DRAFT MEETING SUMMARY
Community Environmental Working Group

"Striving for Continuous Environmental Improvements at Intel"

Date: December 19, 2007
Time: 5:00-7:00 p.m.
Location: Your Place Or Mine

Members Attending
John Bartlit, Acting Chair
Sarah Chavez, EHS Department, Intel
Frank Gallegos, Intel EHS Manager
Mike Williams, NM Clean Air & Water
Hugh Church, American Lung Association

Technical Support Staff
Andrew Moen, Intel Environmental Eng.
Harry Hunsaker, Intel
Liz Shipley, Intel

Public
Roberta King, Corrales resident
Jay Stimmel, Interested Citizen
Lynne Kinis, Corrales resident
Ralph Williams, Class One Technical Services, Panelist
Eric Maddy, Sandoval County On-Line Reporting Enterprise (The SCORE)

Facilitator
Kathy Isaacson, Domenici Littlejohn, Inc.
David Bergeron, recorder

HANDOUTS

- Draft Agenda
- Draft November 19, 2007 Meeting Summary
- EHS Activity Report
- This month's newspaper ad
- Notice of Violation and Resolution from NMED dated January 4, 2007
- Intel letter dated July 27, 2006 subject NMED Intel Inspection Request on July 14, 2007
- List of starter issues and questions for modeling committee
- Analyses of '03 OP-FTIR monitoring results
- Action-Item Progress Report

WELCOME AND INTRODUCTIONS:

John Bartlit reviewed the CEWG mission statement and corrected the day indicated on the agenda from Monday to Wednesday. He asked for other comments about the agenda and meeting summary, and there were none.

Eric Maddy introduced himself as the owner/publisher of Sandoval County Online Reporting.

Public Comment

Kathy Isaacson called for discussion on the issue of electing a vice-chair to stand in for the chair in the event of that person's absence. After some discussion, the consensus of the group was that the Facilitator could appoint an acting chair if needed.

Panel on Modeling – Hugh Church, Mike Williams and Ralph Williams

Background: A committee has been established to study the issue of stack height and make recommendations to the CEWG in regard to stack height. Mike Williams, Hugh Church, and Edward Pineda agreed to serve. Frank Gallegos suggested that Lynne Kinis be a part of the committee, and she agreed. The panel of modeling is a first step in the process of studying this issue.

Comments by Ralph Williams:

Ralph Williams received his educational training from University of New Mexico in chemical engineering. He has been a professional engineer in New Mexico working on environmental issues for 34 years. A significant part of that time has been directed to air quality, with an emphasis in dispersion modeling. In 1973 Ralph was introduced to modeling topics during his senior year in college. After graduation, he worked for Conoco for three years. In 1976, he returned to New Mexico and worked for the Public Service Company of New Mexico through 1990. Since then he has been doing the same kind of business as a consultant. He is a co-founder of a company in Albuquerque called Class One Technical Services, which provides consulting services on air quality to industry and the government.

In the early 1970's models, supplemented with monitoring studies, were first used as tools for air quality studies. Early models tended to greatly over-predict in most circumstances, meaning that the results were greater than actual field measurements. This was especially true when looking at complex terrain interactions such as mountains or cliffs. The early models did not incorporate those concerns very well.

The EPA website on models is called SCRAM (Support Center for Regulatory Atmospheric Modeling), which defines modeling as:

> "Air quality models use mathematical and numerical techniques to simulate the physical and chemical processes that affect air pollutants as they disperse and react in the atmosphere. Based on inputs of meteorological data and source information like emission rates and stack height, these models are designed to characterize primary pollutants that are emitted directly into the atmosphere and in some cases secondary pollutants that are formed as a result of chemical reactions within the atmosphere. These models are important to our air quality management system because they are widely used by agencies tasked with controlling air pollution to both identify source contributions to air pollution problems and assist in the design of effective strategies to reduce air pollutants."

A model takes basic knowledge of the atmosphere, how it works, and knowledge of the emissions and uses these to calculate a concentration in any particular point of interest, or "receptor."

Models use various inputs such as wind direction and wind speed, which can predict direction and dilution as emissions travel from source to a given receptor. Air turbulence affects direction and dilution. The study of turbulence of air in mathematical terms is a primary interest of dispersion modeling.

In particular, most pollutants are emitted at or close to the surface of the earth, making the study of the boundary level adjacent to the surface of the earth an important aspect of dispersion modeling. Fluid mechanics is the study of movement and behavior of air in this layer, which can be as thin as a few hundred meters or can extend up to five thousand meters depending on ambient conditions.

