

MEETING SUMMARY

Community Environmental Working Group

“Striving for Continuous Environmental Improvements at Intel”

Date: April 17, 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

Non-Members Attending

Lynne Kinis, Corrales resident
 Roberta King, Corrales resident

Natasha Martell, Intel
 Dennis O’Mara, Corrales resident

Facilitator

Stephen Littlejohn, Facilitator

CJ Ondek, Recorder

HANDOUTS

- Draft Agenda
- Draft Meeting Summary March 20, 2013
- Action-Item Progress Report
- EHS Activity Reports
- Media reports and articles, as available
- Summary of discussion on emergency preparedness

PROPOSED AGENDA

- Welcome, Introductions, Announcements and Brief Items
- EHS Report, EPA 114 and Permit Updates
- Code Red Report
- Health Risk Assessments
- Possible Orientation Meeting
- Additional Business
- Adjourn

<p>Filename: CEWG_Draft Meeting_Summary_04-17-13, v. 3.doc, v. 3 Approved: 6-16-13 Prepared or presented by: CJ Ondek & Stephen Littlejohn Prepared for: CEWG Date prepared or presented: June 12, 2013</p>
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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.

Stephen Littlejohn said that new CEWG member, Robi Shields, had to miss his first CEWG meeting due to job travel requirements; therefore, he would start in May.

Agenda—Revisions and Approval

No comments.

March 20, 2013 Meeting Summary—Revisions and Approval

No comments.

HF Updates

Sarah Chavez said Intel, ERM and Class One sent comments to Mr. Williams on his draft via email only hours before the meeting.

Weather Data Update

Hugh Church said he submitted a form on April 8 to NMED requesting information on the air quality trailer. A week later Terry Hertell responded asking Mr. Church to submit an itemized list of topics. Mr. Church sent an itemized list the morning of April 17, and Mr. Hertell responded immediately saying that it would take about three to four weeks to get the information.

Other Announcements

- John Bartlit said the current NMED cabinet secretary, Dave Martin, was shifted to the Energy Minerals and Natural Resources Department cabinet post. The new cabinet secretary was a lawyer from NMED.
- John Bartlit said the CEWG received a thank you email from Thom Little and read it to the group.

Public Comment

No public comment.

EHS REPORT, OTHER ANNOUNCEMENTS, EPA 114 UPDATE

Sarah Chavez said this month's EHA report was short: Intel would be starting VOC and HAP testing April 17; regulatory submittals were routine; no complaint calls were received; and there was no news from the EPA.

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CODE RED UPDATE

- Dennis O'Mara reported that the Code Red Committee had their first meeting on April 4 with Assistant Chief Dave Bervin at the Sandoval County Fire Department. His office was located in Bernalillo, near Placitas. The committee, Mr. O'Mara, Lynne Kinis, and Lane Kirkpatrick, spent about one hour and 45 minutes meeting with him. Chief Bervin, who was very helpful and cooperative, talked about enrollment in Code Red and said everyone with a landline in Sandoval County was enrolled in Code Red, even if their phone provider was different; however, the chief said he would confirm this information.
- Mr. O'Mara continued to report that the Code Red Committee would meet on April 18 with Fire Chief Martinez and Police Chief Vigil, both of Corrales. Next, they would schedule meetings with their counterparts in Rio Rancho. Also, they were considering talking with counterparts in Albuquerque, too. After all these meetings happened, they would schedule a meeting with Intel. He suggested that they would not be ready to provide a final report to the CEWG until June.
- Mike Williams asked if Chief Bervin said anything about households that did not have landlines. Dennis O'Mara said that there was a process to enroll a cell phone online; and there were other ways to be notified of an emergency, including through radio and television. He said Lynne Kinis put her cell phone number into the system. Later on she learned that she had inadvertently bumped her landline off the system. However, she did receive a test call on her cell phone the next day. There was a way to do both numbers, but it did not work this time.
- Lynne Kinis said when Code Red was first initiated; it was the householder who had to call in to register. Now that seemed to change. Dennis O'Mara said he wanted the information that everyone with a landline was automatically enrolled confirmed by Chief Bervin. Householders could also enroll their email addresses, and the Sandoval County Fire Department was working to get Facebook and other social media involved as well. John Bartlit added that he had received a call in his home at Los Alamos about a year ago saying it was a test for Code Red, and he had never signed up; it seemed that his phone number was automatically enrolled

HEALTH RISK ASSESSMENTS

Stephen Littlejohn summarized the discussion: What were they most interested in learning about the subject; what health risk assessments were previously done, who did them and what was learned; how could they be done differently; and what next steps did the group want to take, if any.

