goal was to hire someone by end of October, but they might not be available to attend the November meeting. If they had two candidates that met the criteria equally well, they would bring them back for a second interview. Stephen Littlejohn said the CEWG should be represented in the hiring and interview process, and he would be disappointed if they CEWG were not involved. Sarah Chavez agreed and said they would involve John Bartlit in the interview/hiring process. Mr. Littlejohn said it would be optimal to hire the new facilitator by the beginning of November so as to attend the November meeting, since he was unsure how substantive the December meeting would be. Ms. Chavez agreed. Mr. Littlejohn said he would work to prepare the new facilitator outside meeting time as well.

ATSDR Update

John Bartlit said he spoke by phone with the ATSDR's Peter Kowalski for about 30 minutes on October 11; Mr. Bartlit gave the following status:

- √ Mr. Kowalski was writing the ATSDR final report, which he expected to complete in one or two weeks.
- √ The draft report would include Mr. Kowalski's comments on the CEWG silica testing report and the NMDOH study of pulmonary fibrosis in Corrales.
- √ The draft report would next be reviewed in-house; Mr. Kowalski said it should not take long since it was considered high priority.
- √ After making small changes, the resulting draft would be sent to the EPA, NMED, and NMDOH, who would have a single three-week period in which to comment.
- √ Both the CEWG silica testing report and the NMDOH study of pulmonary fibrosis in Corrales will be reviewed externally (of the ATSDR), with most peer reviewers coming from academia and at least one from NIOSH. The external reviewers would NOT come from ATSDR or other government agencies (except NIOSH). When the external review would happen was uncertain.
- √ Mr. Kowalski would give another update on November 18.

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Mr. Bartlit said he would ask when the CEWG could see the comments. Lynne Kinis asked if the public would have access to the report comments from the EPA, NMED, and NMDOH. Mr. Bartlit said he would have to ask that question as well. Lane Kirkpatrick said he would like to stay involved and do as much as he could around this issue. Lynne Kinis suggested seeing Mr. Kowalski's report (with in-house comments) BEFORE it was sent to the EPA, NMED, and NMDOH for review. Mr. Bartlit said he would ask if this were possible.

#### NMED Public Comment

Stephen Littlejohn said the NMED 30-Day Public Comment period was now open. Sarah Chavez was unsure on the deadline to comment, but it was most likely toward the end of the month. She would check with the NMED permit writer, Darren Digich, on the closing date.

- Lynne Kinis asked about NMED's coming to talk at a CEWG meeting and if they would be having a public meeting. Sarah Chavez said no to both, and the way to comment was to call or submit written comments. Ms. Kinis said she had asked because in the past at previous permit events she was unsure if anyone had read her written comments. Ms. Chavez said she had heard that the NMED's standard operating procedure was to respond directly to written responses. Ms. Kinis restated that NMED never responded to her written comments, which was why she was in favor with a face-to-face meeting.
- Lynne Kinis next asked for a status on Jim Casciano, from the EIB, coming to speak at a CEWG meeting. Ms. Chavez said following up with this issue was on her to do list, and the CEWG needed to frame what they wanted Mr. Casciano to talk about, which would most likely be an explanation of the EIB. Ms. Kinis said she had attended EIB meetings in the past and felt they were political. Stephen Littlejohn recommended putting the issue on the backburner because there seemed to be little enthusiasm for it.

#### Miscellaneous Comment

Lane Kirkpatrick said his last meeting at the CEWG would be in December, and then he would be traveling and miss the next few months. He said he understood this would not be fair to the CEWG, so if they wanted him to resign he would.

#### Public Comment

None.

#### **EHS REPORT, EPA 114 UPDATE**

- Sarah Chavez pointed out that the event last month causing downtime in three thermal oxidizer units was listed in this month's EHS report. She reported that this month two neighbors had called in with odor complaints, including the neighbor who had called in last month saying that the odor had been occurring every day for 10 years at 7 am and

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again at 2 am. Ms. Chavez was able to go to the area described in one of the calls and experienced the wind blowing from a certain direction. She had not smelled anything. Ms. Chavez asked Lane Kirkpatrick if he were interested in following up with this neighbor, and he said he was.