The models, which characterize the behavior of the planetary boundary layer and how pollutants disperse, involve a long history of study. There are two current regulatory models commonly in use -- Air-Mod and Cal-Pod. As an example, the Air-Mod model began to be developed in 1996 or 1997. A committee of scientists and professionals pooled their knowledge and information and current status of information on modeling. and developed what has become the Air-Mod model. For general acceptance and regulatory use, the model must go through a variety of processes, which are described in a document that is published in the federal register and can be found in the 40-CFR-51, Appendix W. That is the federal guideline of air quality models.

The Preface of this guideline lists four steps/stages, or processes, that models must go through before being accepted for general regulatory use. The four steps are:

1. A series of annual EPA workshops conducted for the purpose of ensuring consistency and providing clarification of the application models.
2. A cooperative agreement between the EPA, the scientific community as represented by the American Meteorological Society, that provides assessment of procedures and proposed techniques and provides for workshops on key technical issues.
3. The solicitation and review of new models from a technical and user community.
4. Extensive on-going research by EPA and others in the air quality and meteorological modeling business.

All of this goes through public review and peer review and is published in the Federal Register. The documentation for all the models is made public, and everyone has a chance to comment on it. The modeling process went through numerous iterations over many years, and the Air-Mod model took roughly ten years for final approval, which happened in 2006.

The results of models are compared against actual field studies (monitoring data gathered in a variety of circumstances for different types of facilities). A model is ready only when it is tested in this way and produces results that are realistic and do not widely over-predict or under-predicts the impacts. As the models have improved, the comparison of the model results to what you actually monitor in the field have certainly gotten better and better over the years, although a perfect straight-line relationship never exists.

- Ms Kinis asked whether temperature and atmosphere pressure where included in meteorological data. Ralph responded that yes, there is a wide variety of meteorological data that go into the models – wind direction, wind speed, stability – directly related to the turbulence of the atmosphere, which is really what determines how quickly materials disperse. The turbulence can be characterized in a variety of ways, and different models use a various methods for characterizing turbulence. Measuremenht methods may be direct or indirect. A simple example: We not only measure wind direction, but we measure the fluctuation of the wind direction –how much wind is moving around during an averaging period. Another way is taking the temperature difference – called Delta T –between two heights on your measurement tower. The temperature difference on the tower is also related to the turbulence in the atmosphere. There are numerous ways of modeling this. The models also require data on cloud cover, which we normally get from the local/national weather stations and a parameter called mixing height, a vertical profile of temperature as you start at the ground and go up. These data are collected by the National Weather Service when they send up balloon twice a day. So, there is a wide variety of meteorological data that goes into the model.

- Roberta King asked how high mixing data is collected. Ralph said the balloons go up at least several kilometers – probably up to about five kilometers. Although fast wind can blow balloons away before they can be tracked, they generally go much higher than anything we need to be concerned about with the Intel facility.
- Mike williams commented that these are the same balloons used to figure out where the jet stream is – so, they go up very high.
- Ralph explained that mixing height is normally only concerned with what happens in the lower few hundred or few thousand meters. For Intel, the concern is certainly in the lower part of this range. The mixing height is used to characterize the depth of the inversion for the model.

Comments by Hugh Church:

Hugh Church introduced himself as a professional meteorologist with a certification from the American Meteorological Society. He graduated from University of New Mexico in 1950 with a meteorology degree and in 1956 got a Masters Degree from UCLA. He worked with the Weather Bureau in Washington, DC, in the severe storms researching tornados and high winds across the Texas plains for a year and then returned to Albuquerque and worked with Sandia Labs in 1957, retiring from there in 1998. While there, he worked in sound propagation and fall-out prediction from nuclear weapons testing at the Nevada test site and in the Pacific.

After the Test Ban Treaty in 1961, the need for meteorological services for testing support diminished; however, the issues of safety involved in the transport and storage of radioactive material is on-going. He has been involved in various field experiments where measuring the transport and diffusion of pollutants of various types, both gaseous and particulate.

Fallout prediction was really where this work got started. Nuclear explosions in Nevada raised a lot of dirt from the surface, and radioactive materials produced by the explosions were dispersed at various altitudes and there was fallout downwind in various places. The idea was to minimize this from happening off-site.