- John Bartlit said this discussion would have been valuable to Robi Shields, who had not

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been privy to all the previous discussions; but he could read the Meeting Summary. He asked if all the health risk assessments were posted on the CEWG Web sites. He added that Intel conducted two health assessments in the late 1990s and early 2000s that were not on the CEWG Web site. He asked if they were on Intel's Web site. Sarah Chavez said they used to be, but wasn't sure if they were still posted and would check on it. At the very least, she might be able to find a summary of the assessments. Mr. Bartlit added that these two Intel health risk assessments were discussed at a CEWG meeting, and that meeting presentation was on the CEWB Web site.

ACTION ITEM: Sarah Chavez will check on the whereabouts of Intel's two health risk assessments and or summaries.

- Mr. Bartlit continued that the Darko Koracin 2003 report on Air Dispersion Modeling, paid for by NMED, was on the CEWG Web site. This report was part of the Corrales Air Quality Task Force, as was the Gradient health risk assessment report, Gradient being a company hired by NMED. Both the Gradient report and summary were available through NMED, and they could add a link to these reports on the CEWG Web site. Mike Williams said the Koracin report on the CEWG Web site was incomplete; he couldn't access the references.
- Mr. Bartlit continued on about the following reports:
 - The 2009 ATSDR preliminary report was available online, and a link to this report would be added to the CEWG Web site.
 - The Crystalline Silica Report was on the CEWG Web site
 - The NM Dept of Health 2011 Report on Pulmonary Fibrosis was on the CEWG Web site
- Sarah Chavez said that the Corrales Air Quality Task Force was an entire study with lots of documents associated with it. The entire study and all related documents were contained in one or two zip files on the NMED Web site. The documents referenced by Mr. Bartlit above were only parts of the study. Ms. Chavez emphasized that there was lots of information affiliated with this study, and the references Mr. Williams was looking for could be contained in those zip files. Someone would need to go and look through all the zip files to get an idea of what was there.
- Stephen Littlejohn said he would start with Mr. Bartlit's list of documents and add links to the CEWG Web site. He said if anyone knew of any other documents to add to the Web site to let him know.
- Mr. Littlejohn asked the group what they should do after they assembled all the reports, if anything. John Bartlit asked if information in the Koracin study would be useful to Mike

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Williams' HF modeling study. Mr. Williams said it was possible, and he would look at it to compare. Mr. Bartlit said the CEWG shouldn't undertake anything huge until they received the final report from ATSDR and peer review of the crystalline silica report, which was promised this spring. These reports were essential to next steps. Mr. Bartlit added that in whatever the CEWG chose to do, they would have to ask the question of what they would do differently. They could look at what standards have changed, although he was not aware of any changes the EPA had made over the last 10 years. Mike Williams said it would be useful to check the Koracin list of contaminants and compare it with what various states have for screening levels. He didn't think the standards would provide that much information except for maybe fine particle standards.

- Stephen Littlejohn summarized that said they could try to expand their list of studies that have been done and identify chemicals that have been studied and the different state or international standards. What would they do with that information?
- Dennis O'Mara asked if all the pollutants on Intel's permit had standards, and were there any that did not have standards. Mike Williams explained that at the national level, a short cut was used to reduce emissions by 90%, and there was no assessment about whether the remaining 10% was hazardous. Mr. O'Mara asked if there were any additional studies that would have led to new standards. Mr. Williams responded that the only studies were around screening standards, which basically set safe levels that should not be exceeded.
- Sarah Chavez said the State of New Mexico had screening levels, and every company was obligated to look at all the chemicals they emitted, estimate or calculate emission levels based on the data they had, and if emissions went above state levels, then the company had to take additional steps, one of which might be to get a permit. For chemicals that did not have federal standards, New Mexico used levels based on occupational safety exposure levels.
- Stephen Littlejohn said there must be studies of health effects on which these standards were based, and it might be interesting to see what those screening levels were to get a sense of health risks. John Bartlit said if emissions were below the screening level, then there was no health risk. If emissions were higher, then they had to be looked at more closely.
- Dennis O'Mara said that screening levels were like playing Russian roulette, and he was skeptical about the standards. He said he would bet his mortgage that over time, science would find ways to study these chemicals and their impact on human biology, and the so called screening levels would have had a far greater impact than what could be measured right now. He suggested that Intel quit burning the chemicals and spewing emissions into

the air, and figure out how to condense the waste and haul it off somewhere else instead. He reiterated that he believed science did not know true impact of the chemicals at this point in time. Fifty years from now science might know more and look back and say ‘what were we thinking?’