- Ms. Chavez continued that two neighbors had called in regarding rainwater run off damage. Lynne Kinis asked what the engineering review, noted in the report, entailed around property damage complaints. Ms. Chavez said that Intel hired an engineering firm to come in to evaluate Intel's east slope to see if the current measures in place sufficiently met standard engineering requirements. They typically measured it against 100-year storm activity. The outcome was that Intel did meet these requirements. Ms. Chavez said she had learned that the idea of storm water management was not to contain all the storm water on the site, but to reduce the flow and minimize sediment. Ms. Kinis said in Corrales property owners were responsible for water flow not affecting their neighbors, and Intel was a neighbor.
- Ms. Chavez also mentioned, going back to the permit, there had been some media coverage on the Oregon site regarding fluoride emissions. Oregon had a different permitting process that required a different permit once a ton per year of fluoride was detected. In New Mexico, there was a toxic air pollution program that was based on a certain screening level for fluoride at a pound per hour. Intel in Rio Rancho was below that screening level. So New Mexico and Oregon were regulated differently. Ms. Chavez added that Intel in Rio Rancho was the only site in the US that had to do dispersion modeling.
- Ms. Chavez added the Intel had not heard from the EPA.

### **CODE RED REPORT**

Dennis O'Mara referred to the Code Red report compiled by the Code Red subcommittee and emphasized that it contained information and not data and was by no means scientific. The report contained information the subcommittee learned from meeting with first responders in various communities. Mr. O'Mara summarized the information contained in the report using a PowerPoint presentation.

- **Background:** Community members were concerned about a shooting incident that took place at the Intel campus. CEWG discussion about the incident broadened to include "what ifs" around potential accidents, natural disasters, terrorism, criminal acts, and concern over the quality of emergency management procedures to inform the community about potential hazards. Thus, the CEWG formed a subcommittee to look into Code Red and how it worked in the community and report back to the CEWG.

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- The subcommittee created an interview questionnaire and scheduled meetings with Sandoval County, City of Rio Rancho, the Village of Corrales, and Intel to conduct interviews around their Code Red systems. From these meetings the subcommittee compiled the findings.
- Code Red was a proprietary software program used throughout Sandoval County and operated by the Sandoval County Regional Emergency Communications Center from a secure/remote server. The Center's users paid for the service, and the center received 911 calls from throughout Sandoval County.
- Code Red worked by making a decision to send a message; formulating the message; targeting who would receive the message, and then transmitting the message to recipients.
- All landlines were automatically enrolled in the Code Red system. Individual citizens registered cell phone numbers and e-mail addresses, and emergency management encouraged citizens to periodically review and update their enrollment. The Corrales Fire Department used Twitter on occasions to transmit Code Red messages; Facebook offered another possibility. In addition, weather radios were automatically programmed to transmit messages.
- Mr. O'Mara said the subcommittee wanted to know how information about the Code Red system was shared with the community. The assistant chief at Sandoval County used public speaking engagements to promote Code Red. The Village of Corrales very actively promoted Code Red through ads in *Corrales Comment*, flyers in trash bills, handouts at Village events, information on the Village Web site, and registration forms at fire stations. The City of Rio Rancho did not indicate any Code Red promotional efforts.
- Mr. O'Mara said the subcommittee was impressed with their findings. All county and local municipal emergency operations systems appeared extremely well coordinated and integrated at all levels and were able to rapidly communicate between and among the various entities. There were two "Code Red" message options. Usually, the "Incident Commander," a high-ranking response official, formulated and directly sent the message through the Code Red system. Also, the "Incident Commander" could request the Regional Emergency Communications Center to formulate and send the message. High-level officials, such as mayors, could initiate a message request with the Incident Commander. The messages could be targeted to either smaller or broader groups. There were no written criteria for when to send a message, as the variables and possible scenarios were enormous.