- Mr. Bartlit asked Mr. Church how long he has been a volunteer with the American Lung Association. Mr. Church responded since 1975. He has been on the Albuquerque/Bernalillo Air Quality Control Board from 1986 to 1991. The primary goal there was taking care of emissions of criteria pollutants – like carbon monoxide.

Mr. Church presented slides (attached) that showed an idealized plume description to show some of the parameters found in a typical model. Models come in all types. They are physical, mathematical, and chemical representations of the real world. The plume height includes the stack height plus an effective height above the stack, because the emissions leave the stack with some velocity and thermal buoyancy. The key is delta H, which is the amount of rise above the actual stack height that would be realized by whatever is being emitted from the stack. The geometrical coordinate system has "X" pointing downwind to simplify the mathematics. The model will show the amount of spreading that a plume does about the centerline from the actual height. The model would also show the concentration profile of the emissions at various points downwind of the stack as well as the dispersion of the plume.

The amount of dispersion of the plume is highly dependent on atmospheric turbulence. Stability is defined by both the wind speed and direction and the temperature profile. The temperature profile can be taken from the plume or a tower nearby.

Slide 2 shows idealized plumes. Each example shows the temperature profile in red, and the dashed line shows the dry adiabatic lapse rate (DALR). If the temperature profile in the environment is parallel to the dry adiabatic lapse rate and the air is nice and dry, you have what is called neutral stability.

The temperature normally decreases with altitude, but sometimes it increases with height. When the latter happens, a thermal inversion results. This is typically what happens at night. On a cool, no-wind, clear sky situation the surface gets very cold relative to the air that is above it. The slides show what happens with various atmospheric conditions.

The third slide shows logarithmic display of the different layers in the atmosphere. Each layer is an order of magnitude (10 meters, 100 meters, 1000 meters) higher than the previous layer.

Slide four shows how the boundary layers change over a typical 24-hour period. During daylight hours there is considerable mixing, i.e. turbulence, due to convective air flow, but during nighttime hours the atmosphere becomes more stable (less turbulence).

The fifth slide shows the meteorological conditions that define the different stability classes.

Models must be used because measuring devices cannot be put everywhere.

Comments by Mike Williams:

Mike Williams has a PhD in Engineering from UCLA. He became interested in air dispersion in 1969 and was involved in studies at Lake Powell power plant. He has been working at Los Alamos National Lab for thirty years developing and testing models.

- Mr. Bartlit asked if he had ever worked for money for industry, regulators, citizen groups? Mike responded that he has worked for citizens groups and has done some industry work, but mostly he has acted as a consultant for state governments.

Mike stated that he wanted to address what we hope to gain and why we talk about doing taller stacks. There are two basic issues:

1. To make the stack tall enough so that if there is a building below the stack, the plume does not mix down and get caught right behind the building.
2. The purpose of traditional practice of building stacks higher is to take the emissions further downwind before they get down to the ground. Once the plume gets down to the ground, it starts losing material. Also people breathe the emissions and pollutants at ground level.

With a shorter stack, the plume travels a much smaller distance, so it does not spread as much before it hits the ground. As a result, the concentrations are a lot higher at the maximum point. This is one reason for building the stacks taller.

In the limited mixing case Mr. Church had showed how the mixing height changes through the day, so basically at night it's going to be down pretty low and the stuff will probably just drift off. As the sun comes up it heats the ground surface and makes the lower layer unstable. Eventually as the day proceeds, the material is trapped and creates an inversional loft, which can force emissions down on the ground. After a while the plume becomes essentially uniform in the vertical direction, and it spreads horizontally so you can get concentrations out some distance. In this case, the different stack heights do not play much of a role.

- Frank Gallegos asked whether thermal oxidizer stacks create higher temperature and therefore cause the actual plume go higher. Mike agreed. When the thermal oxidizers are running, they pump so much heat into the plume that everything rises together. It does not matter if one part of the plume has heavier air, as the whole bulk is what really matters in this case. However, one of the things the group should think about is thermal oxidizer downtime, when the plume may start to look like a heavy gas. Mr. Bartlit suggested capturing this idea on the action item chart. What happens when the plume is cold -- because the thermal oxidizers are off? That is something to give to this committee.

Mike explained that in a stable atmosphere, if you move some of the air up, then it goes into the atmosphere, where the temperatures decrease, and it finds itself cooler than the air around it and it settles back down. Similarly, if you cool it down, it will find itself warmer and float back up so vertical motion is switched. When this happens the emissions tend to spread horizontally, but not greatly. Mike has seen plumes at power plants that had traveled 90 kilometers, and the plume was only 100-200 meters in thickness.