- Sarah Chavez said that Intel tried to condense chemicals at two different sites back when they first got thermal oxidizers, but because the chemical concentration in the exhaust stream was so small, that process was not successful. Intel found that the best process was to incinerate the chemicals and break them into carbons, hydrogens, and smaller particles. She understood Mr. O’Mara’s comment on the limitation of science, but that was the all the data they had today, which they took into account by adding in more safety factors.
- John Bartlit asked if Intel had any available reports on this issue. Sarah Chavez said it was a long time ago and wasn’t sure, but she would look for a summary.

ACTION ITEM: Sarah Chavez will check if Intel had a summary on efforts to condense chemicals rather than incinerate them.

- Stephen Littlejohn said it was possible to commission a survey of literature and get an expert in to talk about state of science on this issue. Lynne Kinis said the epidemiologist panel that spoke to the CEWG said that the government did not have the money to test all these chemicals for health effects. Ms. Kinis asked Ms. Chavez to clarify what she meant by “not enough in the exhaust stream”. Ms. Chavez said it was too dilute, and that in order to condense the chemicals, a larger amount of gases needed to be present in the stack to take out of the air stream and turn into a liquid to dispose off site. Ms. Kinis said she thought Mr. O’Mara was referring to the process before it hit the RTO. Ms. Chavez said there were two parts. The first part was a liquid and that currently was hauled away; the second part was an air stream exhaust that went to the RTO for processing. Mr. O’Mara asked Ms. Chavez if the air stream was too small technologically speaking or financially speaking. Ms. Chavez said she believed it was technologically speaking.
- Stephen Littlejohn asked if it was possible to eliminate all emissions by sequestering all the outputs into solid or liquid form. Ms. Chavez responded that she did not know.
- Roberta King said she had observed that every new political administration in the State of New Mexico only cared about jobs. They manipulated staff at the environmental improvement board, and Gov. Martinez wanted emissions to be low enough to attract new business. She said the American Legislative Exchange Council (ALEC) had a lot of influence in this issue. Mike Williams said those boards were constrained by the laws on the books, which preceded ALEC.

- Lynne Kinis said each RTO picked up phosgene from the small air stream. Thus, a small enough amount of chemical A and a small amount of chemical B created a synergistic effect to produce phosgene and expose the community to it. She said she did not choose to be exposed to phosgene in any amount. Therefore, the community got the residual, and that bothered her. Intel must address how to readjust the synergistic effect, and one way was to not burn chemicals.
- Sarah Chavez said thermal oxidizers and scrubbers are sources of Intel emissions, and phosgene did not come from RTOs. In general, Intel had done what they could to keep emissions low and below acceptable levels. Intel followed limits set by federal rules; thus state agencies could not force Intel to follow any controls as long as they followed federal rules. John Bartlit said the CEWG asked ATSDR to provide more information in their final report on phosgene.
- Lynne Kinis asked if phosgene didn't come from the RTOs, then where did it come from? Roberta King said carbon tetrachloride. Sarah Chavez said if that were the case, it would come from the scrubbers, which removed gases from the air and turned it into liquid form that was collected in tanks, adjusted for PH, and sent to the City of Albuquerque treatment system.
- Dennis O'Mara asked whether technology had advanced over the last 15 to 20 years since Intel attempted this process. If Intel wanted to achieve a public relations coup, they could come up with the technology and apply it to current operations. It would be a tremendously positive step for the company, Mr. O'Mara commented.
- Stephen Littlejohn said the CEWG could invite a speaker from Intel to talk about current developments in this area. They could also put together a task force to conduct independent research on what abatement technology was currently available. John Bartlit said abatement technology companies typically conducted research to improve their products, which they then sold to user companies. Stephen Littlejohn asked if anyone knew about any basic science projects around abatement that were not commercial, or if universities were doing any of this kind of research.
- Lynne Kinis thanked Dennis O'Mara for his suggestion. She said Intel always asked the community how they could earn their trust; if Intel had developed new technology that took chemicals out of the process, then that would be the end of the discussion, and that would be the end of CEWG meetings. Stephen Littlejohn asked how the public would come to believe it and not think it was a "PR gimmick." Lynne Kinis said, "The public still smelled." Dennis O'Mara asked if this happened, would Intel no longer have to have a permit. John Bartlit said Intel would still need a permit because, Intel still had to prove

to NMED that their statement was true, and that was part of the regulatory bureaucratic process. He said he would bet his house on that.

