

MEETING SUMMARY

Community Environmental Working Group

“Striving for Continuous Environmental Improvements at Intel”

Date: February 20, 2013
Time: 5:00–7:00 p.m.
Location: Corrales Senior Center

Members Attending

John Bartlit, NM Citizens for Clean Air & Water
 Hugh Church, American Lung Assc. in NM

Lane Kirkpatrick, Corrales Citizen
 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 January 17, 2013
- Action-Item Progress Report
- EHS Activity Reports
- Media reports and articles, as available
- HF modeling progress report

PROPOSED AGENDA

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

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.

Filename: CEWG Draft Meeting Summary 02-10-13, v. 3 Approved: 3-20-13 Prepared or presented by: CJ Ondek & Stephen Littlejohn Prepared for: CEWG Date prepared or presented: March 12, 2013

Agenda—Revisions and Approval

No comments.

January 17, 2013 Meeting Summary—Revisions and Approval

Stephen Littlejohn said that Thom Little had read the January Meeting Summary and emailed an extended comment to John Bartlit to be included in the February Meeting Summary for the record. Little's statement objects to certain statements made by Dennis O'Mara at a previous meeting related to the weather station. Little's complete written comment is attached at the end of this summary.

- Dennis O'Mara responded that he challenged at least the first part of Mr. Little's recollection, because although there was a network of privately owned weather stations in the metro area, it was Mr. O'Mara who contacted the person with the weather station nearest his home and looked at the specific data, which was collected every 15 minutes during the time frame in question. He said he found a very slight breeze in the direction of Intel in a couple of the 15-minute intervals, but most of the time the wind was calm. Thus, he said he contested Mr. Little's comments on the direction of the wind from the private weather station near his house at that time, and that Mr. Little was wrong on this issue. O'Mara later emailed in a more complete response, which appears at the end of this meeting summary.
[Facilitator's note: Mr. O'Mara sent actual revisions to the January Meeting Summary to more accurately reflect what he said. These are included in the final, approved version of the January Meeting Summary. These changes were sent out for review prior to making the changes, and no one objected.]
- Lane Kirkpatrick said that when the box effect happened in the morning it created a downflow, and when the sun came up it kept the upper layer, which then started moving in the opposite direction as the normal flow downflow. Hugh Church said the upper layer was already moving from the southwest to the northeast. A box effect could happen at 11 pm at night; it depended on lots of variables, including cloudiness and concentration of inversion. Cloudiness prevented it from getting cold near the ground and had no influence on what came out of the stacks.
- Lynne Kinis said that previously she had raised the issue of the box effect, and added that this discussion supported the need for an extra weather monitoring station. The box effect was most likely the reason why Mr. Little and Mr. O'Mara had two different explanations.
- Lynne Kinis had several comments and questions on the January Meeting Summary. First, on page 3, bullet 1, she asked if Intel had written a protocol regarding what to do now that Thom Little had resigned from Intel. Sarah Chavez responded that the protocol remained the same with the onsite response. If there was an odor or noise complaint, security followed through with their procedure 24 hours a day. Ms. Kinis said that Brian Rashap had said it was Intel's intention to try to continue to fulfill Thom Little's duties. Mr. Little was willing to go to a

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person's house in the community to experience the complaint and perhaps do onsite testing. Ms. Chavez said that this issue required further discussion, as there was a security concern and capacity issue, and they should add it as a CEWG meeting agenda item in the future. Previously they had discussed hiring a company to be on call, and perhaps they needed to discuss this again.