- Mayor Gasteyer provided an example. He said the Village of Corrales recently had an active shooter exercise at the local elementary school. In the exercise the initial report went to the Rio Rancho Police Department, who had a SWAT team. The lieutenant in charge of the SWAT team became the Incident Commander, even though the incident was occurring in Corrales. Mayor Gasteyer said he was the public information officer for the village, so in the mock exercise he took on the command post and spoke with the press. Later the initial incident commander could turn over command to someone else. Dennis O'Mara commented that this was a good example of actual cross community collaboration.
- Mr. O'Mara said emergency operations plans existed at each local level and countywide. These plans were constantly reviewed, refined, enhanced and updated. Training for any and all potential scenarios was ongoing. Mr. O'Mara said that the subcommittee was impressed with the training and planning. Lane Kirkpatrick added that they got the feeling that local emergency responders made a lot of progress over the years, especially around coordination and planning.
- Mr. O'Mara said in regards to evacuation planning, there were no specific evacuation plans at any level since there were so many possible scenarios and variables. Specific circumstances help determine evacuation routes such as incident location, incident type, and wind direction. Emergency response teams could take total control over traffic should they need during an emergency. Corrales designated their main routes as evacuation routes.
- Mr. O'Mara said the subcommittee met with Sarah Chavez, Natasha Martell and Brian Rashap about Intel's emergency operations system. The subcommittee was impressed in that Intel had an operations center; emergency response personnel; emergency plans; and a command post staffed 24/7. Intel staff viewed monitoring equipment to ensure all systems functioning properly.
- Intel in-house training was ongoing for both plant and emergency response personnel and plant staff. They conducted two emergency drills per quarter, and held annual briefings for community emergency response departments. Coordination/cooperation between Intel and local emergency response departments appeared to be excellent. Local emergency response departments were invited to observe and participate in Intel training exercises. They exchanged information with Intel emergency response staff and received plant tours. Intel also briefed local hospital staff.
- Mr. O'Mara reported that Intel's process to respond to plant emergency incidents was as follows. All incidents were reported immediately to the Intel Command Center, who

called 911. Intel emergency response staff responded, assessed, and took needed action. Any requests for assistance from municipal emergency response departments come only from the Command Center.

- Mr. O'Mara continued that a written protocol determined when Intel should contact emergency response departments, and Intel would not share that protocol with the subcommittee. Subcommittee members were concerned that delays at Intel in contacting local emergency response departments could delay activation and therefore minimize the effectiveness of the "Code Red" system. John Bartlit asked how detailed the protocol was. Ms. Chavez said she assumed it was very detailed around specific chemicals and processes, but she had not seen the protocol and did not know for sure.
- Mr. O'Mara said that coincidentally an accident occurred in Arizona during the subcommittee's investigation. A seal on a tool failed, releasing nitrogen trifluoride; 43 staff members were sent to hospital, 12 admitted. The subcommittee believed this accident could have implications for Intel Rio Rancho, area emergency response personnel and residents in surrounding the communities. However when the subcommittee spoke with Intel representatives, they said the accident was still under investigation and no further details were available. The subcommittee checked in with the Rio Rancho emergency response personnel, who said they had seen a news media report; Corrales fire department personnel had not heard about the Arizona incident at all. Initially, news media reported a "nitrogen leak"; only later, did the news media report that it was nitrogen trifluoride. Subcommittee members were concerned that Intel might have underplayed the seriousness of the leak by telling the media it was a "nitrogen leak." During this incident Intel did not alert local residents, who they were told later that the air around the plant was clear. The subcommittee also wondered how Intel knew this was the case. The subcommittee suggested using this incident as a practice incident here at the Rio Rancho plant.
- Sarah Chavez clarified that the leak happened indoors, which probably influenced Intel's decision of not informing the community about the incident. Mr. O'Mara said that community individuals did not have the authority to decide whether or not to issue a Code Red, but Intel plant officials seemed to take on that authority, and their decision might be at the community's expense. The subcommittee believed that the Intel Command Center should always immediately contact the municipal emergency responders, who would then more objectively make the determination around whether Code Red was necessary. Ms. Chavez said once an ambulance was called, Intel turned control over to local emergency responders. Mr. O'Mara said he was concerned about what was happening in the period between when the incident took place and before an ambulance was called. He pointed out that while the Intel first responders were attending to staff, no one was looking out for the community.

- Mr. O’Mara concluded that the “Code Red” system appeared to be effective in notifying citizens about emergencies, and its effectiveness could be enhanced through enrolling cell phone numbers and e-mail addresses. Also, area emergency responders vigorously and constantly pursued planning and training; Intel’s internal emergency response system was impressive; and coordination/cooperation between Intel and local emergency response departments appeared to be excellent. The “Code Red” system was only activated by municipal emergency response department personnel or governing officials, and the subcommittee wanted to make sure response time was not lost at Intel.
- Mr. O’Mara said the subcommittee made the following Code Red recommendations:
  1. The CEWG, Intel and local emergency response departments should collaborate on a countywide effort to (further) educate Sandoval County residents about the “Code Red” system.
  2. Intel emergency response staff should provide the CEWG and local emergency response department staff with a report on the Arizona plant accident, because it had major implications for the local community.
  3. Intel emergency response staff should offer some specifics about its in-house response to incidents at the plant vis-à-vis reporting to the local emergency response department. Would delays in reporting incidents prevent timely activation of “Code Red” when community notification was indicated?
- Lane Kirkpatrick added that it would be nice if the public knew exactly what was in place. It might help alleviate concern and speculation.
- Stephen Littlejohn suggested putting the recommendations on the agenda for discussion in further detail next month. Lynne Kinis asked if Intel could bring in a timeline of events at the Chandler incident.