Mike went on to address several variables:

Neutral plume motion: Here plume motion is neither suppressed nor encouraged, so you get not as much spread in the horizontal as you do in the vertical direction.

Unstable plume: This involves a looping plume within a time average, where you see something spread over a very large area. The plume spreads very close to the source, so you get interactions very quickly, as happens when the spread in the vertical direction is greater than the horizontal. As the parcel of air is raised up, it increases its temperature as it expands to the lower pressure, but is warmer than its environment. In this case, the atmospheric temperature is decreasing even faster so the plume just keeps going. Its vertical motion is exaggerated and unstable.

Terrain Effects: It is possible to get very high concentrations when the height of the terrain is above the height of the base, a worrisome condition. With respect to Intel, we are talking about something different. The source is up on the plateau, which slopes a little bit, but the plume may actually head down into the valley. Typically, the plume will probably end up well above the valley floor because the cold air goes downhill until it hits colder air in the valley and then it will level off or move up.

Important Caveats: What happens with the surface temperatures depends on what is down in the valley. For example, if there were a lake, at night the lake's temperature would not change very much – but the air temperature would. In that case, the colder air would fall right down on the lake, following the slope down. If there were an irrigated pasture it would behave similarly to a lake. Its temperature would not change that much so you might have a situation where the plume will tend to go down more. If the terrain is very rough, i.e., lots of rocks and trees, then you get mechanical mixing. So that while the whole plume does not get to the bottom of the valley, it may increase concentrations somewhat.

Building Effects: Buildings make the flow much different. The plume tends to mix around and get trapped between structures. The plume can be affected by the motion around buildings. The concentrations can also be affected just by the mixing around the buildings.

A taller stack may get you plenty of mixing right behind the building. That will help a lot close to the building and it pushes the distance at which you are going to see effects further downwind. However, you don't lose anything to the ground and you may not be in a better situation for people farther downwind.

- Mr. Bartlit asked if it is possible for the model to predict a higher concentration than was ever measured anywhere (using good models with good data)? Mike responded that that was possible, but the models are built with a lot of physics and measurements telling you how the plume should act.
- David Bergeron asked Mike what the typical accuracies were for the different models. Mike responded that this depends on what you asked the model. The accuracy could change with the data being sought. If you ask how the maximum predicted concentrations compared with the maximum measured concentrations over a year's time, the model would probably be within a factor of two. If you start asking about specific occurrences at specific times, it may be off by two or three orders of magnitude.

Committee Issues

- Ms Kinis acknowledged that she would like to participate on the stack sub-team, and she would ask questions when she met with the group.
- Mr. Gallegos asked how soon the sub-team would be meeting? The sooner the group could provide a decision on the stack height the better.
- Ms Kinis raised a concern about grouping the thermal oxidizers closer together and whether that would lead to higher emissions in a smaller area or potentially higher

downwind concentrations. What do we lose by grouping them closer together? If we're talking about when the thermal oxidizers are running, we might actually do better, because if you run them into the same stack you get a higher buoyancy flux and that means a higher plume rise.

- Mr. Bartlit said another topic that came from Monday's meeting was good engineering practice. Mike Williams agreed. Using good engineering practices keeps emissions from getting mixed down into the building plane where it spreads immediately and forces it to float up higher in the atmosphere and not mix down at ground level. He felt the group needed to take a somewhat broader view. The group could evaluate the effect at both at the plant and out in the community.

Summary of Issues to be addressed by the committee:

- Cold plume effects
- Terrain effects
- Building effects
- Modeling accuracy
- Stack-grouping effects
- Good engineering practice
- Wind-direction effects and insights from the wind-direction study (below)
- Thermal oxidizer downtime effects

Wind Direction Study of Open Path FTIR Results – Harry Hunsaker, Intel Environmental and Safety Group:

Mr. Hunsaker summarized a new analysis of the Open Path FTIR data originally collected during the Corrales air study in 2003 in terms of wind direction. Mr. Hunsaker explained what kind of analysis were done and why. He did not get into the results of the analyses.

There was no effort during the Corrales study to identify possible sources of the measured substances. TRC did the monitoring for Intel and all of that data was used in the air quality study. Mr. Gallegos clarified that this was the fence line monitoring.