- Ms. Kinis referred to page 3 and said she was confused about the two points below and asked for clarification. Ms. Kinis said she believed Intel was Title V for greenhouse gases and the previous permit for all other pollutants.
 - Bullet 4: "A Title V permit contained all air pollution control requirements consolidated into a single, comprehensive "operating permit" that would cover all aspects of Intel's operations in a single permit."
 - Bullet 5: "Intel would continue to remain a minor source for pollutants except greenhouse gases. However, all pollutants would be regulated as per major source thresholds."
- Sarah Chavez said Ms. Kinis's understanding was incorrect. Intel was operating under 2 permits: 1. New Source Review Construction permit (NSR) (previous permit) and 2. Title V. Once an entity was considered a major source for one pollutant, it was regulated as if it were a major source for ALL pollutants. Ms. Kinis asked if allowable emissions for other pollutants previously under the old permit would then be higher. Ms. Chavez said Intel chose to keep these pollutants at a minor source level and committed to not changing the 96 tons limit under the old permit. Technically, however, Intel would be allowed to change these limits to higher levels if that was what they chose to do.
- Ms. Kinis asked if the plant had a malfunction and emitted more than the 96 tons, was that under the umbrella of Title V and would "Intel's rear be covered"? Ms. Chavez said no, the limit was still 96 tons. If something happened whereby Intel emitted more than 96 tons, they would be in violation of their permit, which has 96 tons as the limit. Ms. Kinis said that the previous permit had the primary regulation limit. Ms. Chavez said both permits regulated all the pollutants; they were just under two different documents. She said Intel could request a change in emissions level to make them higher. However, currently, if Intel emitted over 96 tons, they would be in violation of both permits. John Bartlit asked for Ms. Chavez to provide a summary table at the next meeting that shows emissions limits by permit. Ms. Chavez agreed.

ACTION ITEM: Sarah Chavez will provide a summary table at the next meeting that shows emissions limits by permit

- Roberta King said NMED accepted all the emissions factors and other information Intel gave them without question. Sarah Chavez disagreed. She said over the years Intel had a combination of emission factors that was validated with stack testing. It was common

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practice all over the country for companies to validate their emissions using calculations and stack testing. Intel had done this for 12 years. NMED would come onsite to witness testing. Information gained from the testing validated the emissions calculations. This was standard operating procedure nationally.

- Next, Lynne Kinis referred to page 8, bullet 6, last sentence: “HF emissions were not calculated into Intel emissions.” She asked if HF emissions were monitored separately or just not included at all. Ms. Chavez said they would have to ask Mike Williams, as she did not know what point he was making with that statement. Ms. Chavez said Intel calculated and modeled HF.
- Lynne Kinis, referred to page 9, bullet 4, fifth line: “She said ERM would provide hourly averages to use for testing, and they could set up a meeting with ERM to see how they came up with values and talk about how to treat nondetects.” Ms. Kinis said if Intel emitted 5 tons of HF right now, and that was put that into an hourly average for February, it did not give an accurate picture. Why use an average? Ms. Chavez responded that the model was set up to take the smallest increment of data, which was in one-hour increments. For every scrubber, ERM would take 8 hours of emissions data and calculate the hourly average for that 8-hour block to get a different value for each scrubber in the model. This number was the emission expectation in an hour period. John Bartlit said Mike Williams really should be the person responding to this question.
- Lynne Kinis, referred to page 10, first line: “Mike Williams said he would communicate with Class One as well as ERM, since emissions were a critical to his project.” She asked if Class One was paid by Intel? Ms. Chavez responded yes.
- Dennis O’Mara referred to page 5, bullet 4 and said he would like to add the following to his comment to make it more accurate: “Mr. O’Mara responded that in his opinion it was more likely to be noticed in summer because of the operation of swamp coolers and open windows.” Mr. O’Mara said that it seemed to him that people operating swamp coolers would have greater emissions concentrations brought into their houses.
- Mr. O’Mara said he wanted to respond to Thom Little’s email regarding page 11, bullet 7 [which then goes to page 12]. He agreed to respond in writing by Monday, which would give more time for him to provide a response more accurate to what he intended to communicate.

ACTION ITEM: Dennis O’Mara will provide a response to Thom Little’s email by Monday, February 25. He will email Stephen Littlejohn with this response.

