

MEETING SUMMARY

Community Environmental Working Group

“Striving for Continuous Environmental Improvements at Intel”

Date: July 16, 2014
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

Dennis O’Mara, Corrales resident
 Frank Gallegos, Intel (for Sarah Chavez)

Non-Members Attending

Liz Shipley, Intel
 Lynne Kinis, Corrales resident

Andrew Moen, Intel

Facilitator

Mark Bennett, Facilitator

CJ Ondek, Recorder

HANDOUTS

- Draft Agenda
- Draft Meeting Summary, June 2014
- Action-Item Progress Report, July 2014
- EHS Activity Reports
- *Corrales Comment* article on ATSDR report

PROPOSED AGENDA

- Welcome, Introductions, Announcements and Brief Items
- EHS Report and EPA 114 Update
- Review Action Item Progress Report
- Report on Meeting-Issues, Ideas, Results, Monday, July 14th for
- Regulatory Engineering Dialogue with NMED
- Discussion of Arrangements to Prepare for ATSDR Report Release
- Other 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

Dennis O'Mara asked when they would be able to discuss points on how to improve community dialogue, which was touched on in the June meeting. Mark Bennett said he would suggest adding it to the August meeting agenda at the next agenda team meeting.

ACTION ITEM: Mark Bennett will suggest adding “improving community dialogue” to the August agenda at the next agenda team meeting.

Meeting Summaries—Revisions and Approval

No comments.

ATSDR Update

John Bartlit said he spoke with Peter Kowalski for 25 minutes the morning of July 16. He said Mr. Kowalski reported that the draft report had progressed but was still in division clearance, and he had made some changes to the draft report in response to some of the comments. Mr. Bartlit said Mr. Kowalski also said that after the report cleared the division, the ATSDR Office of Science would send it to the peer review team, which had already been selected, and which normally took about a month. Who would actually review the draft depended on who was available at the time. Representatives from NIOSH and academics were on the peer review list. A focus of the peer review team would be the crystalline silica sampling and testing, although a reviewer might comment on any aspect of the ATSDR report. Mr. Bartlit said that the peer review usually took about a month, so it was unlikely the ATSDR Final Report would be available by mid-August. Mid-September was a more likely time for its release. Mr. Kowalski still intended to attend a CEWG meeting to present the report findings and to answer any questions. Mr. Bartlit said he had briefly mentioned the status of CEWG projects, including Mike Williams modeling short-term HF concentrations and other scrubber emissions, as well as the meeting with NMED Air Quality Bureau on regulatory engineering, since Mr. Kowalski was interested in these activities.

Update on SCORR

Frank Gallegos said he spoke with Intel's Corporate Environmental Manager in Oregon about supercritical CO₂. This individual said that, from his understanding, Intel did not have plans to use supercritical CO₂. However, the staff person who had more details about this topic was on vacation, so Mr. Gallegos said he would speak to that person upon his return to work. John Bartlit said that as a first step, the CEWG wanted Intel to comment on Craig Taylor's presentation, so this was what was most important at this time.

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- Mark Bennett added that Craig Taylor forecasted industry movements on this issue, including windows for changing processes in the chip manufacturing industry. Mr. Gallegos said that for high volume chip manufacturing, supercritical CO2 was not feasible right now. Intel had found defects in the process for cleaning the wafers, and they were also investigating greenhouse gas emissions from the process and water conservation efforts. Dennis O'Mara said that he hoped Intel would look at the impact of these particular greenhouse gas emissions on individual health individuals versus the impact of current chemical emissions.
- Mark Bennett suggested setting up a link with Intel Oregon during a CEWG meeting to discuss their response to Mr. Taylor's presentation. Or, Intel could filter their response back through Frank Gallegos or Sarah Chavez.

ACTION ITEM: Frank Gallegos would continue to follow-up with Intel Oregon on their response to Craig Taylor's supercritical CO2 presentation.