Analyzing the data with respect to wind direction increases the understanding of possible sources of the measured substances. The measured substances would have been from various point, area, or mobile sources. If the wind direction changes over time, then looking at the measurement data can provide insight about possible sources. For example – if the hypothetical point source were a combustion emitter, it might also be possible to have contributions from vehicle tailpipes at another location. By studying the wind direction during the sampling period, it is possible to estimate the contributions from both possible sources.

Results were grouped into 'downwind' and 'upwind' of the manufacturing facility. Separating the results into those two groups allows for comparisons and raises the question, "Are there differences in the measurements between those upwind and downwind of the facility groups and if so, why?"

Three measured low-toxicity substances unique to Intel operations were used in the manufacturing processes and had previously been detected under routine stack emissions testing. There was no other known source for those substances. Almost all of the three measured substances were under downwind conditions, which validates the method of comparing OP-FTIR results of the other substances – by wind direction relative to the manufacturing facility.

These three substances that were unique to Intel operations – the vast majority of them were under downwind conditions, not only at the southeast end of the facility – but at the monitoring at the opposite end. For example, one of the substances was carbon tetrafluoride. It was measured more than 600 times at the southeast location when the wind was from the North Northwest to the North. Ninety eight percent of the time this substance was detected when the wind was blowing across the facility and directly toward the monitoring path.

- Mr. Gallegos asked where in the Intel facility that would that have been. It appeared to be coming from several of the scrubber stacks. The question was asked whether all three substances were from the scrubber stacks and Mr. Hunsaker confirmed that they were.

Because of this correlation, we believe it is valid to group other substances according to whether their measurements were upwind or downwind of the facility and make comparisons accordingly.

Measurements were also analyzed by time of day and grouped into daytime and nighttime (defined as 6:00 a.m. until 8:00 p.m. and 8:00 p.m. to 6:00 a.m. respectively).

In the previous presentations, the panelists said that nighttime hours are generally more stable in this area with less mixing and dilution of substances. If the amount of the substance emitted into the air is relatively constant, it is possible to see higher concentrations at nighttime because of the increased stability, less mixing and dilution.

Some substances may be emitted or formed primarily during certain times/portions of the day – for example ozone formation, which depends on the presence of the energy of the sun to drive the reaction that forms ozone. So, you would expect to see higher levels of ozone during the daytime hours.

Another reason for looking at daytime/nighttime is traffic patterns. Rush hour times occur during daytime hours and there are much lighter traffic patterns during nighttime hours.

The third way the measurements were evaluated and studied is called pair wise correlation, which looks at how often and in what way two or more substances are detected at the same time. This is done because of the potential for toxicological interaction among substances—the question about how the combined health effects of two or more substances present at roughly the same time interval differs from the individual effects of the substances. In order to have a toxicological interaction there has to be a mixture present, so looking at pair wise correlations and evaluating how often and in what way pairs of substances were detected at the same time gives information about the extent of mixture conditions. Another important reason for pair wise correlations is that substances detected at the same time may have the same or similar sources.

Excerpts of wind-direction results, time-of-day results and pair wise correlation results can be found on slides 11, 12 and 13 of Mr. Hunsaker's presentation attached to this summary.

These first-ever evaluations complement other studies and therefore can lead to improved understanding and communication of risk, including realistic hypotheses about the sources, behavior, and mixture conditions of the substances measured in the air-quality study.

The data used in project have been in the public domain since 2004 and are posted on NMED website: http://www.nmenv.state.nm.us/aqb/projects/Corrales/index.html

He also confirmed that the North/North Northwest wind direction had the most hits in the monitoring at the southeast location. He said that area covered quite a few of the scrubbers – 11S, 11N, 11W.

- Mr. Williams asked if there was any explanation as to why the monitoring didn't pick up from other scrubbers in other directions. Mr. Hunsaker said it was possible those substances could have been used in greater quantities in the North to North Northwest wind sector (that is, the F11 factory).
- Mr. Bartlit suggested that the sub-team could be looking at this data, and they may make recommendations about how to proceed since this does relate to what they are going to be doing.
- Ms King asked whether the FTIR monitors are programmed to identify specific substances. Mr. Hunsaker said yes. Are they also programmed to pick up substances from thermal oxidizers? Mr. Hunsaker answered – absolutely. The monitoring in this study included substances that were known to be present by routine stack testing in scrubbers and the thermal oxidizers as well as other substances that are not associated with Intel that might point the way to transient odors.
- Ms Chavez asked if anything was done to identify unknown substances that were picked up in the monitoring, and Mr. Hunsaker said that doing so would be time-consuming and costly and that they selected those substances that are known to be present here and that are of concern to the people and community here.