Neighborhood Survey Update

Lane Kirkpatrick updated the group on his survey project. He held up a map to explain the

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locations of houses whose residents he interviewed or intended to interview. He said he completed 9 interviews, with at least 2 people per house. Everyone he spoke with had lived in their houses at least 5 years, and some as long as 30 years. He said he realized the limitations of this exercise such as the variability between the people he interviewed. He emphasized that this was not a scientific study. Of the residents in the 9 houses he spoke with, only one had refrigerated air. Also, people were worried about real estate values, so they might not have said what they really meant because they wanted to sell their houses one day. He said that the bottom line was that none of the people he interviewed said they smelled any odors related to Intel. The ones against the fence said they had heard workmen or noise from Intel. He said he had asked Joy to call him if there was an incident. She tried a couple of times, but he was out of town. He intends to conduct about 4 more interviews. He said he realized some people were more sensitive to smell than others.

- Natasha Martell asked if the questions Mr. Kirkpatrick asked were posted on the CEWG Web site. John Bartlit said the CEWG did review the questions. Stephen Littlejohn added it was not a CEWG survey, but a task Mr. Kirkpatrick wanted to conduct with his neighbors.
- Lynne Kinis said that Mr. Kirkpatrick was concentrating on people living on the fenceline. But with the effort made to get stacks raised, that would make dispersions go out further and not be as concentrated as it had been before along the fenceline.

HF Modeling Update

See Mike Williams' report, which was a handout at this meeting.

Other Announcements

None.

Public Comments

None.

EHS REPORT, OTHER ANNOUNCEMENTS, EPA 114 UPDATE

Sarah Chavez reported that the first quarter tended to be the busiest time of the year to submit required regulatory reports. She said that after the EHS report was submitted to the CEWG, an onsite event occurred at Intel on February 6, which was the partial collapse of a general exhaust duct—size about over 60 inches in diameter—that facilitated air flow and heat removal from the factory. An acid wastewater line above that duct leaked, which caused it to collapse. As soon as that happened Intel stopped the leak and turned off the exhaust. They noticed afterwards that some liquids escaped from the stacks and got onto surrounding equipment, which was in the facility close to the Munters units, on the eastern end of the plant. The liquid was mostly sulfuric acid and contained to that area.

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Intel shut down the system to stop the droplets from coming out and notified NMED and EPA about the release, as required by regulations. NMED's Hazardous Waste Bureau made a site visit, as part of their protocol, to follow up. There were no injuries, no evacuation, and very few gaseous emissions (sulfuric acid was not volatile), Ms. Chavez said. Intel wrote an incident report to NMED and EPA. Lynne Kinis asked if it affected the function of the Munters. Sarah Chavez said no.

MEMBERSHIP DISCUSSION

Stephen Littlejohn asked the group if they wanted to expand membership, and if so, how. It seemed like the group was getting very small. Stephen Littlejohn said he would like to see the group grow to get fresh perspective and more input. He would like to see an effort made into recruiting more people. He proposed that individuals send him nominations of people to approach and nominate or to send recruitment ideas. If they agreed, he would collect their resumes and send to CEWG to consider and vote on whether to extend membership.

- Lane Kirkpatrick suggested recruiting graduate students in environmental studies who were enthusiastic about the issue as a way to get younger people involved. Stephen Littlejohn said he had a new colleague at UNM with a husband who was a consulting engineer and new to the community who might be interested in joining the CEWG, as they lived near Intel.
- John Bartlit suggested nominating people involved during silica testing, such as Pat Clauser, Jim Tritten and John Alsobrook. Lane Kirkpatrick suggested Dennis O'Mara and Lynne Kinis. Lynne Kinis suggested trying to get people from the community and Village Council people. John Bartlit suggested asking the people they contacted to potentially become members for their recommendations on potential members who would make the CEWG more interesting.
- Dennis O'Mara suggested getting members with technical expertise. Lane Kirkpatrick suggested getting someone with a background in health effects would be useful, even if it were a public health graduate student.
- Stephen Littlejohn said he would send an email to the group reminding them to send in their nominations so they could wrap up this issue in the coming month.