- John Bartlit talked about the history of regulation. Back in 1970s, industry did not want regulation of any materials until there was enough knowledge of each chemical to set safe limits. The environmentalists knew it would take forever for that information to be gathered, so they created chemical categories, and industry had to reduce the total significantly. This was a historical victory for environmentalists. Thus the standards were a negotiated solution rather than a science-based solution. He stressed the difficulty of conducting a study with enough information to set a standard. Mike Williams stressed the difficulty around the epidemiology.
- John Bartlit said science had advanced to a point where there was now a heart or a lung on a computer chip. In the future, a lung on a chip could be exposed to pollutants and toxins to figure out standards. There was a better chance of learning standards this way rather than through testing complete populations. He said he wrote about this issue in his May column. Even though it was difficult to prove health effects, in larger populations there might be more success; but it was very difficult to find health effects in smaller populations like Corrales. A large health effect is always easier to find than a small effect, even in a small population. It didn't mean they didn't exist; it was just harder to prove. Dennis O'Mara said the discussion reinforced his view that the standards were not perfect.
- Roberta King said that in some countries, a company had to prove that the chemical did NOT have an ill effect. She said she would be convinced a change was made when the effect of what was in the air stopped irritating her skin.
- Stephen Littlejohn summarized from the discussion that there were tangible actions for the CEWG to take. These included: 1. Looking at the science to see what advances had been made around standards, and inviting a speaker or panel to discuss; 2. Looking at available technologies or basic science out of corporations or universities. He said he would put this topic back on the agenda. John Bartlit said he wrote a column about synergism that he would share with the group.

ACTION ITEM: John Bartlit will send his article on synergism to the group.

POSSIBLE ORIENTATION MEETING

Stephen Littlejohn said the CEWG was currently in between topics. They were waiting for the ATSDR report, the HF modeling study was in process, Code Red report was in process, so how should CEWG meeting time effectively be used during this period. The agenda committee proposed having an Intel tour instead of a regular meeting in May. Attendees could see all the

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equipment in operations. John Bartlit said they would also see where chemicals were stored. The date would be Wednesday, May 15.

- Sarah Chavez said they could do the tour in the two-hour time frame, from 5 to 7 pm. Intel would give an overview, explain equipment and provide a walking tour. The group would have to agree on what they wanted to see on the tour. Mr. Littlejohn said they would be able to see the new stacks and the redundant system. Also, once the EPA responded to Intel's scrubber testing proposal, the CEWG had committed to coordinating a public observation process, so this gave a chance for the CEWG to revisit how this process would be coordinated. Ms. Chavez said there would be scrubber permit testing going on during that time frame, so they would have a chance to observe this testing.
- Stephen Littlejohn asked for feedback. Roberta King and Lynne Kinis said they would not attend. Dennis O'Mara said he was possibly interested. John Bartlit said the tour would be important for Robi Shields to attend. Stephen Littlejohn asked if they wanted to open it up to public. Sarah Chavez said to ask the public, and if there were too many attendees they would deal with it. John Bartlit suggested contacting the Corrales Village Council to let them know about the tour, as some members (John Alsobrook, Pat Clauser) were interested in CEWG activities.
- No CEWG members objected to the tour. Therefore, the next CEWG meeting would be a tour of Intel contingent on Robi Shield's availability.

DECISION: CEWG members agreed to have an Intel tour instead of a meeting on May 15, contingent on Robi Shield's availability.

ACTION ITEM: Stephen Littlejohn will communicate in the CEWG newsletter that the tour will be open to the public, and he will invite the Corrales Village Council to attend.

- Sarah Chavez asked what the tour should entail. Suggestions included thermal oxidizers, stack testing, scrubbers, chemical storage, weather station, data readout, the cub (location of wastewater treatment area, boilers)

ADDITIONAL BUSINESS

1. Requesting a report from the Corrales Water Task Force.

Mr. Littlejohn asked the group if they still wanted to pursue getting the report issued recently by the Corrales Water Task Force. Roberta King said she attended these meetings, and explained that the goal of the task force was to examine an original document written 10 to 20 years ago that contained the standards for water treatment and give recommendations to the Village Council about

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bringing the document up to date. The task force looked at water quality, the river confluence and flooding. There were no objections to Mr. Littlejohn's asking for a copy of the report.