Other announcements

- Frank Gallegos said Sarah Chavez would return to CEWG meetings in August.
- Dennis O'Mara said he had not yet received a reply to the personal letter he had sent to Ryan Flynn, NMED Secretary, regarding NMED's premature release of the ATSDR draft report to Intel. He said if he hadn't heard anything by the next CEWG meeting, he would call Mr. Flynn to ask if NMED planned to respond, and if they did not plan to respond, he would write another letter criticizing NMED for not replying to a legitimate complaint from a citizen. Mark Bennett provided the name of NMED's Deputy Director, which was Butch Tongate, as another person to contact.
- Lynne Kinis commented that as a taxpaying citizen in the state of New Mexico, that Ryan Flynn had not responded to Mr. O'Mara's letter got her "nose out of joint." It was also a slap in the face to the CEWG. She added that she was tempted to take Mr. O'Mara's letter to Jeff Radford to publish in the *Corrales Comment*. Mr. O'Mara said that the fact that NMED hadn't responded yet could be because it was the nature of bureaucracies to be slow—look at ATSDR, as a case in point.
- Dennis O'Mara commented on the CEWG's list of accomplishments. He said he was impressed with activities listed up to 2011 and 2012. But, from that point forward, the CEWG had done things but not linked directly to its mission. He suggested asking Intel to give a presentation on what they had in the pipeline in terms of continuous environmental improvement. Also, he said he was not certain that all items on the list happened because of the CEWG. He assumed Intel took action on its own initiative. John

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Bartlit said that the CEWG had a disclaimer with the list of accomplishments that progress was the result of many factors, and not just actions taken by the CEWG.

- Frank Gallegos confirmed that for 99% of the items on the list, the CEWG was a critical partner in discussions on how to move forward, and pressured Intel to do so quicker. Mr. O'Mara said he assumed Intel constantly thought about how to further impact and reduce pollution. Mr. Gallegos said the way things worked, the CEWG would bring up an idea, inform Intel about it and then Intel would begin to look internally on what they could do. Thus, CEWG meetings were essential in stimulating discussion at Intel on continuous environmental improvement.
- Mark Bennett said he appreciated Dennis O'Mara's comments. Intel had a tremendous forward-looking orientation. Where in Intel's research and development efforts did environmental improvements lie, and how could the CEWG be more informed or engaged? For example, what was the next generation after the Munters units? What slice of Intel's capacity focused on environmental improvement? Frank Gallegos said he would discuss the issue with Sarah Chavez on how to move forward with Dennis O'Mara's request.

ACTION ITEM: Frank Gallegos will discuss with Sarah Chavez the issue of presenting to the CEWG on Intel's internal continuous environmental improvement strategies.

EHS REPORT AND EPA 114 UPDATE

Frank Gallegos said Intel had a crane on site to move equipment. Intel also provided information to regulatory agencies, including test protocol submittals; an Emergency Response Contingency Plan distribution to Rio Rancho Emergency Response; the 2013 TRI Report to the EPA Central Data Exchange; 2013 Greenhouse Gas Report correction; and the Monthly Ammonia Discharge Report. Intel did not receive any calls from the community this month. Mr. Gallegos said that Intel still had not heard from the EPA, and they've been waiting since July 2011. John Bartlit said he didn't think Intel would ever hear from the EPA.

ACTION ITEM PROGRESS REPORT

- Frank Gallegos said he already reported on the third and fourth items (Craig Taylor and condensation technology). On the fifth item, he said he spoke with Bryan Burrows about the next Intel emergency drill that could be observed by outsiders. Intel proposed inviting the CEWG in August to go through a case study on an event (a fire) that occurred in the past on site and show how the emergency process rolled out on that event. This proposal

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was different from what Dennis O'Mara requested. Only Intel and the CEWG would take part.

- Dennis O'Mara said Intel's proposal did not address his concern. He wanted to see an exercise on an incident that spilled out into the community and how it was handled. Mr. Burrows mentioned, in his presentation to the CEWG in March, that Intel had a drill planned in the near future around a similar scenario. Mr. O'Mara said that since Intel's offer did not address his concern, he personally was not interested in attending. Frank Gallegos said there might have been a misunderstanding, and he would check the meeting summary and follow up from there.

ACTION ITEM: Mark Bennett will send Frank Gallegos the March Meeting Summary 2014 that contains Bryan Burrows presentation.