CODE RED REPORT

Dennis O'Mara said that the Code Red committee of himself, Lynne Kinis and Lane Kirkpatrick had not been able to meet yet, but they planned to do so in the coming month. Their goal was to meet with emergency responders in Corrales and Rio Rancho and learn more about the current procedures and how that related to the Code Red System. Also, there was a broader issue, which was Corrales' evacuation plan. Mr. O'Mara said he spoke with his Village Councilperson about the issue, who expressed his support and willingness to come to Code Red committee meetings as well as attend a

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CEWG meeting to talk about committee findings.

- Lane Kirkpatrick asked if Intel was able to explain their criteria for evacuation and procedures. John Bartlit suggested a follow-up question for contacts who decline to be potential new members. Those nominees could be asked what they would like the CEWG to be doing that would be of more interest to them. Natasha Martell commented that it was her understanding that Brian Rashap had provided as much information as Homeland Security allowed at the previous meeting. John Bartlit said the question around evacuation procedures was different. Sarah Chavez said they could ask the question but Intel most likely could not answer it. Brian Rashap had talked about drills with emergency responders, and she was certain criteria and plans were in place, even for evacuating beyond the Intel site.
- Lynne Kinis asked if Homeland Security sent Intel a packet of questions, and if they were aware that Intel was in the middle of a community. She referred to an incident around the stacks in which Intel employees were sent home because of the air intake. However, cars belonging to people living near the fence line were covered with a white dust, presumably silica, because of the same incident. Thus, Ms. Kinis made the point that what happened within Intel's facility also may affect the surrounding community, too.

WEATHER DATA RECOMMENDATION

Stephen Littlejohn read out the questions to address around weather: What do we hope to gain with more data? What are the short- and long-term goals? How will the data be used? How will data be obtained? Do we have specific recommendations?

- Hugh Church referred to a handout, which was a print out of a slide deck. He read through the information contained on the slides. On page two of slide handout, he compiled a summary of current available data. Intel had a standard 10 meter tower located at the south end of Mesa campus on the west side of Rio Grande Valley, ground elevation at 5226 feet. The tower collected hourly average wind through a wind meter at 10 meters above the ground; temperature at 10 meters and 3 meters, which showed a difference—a good indication of stability. Also, 10m, there is sufficient sampling resolution of wind direction to calculate its standard deviation which is proportional to turbulence intensity used by modelers for diffusion estimates. However, there are no wind sensors at the 3m level, Mr. Church said. He did not know if the tower collected humidity.
- Mr. Church said National Weather Service Radiosonde data located at the Albuquerque Sunport provided additional wind data. Ground elevation was 5310 feet and location 15 miles south of Intel. Radiosonde data calculated displacement of the balloon every few seconds, including temperature and winds at 200 to 300 meters above ground level. These data were good for modeling use for elevations above 300 meters ground level, as variability was small compared to levels below.

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- Mr. Church explained that Radiosonde was a combination of radar and wind sounding system that tracked a balloon containing equipment to measure temperature and humidity at the balloon's positioning. The balloon moved continuously at 1,000 feet per minute. About 10% of these balloons were actually found and returned. Mr. Church said these data were available for everyone to use.
- Lynne Kinis asked if the Radiosonde tracked higher levels than the one at Intel. Mr. Church replied that the balloon moved continuously, thereby providing a profile of temperature and humidity versus altitude at various steps. This data were collected about every 10 seconds. What was reported was based on 1,000-foot levels. Ms. Kinis said Corrales was at a lower ground elevation than Intel, so there had to be a variation around temperature. Mr. Church said the atmosphere behaved like a lake. If the wind weren't blowing, the air would drain down off the surrounding terrain and into the valley, which would make the valley cooler. Trying to relate this from the airport to Intel was an approximation of the first order, which was why there was a tower at Intel. The Intel tower was not designed to measure variables where people lived, which was why he suggested either getting another tower or moving the current tower, and adding more sensors such as air quality measurements.
- Mr. Church continued that the third data source was the NMED Air Quality Bureau trailer. The ground elevation of this trailer was only about 30 feet less than the Intel tower's ground elevation. He suggested comparing data from all these sources to see how it varied over time. Data from the trailer were available in hourly averages. Lane Kirkpatrick asked if higher-level winds over time might show a relationship with ground levels. Mr. Church said yes. Mr. Kirkpatrick asked if that data from the trailer were ever analyzed, and if not, something should be done with it. Sarah Chavez asked what was the point of having that information. What was the next step if the data showed differences? Mr. Kirkpatrick said the data might help to analyze an episode and work out relationships to get a better idea of what was going on.
- Stephen Littlejohn asked if the purpose was to compare data from the trailer mast to see if there was a different weather pattern where the homes were located and to see if the tower weather data correctly projected the flows that might effect emissions down below. Sarah Chavez commented that with modeling, all the weather patterns that existed for an entire year were taken from different data locations to predict ground level concentrations. So if different weather data from a different location were used in the modeling, would the result be different? And was another tower needed to do that, or could data from the current NMED trailer data be used? That was the question, she said.
- Hugh Church asked if it were possible to input data from the trailer into the model.
- Mr. Littlejohn said that in the short term, they could find out the extent to which the trailer data and tower data were correlated. First, run the model without the trailer data. Next, run it