CONSENSUS: CEWG members agreed that Mr. Littlejohn should request a copy of the Corrales Water Task Force Report

ACTION ITEM: Stephen Littlejohn will request a copy of the Corrales Water Task Force Report.

2. Further communication with Congressional delegation.

Stephen Littlejohn reminded that John Bartlit and Mike Williams spoke with former NM Senator Jeff Bingaman and his assistant, who contacted the ATSDR on behalf of the CEWG. Mr. Littlejohn asked the group if they would like to pursue this action again. John Bartlit proposed that if they did not hear from the ATSDR in Spring 2013, as promised, then they should contact the congressional delegation again to gently push the ATSDR into action. Mr. Bartlit wondered if sequestration might affect the timing. Dennis O'Mara agreed congressional contact could push things to the top of the priority list. There had been no contact between the CEWG and Peter Kowalski since the CEWG received the note saying the report would be available in Spring 2013. The group agreed that John Bartlit should send a gentle nudge to Peter Kowalski to check if the report was going to be released as promised before contacting the congressional delegation.

ACTION ITEM: John Bartlit will draft a note to Peter Kowalski to check on timing of The ATSDR report and send to the group to review.

3. Current and possible new monitoring.

John Bartlit posed a question: Outside the regulatory structure, were there things the CEWG and Intel could do to develop more useful monitoring, or at least start to think about processes that were less expensive and more efficient? Intel spent hundreds of thousands of dollars every year doing the same testing for the last 15 years. The data were consistent, and the community still did not believe the testing results. Mr. Bartlit said something more useful might be done with a small fraction of that money. For example, Intel was required by permit to note inconsistencies in RTO temperature to the agency, which were then reported to the CEWG, a process that could take weeks. Mr. Bartlit said all this could be done, theoretically, with a computer chip containing a temperature sensor that reported temperature inconsistencies immediately. Mr. Bartlit said this would be a step towards creating new and more efficient ways to disseminate data.

- Mr. Bartlit said he had been discussing this idea with people around the state, from the NMED cabinet secretary to universities and people at Intel, and asking them to think about imagining new and more efficient automated methods of regulation. The best way to go about it was outside the regulatory system. Were there ways to shine a beam of light at a stack to learn something about a component? The US had instruments on Mars today

that relayed information about the Martian atmosphere in 14 minutes using light beams and radio waves. Mr. Bartlit said the primary advantage to efficient regulatory processes was more useful information acquired quicker and cheaper. The savings could be diverted to environmental improvements or to developing new technology. Mr. Bartlit stressed that this wasn't going to happen in five or 10 years, but they had to start somewhere.

- Dennis O'Mara asked what kind of feedback Mr. Bartlit received from others. Mr. Bartlit said Dave Martin, former NMED cabinet secretary, was very interested. Also, Mr. Bartlit was going to meet with NM Tech to discuss this idea. He suggested universities create a regulatory engineering field that focuses on more efficient processes, just like mining engineers and auto engineers. Efficient regulation was very important, and right now the process was inefficient, cumbersome, slow, costly, and not a good use of money. For example, the Corrales Air Task Force Study cost hundreds of thousands of dollars and gave no satisfactory answers. Mr. Bartlit said, in theory, they could apply "on board diagnostics" (similar to what was in cars) to RTOs and regulation processes. One way to start was to put a computer chip to monitor temperature on a RTO that sent red warning lights when the temperature changed. He said this was the place to make continuous environmental improvements.
- Stephen Littlejohn asked what would be the continuous environmental improvement angle. Mr. Bartlit responded, "Faster, cheaper, better regulations." Regulation was a drag on the economy; this change would benefit the economy. Lynne Kinis said the money could be reallocated to more useful testing. Sarah Chavez said that more companies would be willing to comply with regulations if the process was faster, cheaper and better.
- Stephen Littlejohn said this idea took the CEWG out of ordinary agenda topics to thinking broader and with bigger impact. John Bartlit said he could ask Roger Weins at Los Alamos, who helped design the laser-based system on Mars, to talk to the CEWG about the Mars project, and then segue into applications on Earth. Mr. Littlejohn suggested identifying people who were knowledgeable about emissions science and abatement technology as possible speakers, including university professors.

MEETING ADJOURNED

NEXT MEETING

May 15, 2013, 5 to 7 p.m., Intel Plant Tour

DECISION SUMMARY:

1. CEWG members agreed to have an Intel tour instead of a meeting on May 15, contingent on Robi Shield's availability.

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2. CEWG members agreed that Mr. Littlejohn should request a copy of the Corrales Water Task Force Report.

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