A copy of this report will be made available to CEWG to review further.

Other Business

Mr. Bartlit suggested postponing the discussion of health affects methodology to another time.

Mr. Bartlit reported that the Action Item he has had to get the report from the New Mexico Environment Department about the inspections from the hazardous waste has been completed. The information has been distributed at this meeting in the form of two documents a letter from NMED dated January 4, 2007 and Intel's letter dated July 27, 2006.

EHS Report

Sara Chavez said there were no complaints this month. One email came in after the EHS report was made, and this issue will be included in next month's report. Mr. Bartlit reminded the group that the report doesn't include the most recent incidents because the report is sent out early enough to reach people before this meeting and that result is what group wanted.

Martha Egan's comment in her email stated the smell was like burning tires, which Mr. Gallegos thought it might have something to do with the paving being done in the area.

Ms. King said she disagreed – that paving did not smell like burning rubber. She reported that she too had smelled what Martha had reported. She described the smell as burnt rubber. She also reported seeing a low-hanging cloud at the tree top level, which was an odd color. Mr. Gallegos said he would follow-up on that issue.

Path Forward for Stack Height Committee

Mr. Bartlit suggested that the group pin down further the next step. Mike Williams said he would do some exploratory calculations. Mr. Gallegos suggested that he and Ms Chavez meet with facilities group to understand the timelines for when a decision on stack height was required. Mike expressed a concern that the sub group would come up with a number of possible recommendations and that each of them would have different ramifications. The recommendation from the CEWG would need to address those ramifications – it was not the sub team's responsibility to address them.

Mr. Bartlit suggested that as the sub-team define the advantages of each path to help clarify the choices for the CEWG.

Ms. Chavez will clarify the drop-dead date for a decision on the CEWG's recommendation on the stack height.

Mr. Ralph Williams suggested that the sub-team keep their goal in mind in order to keep this whole project within reasonable bounds. For example, if Intel built a stack 200 feet high, the concentrations would be less. If they built it 300 to 400 feet high, it would lower still. What is the goal that help keep the project within reasonable or acceptable bounds? Mr. Bartlit said the only thing to do was to use best engineering judgment or the public's judgment.

Mr. Bartlit asked what Ralph Williams' relationship is to the committee. Can he or should he be on the committee? Is he available as a resource to the committee? What is the cost involved in that? Ms. Chavez said Ralph Williams was the consultant who did the modeling for the permit revision. Mr. Bartlit added that Eric Peters was also involved in it.

Ms. King asked if the sub-committee needs to look at where Intel's intake registers are in relation to the stacks? Ms. Chavez responded that it is done by Intel. Intel is looking at re-doing the ventilation study.

Mr. Bartlit asked the group to think about whether the panel discussion was useful. He suggested the group email their ideas about this. Ms. King felt the discussion was useful in light of Monday night's meeting. She felt like the two meetings helped clarify the issues about the emissions that were of concern. Mr. Bartlit and Ms. Chavez reiterated that VOCs are not modeled; the combustion emissions are what are modeled for the permit. Ms King raised the concern that without modeling the VOCs, there is no way of knowing the synergistic effects of the chemicals and how they might affect the public. Mr. Gallegos explained that NMED's position is that determining those effects are what the testing and monitoring is for. Ms Chavez added that that was what Mr. Hunsucker's report intended to clarify.

Ms. King asked if the report Mr. Hunsaker did was a re-evaluation of the previous report that Intel had corrected to identify false positives, in contradiction with the CCRAW's data. Mr. Hunsucker affirmed that this was the same data. An analysis by third party experts show that the potentially constant concentration of nitric acid over long periods of time – nitric acid by the way, has never been measured in our emission stacks – it was a constant level – everything else fluctuates – noise --- third party analysts said it was false positive. We submitted a revised set of data to the task force. Clearly with all the documentation that showed why it was a false positive and the data that subsequently was analyzed during the risk assessment air quality study and the data that I report on eliminated that false positive information. After several exchanges to clarify questions, Mr. Bartlit suggested continuing this discussion privately.

Mr. Bartlit thanked the panel for a lot of work and excellent presentations.

MEETING ADJOURNED

NEXT MEETING:

January 16, 2008, 5 PM at Your Place or Mine Catering