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again with trailer data to see if there was a different outcome. If modeling outcomes were the same, then they would not recommend moving the tower. If modeling outcomes were different, they would look into whether the tower was in the best location. Mr. Church said it would take about two years to erect a new tower or move the current one.

- Lynne Kinis said the more information they had, the more clues they had to put into the puzzle. The tower at the south end measured ground level but which ground level, she asked. Sarah Chavez said the model predicted ground level at the fenceline. The way the dispersion model worked, decreasing elevations were reflected in the modeling. Ms. Kinis said she remembered Mike Williams saying that the higher the stack, the further out the emissions would travel, with weather as the qualifier, including humidity. Ms. Chavez said that was true, but the more it spread out, the more dispersed it got; so wherever it landed it would be less concentrated.
- Stephen Littlejohn asked if anyone knew why NMED put the trailer in that location. Sarah Chavez said no one really knew for sure and suggested Mr. Church ask Terry Hertel this question.
- John Bartlit said a place to start was to use data that existed and compare weather data from different places. If it were doable, Mike Williams could model using different data. Sarah Chavez said she still did not understand the value of having different sets of weather data. Lynne Kinis said she believed it would make a difference.
- Stephen Littlejohn revisited the four questions. What do we hope to gain with more data: We hope to gain more valid modeling results. What were the short-term goals: To compare methods and locations. What were the long-term goals: To place weather data stations in the most valid locations. How would the data be used: To input weather into the model, if doable. How would they be obtained? Short term—look at existing data from trailer and tower; long term—place a weather station in an optimal location. What were specific recommendations: Strong desire to look more closely at trailer data to see if it were possible to put into the model. Mr. Littlejohn asked what the next steps were, and how would they process the trailer data after access.
- Lynne Kinis said she gave the Darko report to Mike Williams. This report directly correlated complaints and health effects with weather data.
- Sarah Chavez said she spoke with Cole at NMED, who said that data from that trailer could not be used to determine air quality standards. She did not ask why. Hugh Church gave a list of what they were sampling at the trailer: wind speed, wind direction, sigma, wind speed max, ozone, nitrogen, and oxide. Not retrieved were carbon monoxide, SO₂, NO, and NO₂.
- Stephen Littlejohn suggested someone from CEWG meet with officials to find out more about

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the trailer. He suggested getting a small task force to investigate the trailer through contacting NMED. Mike Williams, Hugh Church and Sarah Chavez were nominated to the committee. Hugh Church was nominated to lead committee efforts.

- Sarah Chavez said Terry Hertel was still the contact, and NMED had a formal process, which was to submit a written request for information, and then ask to set up a meeting. Hugh Church and Mike Williams could draft the letter with specific questions. If they agreed to meet, they could be invited to the CEWG meeting. [Note from Hugh Church: An email from Terry on 2/25/13 stated that my questions to him of 2/14/13 should be handled as an IPRA (Inspection of Public Records Act) request. Hugh Church can make this email available.]