## **HF DISCUSSION**

Mike Williams reported on his Hydrogen Fluoride (HF) modeling and reminded that the objective was to estimate short-term concentrations of HF associated with emissions from Intel’s Rio Rancho facility and compare them with the Texas Commission on Environmental Quality (TCEQ) short-term Environmental Screening Level (ESL) for HF, which was 15 micrograms per cubic meter adjusted for Intel’s altitude. TCEQ developed this screening level based on studies by Lund in 1999. Mr. Williams said these were the most restrictive HF levels he had found.

- Mr. Williams explained the study’s background and that some community members were concerned about “spikes” of contaminant concentrations coming from Intel. Chip production facilities emitted HF, which might be a health concern at low concentrations.

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The draft ATSDR report mentioned HF as a potential community health issue. Short-term, elevated concentrations of HF are of more concern than are long-term average concentrations.

- Mr. Williams said he chose to use the TCEQ short-term ESL for HF (15 micrograms per cubic meter— $\mu\text{g}/\text{m}^3$ ) as an appropriate yardstick for assessing HF concentrations at the altitude of Intel, Rio Rancho. ATSDR's Peter Kowalski suggested the TCEQ ESL as one of the standards appropriate to use for this work.
- Mr. Williams said the TCEQ ESL was based on a study involving exposures of 25 healthy male volunteers to three levels of HF for a one-hour period. In this study the lowest level was divided by a factor of 30 to adjust for the small sample size and the selected population, which was healthy males aged 20 to 50. The screening level was used as a planning tool to decide if further studies or different options were required for a new facility. If modeled levels were below the screening level, no further studies or options were needed to use.
- Mr. Williams said the approach taken for the study was to estimate short-term HF concentrations—in an one hour period—with an EPA approved air quality model, and use on-site meteorological data and model parameters consistent with EPA approved procedures. He said he chose the median measured emission rates for HF because they were more typical. Mr. Williams wanted to use more recent meteorological data, since previous modeling studies used older data. Class One provided three years (2010, 2011, and 2012) of measured meteorological data for the modeling study.
- Mr. Williams said study tasks were delegated as followed. Class One prepared meteorological inputs. Kurt Parker of ERM provided median emission levels from HF stack measurements. Class One compiled data and basic source inputs, and Mike Williams ran the model and analyzed the results.
- Mr. Williams explained that he chose the AERMOD model for the study. AERMOD was an EPA approved model for estimating concentrations from industrial sources. It included parameterizations for treating the dispersion produced by building wakes and was particularly appropriate for near source estimations where travel times were short, in other words, highest concentrations were showing up near the fence lines.
- Mr. Williams showed a map of over 4,000 receptor locations, which were model ports. Next he showed a map of receptors along Intel's boundary line. Intel had over 22 stacks or emission points, and the stack heights (12 to 30 meters) and emission rates varied greatly from one source to the next. Emissions also varied with time so that the highest

emissions from one of the major sources were 35% higher than the median emissions used in the modeling. Next he showed a map of the stack or source locations.