- Mark Bennett said he was tasked to phone Richard Goodyear, NMED Air Quality Bureau Chief, to learn if he was interested in attending or being involved more with CEWG meetings. This was the first step in an action item to gauge whether the CEWG should write a letter to NMED that suggested more engagement. Mr. Bennett said he spoke briefly with Mr. Goodyear, who indicated he was open to increasing dialogue. At the moment, Mr. Goodyear did not express interest in sending anyone to CEWG meetings, but wanted to learn more about why NMED should attend these meetings. Mr. Bennett said they needed to discuss the next steps, and whether the CEWG should write a more formal letter.
- Mark Bennett said he did not receive any comments on making changes to the "Short Report" to the community. He continued that, as a relative newcomer, he had similar impressions to Dennis O'Mara around the CEWG's substantive outcome/results orientation previous to 2012 versus the more recent process oriented results that were not linked to outcomes at the Intel plant. John Bartlit reminded that the CEWG made similar observations in 2013, which was why they changed the working model to small groups. Mark Bennett said it was worth discussing what it would take to have a more results-oriented approach. The request to explore Intel's continuous environmental improvement pipeline might be a step in this direction. John Bartlit reported that the results of the regulatory engineering meeting with the NMED also represent ideas in the environmental improvement pipeline.
- CJ Ondek requested numbering the action items on the progress report for easier reference on the meeting summaries.

ACTION ITEM: Mark Bennett will number the action items for easier reference on the Action Item Progress Report.

REPORT ON MEETING-ISSUES, IDEAS, RESULTS, MONDAY, JULY 14TH FOR REGULATORY ENGINEERING DIALOGUE WITH NMED

John Bartlit reported on the July 14th meeting on regulatory engineering. The meeting was held at the New Mexico Air Quality Bureau in Santa Fe and lasted for one hour and fifteen minutes. Attendees included Sandra Ely (Compliance and Enforcement), Daren Zigich (Permitting), and Richard Goodyear (Bureau Chief—attended last 30 minutes), all from NMED; Frank Gallegos and Andrew Moen from Intel; and John Bartlit, CEWG.

- John Bartlit said he explained at the meeting that the CEWG had a new model of small working teams, and that regulatory engineering was a CEWG project. Sandra Ely explained the EPA's "next generation compliance" initiative, which had similar goals. Both had goals to make regulation and inspection more efficient, faster and better. An example was more use of automated remote monitoring at the "fenceline" (an EPA term that meant the property line of a business).
- Mr. Bartlit said meeting attendees discussed Intel's Web site, ExploreIntel.com, which grew out of CEWG meetings and was now used at Intel sites worldwide. NMED was not familiar with the Web site content, and showed particular interest in the Web site's remote camera that reports in continuous time. They were excited about its potential use at other emission source sites in the state and further developing this idea.
- Mr. Bartlit continued that the discussion turned to ideas for using the Web site. Some ideas were to display a selected set of readings to show continuously whether facility operations were working as a whole within the range of normal operations. This idea could involve a computed indicator that used selected temperatures, valve settings and/or flow rates related to permit conditions. The current value of this indicator could be displayed on the Web site in near real time for regulator and public use. Also, the current indicator value could be shown in context with the indicator value observed over the past several months and, in particular, during the times of testing stack emissions. This capability would show a history of how an indicator ran in the past versus how it was running now. In addition, the indicator value could be color-coded, in red, green and yellow, for example, to show that current operating conditions were normal or off-normal to some degree. These concepts represent new and potentially effective, fast and inexpensive means of continuous monitoring of plant operations. Lastly, Mr. Bartlit said, all parties in attendance agreed that these broad, yet specific, ideas were interesting and worth pursuing.
- Frank Gallegos added that he thought the dialogue went well, and it was a good discussion to have with the regulatory agency, who was interested in what was in the permit. Mr.

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Bartlit said that he made the distinction of not being limited to what was in permit, and the project would be in a non-regulatory environment to start with. Many things needed to happen before it became a regulatory practice. Mr. Bartlit added that the conversation was a good starting point, and the ideas raised were both broad and specific.

- Lynne Kinis said she liked the concept because she envisioned measuring emissions in real time, and being able to detect chemical spikes immediately. Mr. Bartlit said initially it would not measure the concentration of a pollutant in the stacks (that might come one day), but it would measure the most meaningful operating parameters, for example, valve setting temperatures, and thus be able to compare data historically. This might not be the kind of information that Ms. Kinis wanted, Mr. Bartlit said, but it was related.
- Dennis O'Mara said he was impressed that Mr. Bartlit was able to take a concept he raised a few months ago and "give it legs." In regards to the history of concerns expressed over time by the community, for example, comments on silica testing that Intel gamed the stack testing by not doing what they usually did so the results were skewed at testing time, this system would give the community reassurance because comparative data would support results.
- Mike Williams asked if there could be a flag in the system that would highlight a change in process as a way to keep an eye on issues as they came up.
- John Bartlit said that Andrew Moen mentioned that the information on the Web site could show a scrubber down and a backup unit on. Currently it was not obvious, but it could be made obvious. Each scrubber unit in operation could be viewed on the Web site eventually.
- On follow up steps, Frank Gallegos said they told NMED that Intel would partner with the CEWG and discuss the potential and get suggestions at a CEWG meeting. From there, they would gather ideas and look at possibilities. NMED also agreed to make suggestions based on their needs. John Bartlit said he wanted to report back to Sandra Ely and meeting participants the CEWG's thoughts about pursuing this idea. The group verbally supported moving forward with this project.