DECISION: All agreed to form a committee to contact NMED regarding the trailer.

ADDITIONAL BUSINESS

- Lynne Kinis requested that the group read the *Corrales Comment* article and invite Jeff Radford to a meeting if there were any questions.
- Stephen Littlejohn raised the issue of Intel's protocol around home visits, testing, and security concerns. Should they wait to address this issue or talk about it now? Sarah Chavez suggested discussing it later.
- Ms. Chavez said that there were security concerns around going out to homes in the middle of the night. Thom Little was willing to go out and test people's homes when there were complaints. Ms. Chavez suggested revisiting the idea of hiring a company to do this work. Natasha Martell asked how frequently Thom when out. Sarah Chavez said zero.
- Dennis O'Mara said if Intel did hire a company or designated a person to do this work, they would need to live close by. Also, the crime rate in Corrales was low, so security should not be an issue. Sarah Chavez said the trigger for the security concern was an incident at a public meeting where a community member threatened Intel staff.
- Roberta King reminded the group that the issue was not the smell but the effect it had on the body.

MEETING ADJOURNED

NEXT MEETING

March 20, 2013, 5 to 7 p.m.

Corrales Senior Center in Corrales

DECISION SUMMARY

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1. The CEWG will form a committee, with Hugh Church as the lead, to contact NMED to learn more information about the trailer. Other committee members are Mike Williams and Sarah Chavez.

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ADDENDUM:

Written comments sent by Thom Little regarding the meeting summary of January 16:

“John—I was characterized inaccurately by Dennis O’Mara in the previous meeting. Let the record reflect that I was the one that brought up the local weather data found on www.wunderground.com. I pointed out the presence of personalized weather stations in his neighborhood, and that their data actually agreed with the data from Intel. In other words, the wind was blowing from Corrales toward Intel at the time of Dennis’ complaint for the only day he could remember a time and date for when he detected odor. No data were dismissed.

“My point then: how could wind measured blowing from the north to the south carry odor-contaminant from Intel (south) several miles to Dennis (north of Intel). He and one other attendee suggested that at 11:30 pm on a warm August night with temperatures as I recall in the 70’s, the box-effect could have been in effect. They had indicated that the wind which is not directly measured at the stack could be blowing a completely different direction and when it reached Dennis’s home or some distance after Dennis’s home, the odor-contaminants settled and blew back over his neighborhood. That theory I dismissed. I suggest Hugh can elaborate on the probability of a box effect on a warm summer night versus the onset of typical drainage winds flowing south. Mike might want to comment (again) on how dilution works and what concentrations would have to be present to still have an odor 2 to 3 miles away from their purported source.

“My recollection is these data should be in the historical minutes. I realize it is permissible for anyone to say anything in the meeting and their meaning, if not exact words, will be accurately recorded. However, if I was present I would have challenged the recollection as I am doing now.”

Written statement sent by Dennis O’Mara in response to Little’s comments above:

February 25, 2013

To: Stephen Littlejohn, CEWG Facilitator

From: Dennis O’Mara

Subject: Response to Thom Little’s Comments of February 13, 2013

In response to Thom Little’s written submission to CEWG regarding comments attributed to me in the meeting summary of January 16, 2013, I offer the following. The meeting summary

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material in question is found in the section titled “Weather Station and Related Issues” and includes the bullet that begins at the bottom of page 11 and concludes on page 12. This material incorrectly summarizes my comments on the topic at hand, and so I will endeavor in the following paragraphs to correct the record by commenting on each sentence within that bullet.

Sentence 1

“Dennis O’Mara said when he reported the odor incident a year ago, he was told the weather monitoring station recorded the wind blowing the other way.”