- Mr. Williams said the model was appropriate for desert and semi-rural conditions. He discussed a “beta” option designed to improve estimates in low wind conditions. “Beta” options must be approved for regulatory applications. Mr. Wade said beta options were used to improve the model from fugitive sources such as road dust or equipment moving dust rather than stack sources, but he found it had little effect with stack emissions. Mr. Williams said that while these meteorological data sets have not been reviewed by the regulatory agency, the model followed the same methodology previously approved by the department
- Mr. Williams explained the modeling results.
  - ✓ Highest concentration: 7.5 µg/m<sup>3</sup> on 11/25/2012 @4 am. Screening level: 15 µg/m<sup>3</sup>.
  - ✓ Next Highest: 7.3 at a nearby receptor
  - ✓ Highest concentrations in 2011: 5.7 µg/m<sup>3</sup>
  - ✓ Highest concentrations in 2010: 5.3 µg/m<sup>3</sup>
  - ✓ Nearby concentrations were very similar
- Jane Dalgren asked about the 4 am concentration count. She said she noticed there was little wind at 4 am. Mike Williams said he would check the meteorological data at that time. Paul Wade said that higher concentrations were usually seen with low wind speeds.
- Next Mr. Williams showed a diagram of source locations and highest hits. John Bartlit reminded that the meteorological data, including wind direction, was built into the model.
- Mr. Williams moved to the next slide, which was a graph showing an illustration of spikes with constant emissions on November 25, 2012, and modeled for a single receptor. This graph showed meteorologically produced spikes by the hour, since emissions levels remained the same. The diagram demonstrated how big of a variation could occur in short periods of time.
- Jane Dalgren asked if there was a usual time Intel received odor complaints. Sarah Chavez said that most calls were at night but not always and most calls were in the summer.
- Mike Williams said they could adjust the model to capture any compound coming out of the 22 scrubbers.
- From the modeling exercise, Mr. Williams made the following conclusions:

- √ The EPA-approved model estimated HF concentrations lower than the screening level.
  - √ The receptor locations were sufficiently close to one another that the results were not sensitive to the choice of receptor locations
  - √ The measured emissions showed more variation with time than expected, but not enough to change the conclusions.
  - √ The modeled concentrations did not provide a large margin for error so that further examination of the role of model options might be advisable.
- Mr. Williams said he had one small concern. In the past the risk assessment looked at tracer studies and models for treating dispersions, and it turned out the older formulations did a better job. When they compared the two options to the measured tracers results, the one used here underestimated results. He suggested it might be worth setting up a FTIR to see what happened using HF emissions as tracer. Sarah Chavez said when Intel did the tracer study they injected a known chemical into the stack. Intel did not have the ability to control the amount of HF in stack.
  - Paul Wade added that the model used was the last model provided to the state for the Intel air permit in 2011 and specifically for shorter stacks. The meteorological data was based on the Intel tower, and for downwash they used the latest version determined by the EPA to give the best result for downwash. Wind blowing below the stacks on the leeward side worked to release pollutants at lower heights, which could be connected to the higher concentrations at boundary.
  - Sarah Chavez showed a couple graphs with different representations of Mr. Williams' "Illustration of Spikes" slide. John Bartlit added it was interesting to note the difference in the range of the odor threshold to the peak, and the great variability in people's ability to smell over time. Lane Kirkpatrick added that it would be good for everyone to think about the findings and its implications for other emissions. Also, now that we have this data and considering the question of odors, could we look at other specifics such as respiratory effects.
  - Jane Dalgren added that *The Oregonian* reported that the people living around Intel's Oregon plant complained about the same things as people in Corrales. Sarah Chavez said that the particular odor causing the complaints was a specific chemical in the plant's manufacturing process, and the facility that made it was next door. This chemical had a low odor threshold. She said the incident was similar to the Rio Rancho site's issue with 1-heptanethiol. She said she did not know the name of the specific chemical, but the manufacturer was called "TOK".

- Lynne Kinis said found it interesting that the people in Oregon were experiencing the same smell as the people in New Mexico. Sarah Chavez said that they did not know if it was the same smell, and she believed that chemical used in Oregon was from a newer process (she would have to verify this fact).
- Lynne Kinis asked about the one-hour sequence and modeling guidelines based on individuals working in a factory for 8 hours shifts versus 24 hour. Mike Williams said that in this case, it was not based on workers but on screening levels in a specific experiment [see page 8]. The ATSDR used almost the same number for 24 hours and the outcomes were much less. Thus, using one hour was more restrictive.
- Dennis O'Mara said that he understood the screening level used was what was available, but it didn't mean a thing to him, because so little was known about how it affected the human body. If the screening levels produced symptoms, then what did level 7 do to a 78-year-old with COPD. Mr. Bartlit commented that the screening levels do not produce symptoms.
- Jane Dalgren said the community had been talking about the odors for many years, and she still had a question around odors at the Oregon plant. What were the odors? Some people had died from pulmonary fibrosis, and some were more sensitive than others. No one knew what was causing the problem, but if we knew we could fix it and everyone would be happy.
- Stephen Littlejohn suggested addressing modeling study next steps and implications for discussion at the November meeting.

## **MEETING ADJOURNED**

### **NEXT MEETING**

November 20, 2013, 5 to 7 p.m., Corrales Senior Center

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