CONSENSUS: All group participants were very interested in further evolving the ideas presented at the meeting and moving forward.

- Dennis O'Mara asked what the Web site camera recorded. Andrew Moen said the onsite camera focused on a group of stacks. Possibilities for viewing were pluming and oil/gas flares for remote sites.

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- Mark Bennett said, in regards to the evolution of this project, the CEWG might be able to help on the design principles from the public's point of view that would give site credibility to the public. Lynne Kinis said if the camera were on and translating information for the Web site and in real time, that was personally a big deal, especially if monitors could pick up spikes.
- John Bartlit said it would be a long time before they could regulate using the Web site, but they would be able to see if something wasn't the way it should be; then regulators could take action.
- Dennis O'Mara suggested saving all recordings to be used as data in investigating incidents. Frank Gallegos added that the site showed wind direction. Mr. O'Mara said the possibilities could go well beyond NMED and Intel. (Hugh Church asked to add this opinion to the meeting notes: "Wind direction and speed should be made available at several levels closer to ground, not just at 10 m.")
- Dennis O'Mara said that since next generation compliance was an EPA initiative, they might want to look into getting a grant or some kind of cooperative agreement between Intel, NMED, and CEWG. John Bartlit said the CEWG did not have any credentials, so they could not get a grant. Mr. O'Mara said that it would have to be a cooperative venture between Intel, NMED, and CEWG, with NMED as the principal investigator/grantee. It could be a demonstration project.
- Mark Bennett asked Frank Gallegos what kind of process Intel corporate would need to go through to get agreement on moving forward with this idea. Mr. Gallegos said they would discuss progress with management and look at the possibilities and how to move forward. The next step was to see if all organizations agreed, then they would report back and set up a next meeting. John Bartlit suggested writing a report on the meeting that could be shared with Intel, and in this way everyone would be on the same page.
- Dennis O'Mara said while he worked at the Centers for Disease Control (CDC), each state agency was required to send in a proposal that addressed a specific CDC initiative. If there were such a program at the EPA on next generation compliance, then NMED could inculcate the CEWG's ideas on regulatory engineering, with Intel and the CEWG as partners. They could propose a demonstration grant or a cooperative pilot program. The money would go to the agency, but other money would go to contractors. Mike Williams said that the CEWG did not have a mechanism for receiving money.

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- Frank Gallegos said this article on the Internet gave more information on EPA’s initiative: “Next Generation Compliance,” by Cynthia Giles. This article could be downloaded directly at: <http://www2.epa.gov/sites/production/files/2013-08/documents/giles-next-gen-article-forum-eli-sept-oct-2013.pdf>
- John Bartlit asked Dennis O’Mara if he could research grant possibilities online. Mr. O’Mara agreed.

ACTION ITEM: Dennis O’Mara will research EPA grant possibilities online.

- Mark Bennett suggested John Bartlit speak with Sandra Ely about the possibility of NMED’s pursuing grant funds through the EPA. Mr. Bartlit agreed.

ACTION ITEM: John Bartlit will speak with Sandra Ely about possible EPA grant possibilities through NMED.

DETAILED DISCUSSION ON ARRANGEMENTS TO PREPARE FOR ATSDR REPORT RELEASE

John Bartlit said the date for the final ATSDR report would be closer to the CEWG’s September meeting, and they should decide on steps forward at the August meeting. Peter Kowalski intended to come to the CEWG meeting when the report was released to answer questions and do public outreach. Mr. Bartlit said that at the June CEWG meeting, Dennis O’Mara proposed the idea to have a small subcommittee look at the draft report to recommend public outreach action. Mr. Bartlit also said his goal was to have a public discussion on the final report content rather than the long drawn out process involved with releasing the report.

- Dennis O’Mara asked if NMED would attend the CEWG meeting with Peter Kowalski. John Bartlit responded that the CEWG would have to invite NMED to the meeting.

ACTION ITEM: Mark Bennett and John Bartlit will issue an invitation to NMED to attend the CEWG meeting with Peter Kowalski.