To be specific, I was told that, during the hours I said the incident at my house took place, the Intel weather station indicated that the wind was blowing from the north to the south. The wind direction data from the Intel weather station are very precise and, as I recall, the Intel equipment measures wind direction in degrees. So at times those measurements may have indicated that wind direction varied by increments from north northeast to true north to north northwest and points in between. For me as a lay person, that means that during the times in question (from about 11:00 p.m., August 22, 2011 to 3:00 a.m., August 23) the wind at the Intel weather station was moving, in general, from north to south and away from my home. The Intel data on wind speed provided by Mr. Little appears in the table as meters per second. According to Hugh Church, 1 meter per second is equivalent to 2.23694 miles per hour. I converted Intel wind speed readings for 11:00 p.m, 12:00 midnight, 1:00 a.m. and 2:00 a.m. from meters per second to miles per hour and the results are (respectively): 5.55 mph, 5.74 mph, 4.01 mph, and 8.58 mph.

Sentence 2

“Yet a neighbor had his own little weather monitoring station that said differently, and Thom Little had dismissed that weather data.”

First, I would not characterize my neighbor’s equipment as “his own little weather monitoring station.” This gentleman’s equipment takes measurements at 10 and sometimes 5 minute intervals of weather variables including temperature, heat index, dew point, pressure, wind direction, wind speed, wind gust speed, humidity and hourly rainfall rate. The measurements are automatically forwarded to a computer and uploaded to a web site where they are available to the general public. Mr. Little made known to us the existence of this informal network of privately-owned weather stations (Wunderground) and provided us a printout of the measurements from my neighbor’s station for the time period in question. This local weather station did provide readings that differed from the Intel weather station. However, the meeting summary does not repeat what I said about those differences, which is that for the preponderance of the time in question, this local equipment indicated that the winds were calm in the vicinity of my house. During the four hour duration of the incident I described in my written report to Intel, the local weather station recorded 31 readings. Of those, 22 were “calm” and 6 were 1.0 mph from the

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north, northeast or north northeast. But from 11:35 p.m. to and including 2:00 a.m., by which point my house was full of fumes, all but one of the readings were “calm” and one registered 1 mph from the northeast. Mr. Little commented that while he could vouch for the readings from the Intel station because he knew that the equipment there was professionally maintained and properly calibrated, he could not say the same about this local weather equipment -- he had no information to support its accuracy. Thus I concluded then that by extension, he dismissed these data. If the equipment could not be confirmed as reliable and up to standard, then the data it generated could not be considered reliable. That is why I stated at the January 16 meeting that Mr. Little dismissed the local weather station data.

Sentence 3

“Intel data noted the wind was calm or coming back up towards the north.”

Clearly, this sentence is incorrect and reflects the difficulty and challenge of accurately recording everything at a meeting of an organization such as CEWG where so much of the discussion is very technical. As I have already stated, I understand that the Intel data for the time period under discussion indicated that the wind was coming from the north and believe I so stated during this discussion. Further I stated that most of the measurements from the local weather station indicated the wind was calm in my neighborhood at that time.

Sentence 4

“Mr. O’Mara said he was interested in knowing about the differential between air movement and wind that affected the settling of emissions.”

Perhaps this is a fair representation of what I said. I want to know more about the potential for the wind to move in different directions at the same time at different altitudes while taking into consideration the topography of this area. The fact that winds were calm for a couple of hours near my house while at the same time, they were not calm at Intel, some two miles away, piques my curiosity. At various times, I have indicated that no evidence exists to prove that Intel-generated fumes filled my house on four separate occasions during the summer of 2011. Neither am I willing to say that this could not have been the case.

Sentence 5

“It seemed to him that a second weather station lower on the property would illuminate the situation more.”

This is also a fair representation of what I tried to express at the meeting, though I would substitute the word “might” for “would.”

Now I would like to offer some comments in direct response to Mr. Little’s submission. I have copied his text below and added spaces for my responses which appear in italics.

John - I was characterized inaccurately by Dennis O'Mara in the previous meeting.

While we are updating the record, let it show that the original meeting summary may have inaccurately characterized Mr. Little’s previous statements but that I did not.

Let the record reflect that I was the one that brought up the local weather data found on www.wunderground.com. I pointed out that the presence of personalized weather stations in his neighborhood,

As I previously acknowledged above, this is correct, and I do not see anything in the record or recall making any statements to the contrary.

and their data actually agreed with the data from Intel. In other words, the wind was blowing from Corrales toward Intel at the time of Dennis' complaint for the only day he could remember a time and date for when he detected odor.

As I indicated above, the data from the local weather station did not agree with Intel’s data for the time period in question. The local data said the wind was calm for a substantial period of time in question while the Intel data indicated the wind was moving from points north.

No data were dismissed.

As I indicated above, Mr. Little called into question the reliability and accuracy of the equipment at the local weather station. This is why I said that he dismissed the data that were generated there. We can debate intentions, meanings and recollections, but I stand by this statement. He took the position that the local equipment could not be considered reliable. By extension, I concluded that he believed and conveyed to CEWG that the data from the local equipment were of no use.

My point then: how could wind measured blowing from the north to the south carry odor-contaminant from Intel (south) several miles to Dennis (north of Intel).

Again I say at the critical time in question, the wind was not blowing from north to south at my location but instead was calm. Had the local equipment measured substantial and consistent wind

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from the north at my location that night, we probably would not be having this discussion. As my dear departed Daddy used to say, “I may be a fool but I’m no idiot.”

He and one other attendee suggested that at 11:30PM on a warm August night with temperatures as I recall in the 70's,

Yes, according to the local weather station data, the temperature in my neighborhood at 11:00 p.m. on August 22 was 77.2 degrees F., at midnight it was 73.9 degrees F., at 1:00 a.m. on the 23rd it was 72.5 degrees, and at 2:00 a.m. it was 68.4 degrees F.

the box-effect could have been in effect.

Yes, we believe that it is possible for the box effect to have been in effect, although we have no way to prove that it was at that particular time.

They had indicated that the wind which is not directly measured at the stack

Yes, the Intel weather station does not measure the wind speed or direction “at the stack” since the weather station measures at 10 meters (elevation of 1,603 meters) and the stacks are now at 40 meters (elevation of 1,633 meters). By way of comparison, the local weather station is situated at about 1,533 meters.

could be blowing a completely different direction and when it reached Dennis's home or some distance after Dennis's home, the odor-contaminants settled and blew back over his neighborhood.

This is what I am saying I believe to be a possibility.

That theory I dismissed.

The fact that Mr. Little dismissed the box theory does not mean that it did not happen or that some other phenomenon did not occur. I think continued discussion and exploration of this and related issues and theories should continue. This, as I understand it, is why we are having the current discussion about adding a weather station and how such station could be located at a much lower altitude than the Intel weather station.

I suggest Hugh can elaborate on the probability of a box effect on a warm summer night versus the onset of typical drainage winds flowing south. Mike might want to comment (again) on the how dilution works and what concentrations would have to be present to still have an odor 2 to 3 miles away from their purported source.

I am always open to these sorts of discussions (again). One question I would put on the table is to what extent a swamp cooler, while drawing outside air into a house, could concentrate pollutants in that air.

My recollection is these data should be in the historical minutes.

If by “these data,” Mr. Little means the wind measurement data from the two locations under discussion, I have copies and would be pleased to share them so they can be entered into the record if not already there.

I realize it is permissible for anyone to say anything in the meeting

Yes, this is true, but I do not and was not saying just “anything.” I only speak when I have something to say that I believe is relevant.

and their meaning if not exact words will be accurately recorded.

Clearly, in this case, neither my meaning nor my exact words were accurately recorded. As I said at the February 20 meeting, this is a good lesson for me -- I should always read the meeting summary if I have spoken at the meeting. It should also be a good lesson for everyone reading the summary: take care before drawing incorrect conclusions based on inaccurate content in the meeting summary.

However, if I was present I would have challenged the recollection as I am doing now.

I regret that Mr. Little was not present for this discussion. If he had been, perhaps we all could have saved a lot of time and effort. On the other hand, this exchange has helped me to more clearly understand the events under discussion and for that I am most grateful.

Staying tuned in,

Thom Little

Since Mr. Little has extensive historical perspective and substantial technical knowledge, why not invite him to attend future CEWG meetings, even though he is no longer with Intel.