- Lynne Kinis said she would like enough time to read both the final and draft reports before the meeting with Peter Kowalski so she could ask intelligent questions, and she believed the public should be given the same courtesy. Timing was uncertain between when the final report would be released and available to the public versus the meeting date.

- John Bartlit said ATSDR most likely had some formal process for releasing the final report to the public. Dennis O'Mara said the purpose for Mr. Kowalski coming to the meeting was not to talk about what was in the report but to answer CEWG and public questions about what was in the report. Liz Shipley said she recalled in 2009 when the ATSDR interim report was released, ATSDR representatives came to the community to discuss about a week after the report was announced to the public. Mr. Bartlit asked if a week was a reasonable amount of time. Ms. Kinis expressed concern that the public would not know to look for the report.
- Mark Bennett suggested the CEWG be part of promoting the report's release. Ms. Kinis said Jeff Radford might write an article about the report with a link to where it could be downloaded. Mr. O'Mara said to remember the local paper was printed once every two weeks. Ms. Kinis suggested leaving hard copies in the library. Other suggestions were sharing the report with the Corrales Village Council and the Senior Center. Dennis O'Mara said the best place to find the report would be the ATSDR Web site. Mr. Bartlit also suggested the Village Council Web site.
- Mr. Bartlit said Mr. Kowalski might cooperate to the extent he could to release the report at a key time, for example, a week before the September meeting. He asked if the report was released later, closer to the September meeting, should they ask to delay the release to October to give time to promote the public meeting? Ms. Kinis asked if Mr. Kowalski would be interested in having multiple meetings, and if he had materials to distribute at the meeting. Mark Bennett asked Mr. Bartlit to discuss these issues with Mr. Kowalski on behalf of the CEWG.

ACTION ITEM: John Bartlit will discuss and choreograph with Peter Kowalski the timing of the final ATSDR report's release and the number of community presentations he would be willing to make.

ADDITIONAL BUSINESS

- Mike Williams gave a brief update on the progress around his scrubber contaminant project. There were three pollutants that come from scrubbers that he considered looking at: HF, HCL, and chlorine gas. Before working out the emissions of those compounds to compare to HF, he needed to consider what were the environmental screening levels of those compounds. He compared the risk assessment numbers with the Texas Commission on Environmental Quality numbers and saw that ammonia fluoride was comparable in its environmental screening levels with HF. He learned that ammonia fluoride was often reported as HF since it converted to HF. He said he did not know if HF numbers included ammonia fluoride or not. These were the issues Mr. Williams was investigating. Right now he said it looked like chlorine gas had a more sensitive level than HCL, and its

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emissions were comparable to HF. So he thought chlorine gas might be the best to look at first.

- Frank Gallegos said Sarah Chavez was back to work end of July, and she was the Intel lead on this project with Mr. Williams. She would be able to provide more information on the participation of Paul Wade at Class One.

ACTION ITEMS: 1. Mark Bennett will raise the possibility of adding Mike Williams' project to the August agenda at the next agenda meeting.
2. Mark Bennett will email the group Mike Williams' short paragraph describing his next modeling project

- Frank Gallegos said he enjoyed working these last couple of months with the CEWG, and would like to continue to come to meetings and be engaged in regulatory engineering. John Bartlit said he would like to see continuity at regulatory engineering meetings.

Added opinion at request of Hugh Church: "Very interesting article by Giles on Next Gen of 2013. No where did I see a reference to CEMs (continuous emission monitoring systems) which are critical to compliance issues which are stressed here. These systems have been discussed since Ruekleshaus' time (& mine). High tech application blossoming since those days have made great strides forward since such that CEMs may be the ticket now for next generation application to not just criteria pollutants, but to many others which can be dialed in from spectral differentiation, processed digitally without having to eye-ball photo printouts, etc. So that regulatory engineering should be logically interwoven with Next Gen. Two useful links which seem helpful to these issues are:

www.epa.gov/ttn/emc/cem.html , and: www.icac.com , see their Publication ICAC-EM-3: "Guidelines for Specification and Selection of Data Acquisition and Handling Systems for Continuous Emissions Monitoring Applications"

MEETING ADJOURNED

CONSENSUS DECISIONS:

1. All CEWG participants were very interested in further evolving the ideas on regulatory engineering presented at the meeting and moving forward.

NEXT MEETING

August 20, 2014, 5 to 7 p.m., Corrales Senior Center

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