

October 9, 2013

To: DEQ

From: Miki Barnes

Re: Testimony on the Intel Air Quality Permit

I urge the DEQ to include the following in any future air quality permit arrangements between DEQ and Intel.

### **1) Reschedule Hearing Due to Equipment Failure**

The failure of the equipment to record testimony submitted at the 9/16/13 DEQ hearing on the Intel air quality permit proposal should render the hearing invalid. DEQ should hold a second hearing that is widely publicized throughout the region and that includes detailed information about where Intel's toxic emissions are carried as a result of prevailing wind directions at various times of the year. It is clear that the DEQ Hare Field monitor is not appropriately placed to register or monitor Intel emissions. It is also evident that Intel's toxic emissions travel well beyond the Hillsboro area.

### **2) Factor in Prevailing Winds**

As Robert Bailey pointed out in the testimony he submitted at the DEQ Intel hearing on 9/16/13: **"...the prevailing winds at the Portland-Hillsboro Airport are available at <http://www.wrcc.dri.edu/htmlfiles/westwinddir.html> and indicate clearly that from October through April, the prevailing winds are from the south. During May through September, the prevailing winds are from the northwest.** This meteorological information is critical to understanding the potential impacts to large populations and communities within the Tualatin Valley."

The Hare Field monitor that DEQ referred to in their public meeting and hearing is not placed in a location that accurately captures the pollutants blown by the prevailing winds from the Hillsboro Airport or Ronler Acres. Monitors would need to be placed to the north from October thru April and to the Southeast from May to September. The Hare Field monitor, however, is located to the west, and slightly south of both HIO and Intel, thus is not well positioned to record emissions from either of these facilities. As a result, the Hare Field monitor creates the false pretense of providing accurate air quality readings when it is in fact placed in such a way as to allow the impacts of some of the most major polluters in the county if not the entire state to be downplayed and under-reported.

To address this issue, I recommend that a citizen-chosen committee work with DEQ and Intel on more appropriate placements to measure emissions from all Intel facilities. I also request that DEQ refrain from making comments about Hillsboro Airport air quality impacts at public hearings and meetings based on readings from the Hare Field monitor for the reasons stated above. Rather than estimating, DEQ should engage in actually monitoring air quality in close proximity to Intel and the Hillsboro Airport as well as other airports in the region.

### **3) Investigate Timing of Intel Expansion Approval**

Require a full investigation into DEQ's approval of Intel's \$3 Billion expansion on 12/20/10, less than 2 weeks before more stringent EPA greenhouse gas regulations were established. All communications between Intel, DEQ, the EPA, Washington County, the City of Hillsboro, the State of Oregon, and any other agency or individual who might have been involved should be made publicly available to determine the degree to which the timing of DEQ's approval may have been orchestrated in such a way as to absolve Intel from abiding by the EPA emission standards established on 1/1/11.

See 10/7/13 Oregonian article [Intel's Air Quality Permit: DEQ Reviewing When Greenhouse Gas Regulations Took Effect in Oregon](http://www.oregonlive.com/hillsboro/index.ssf/2013/10/intels_air_quality_permit_deq_1.html) by Katherine Driessen for additional information.  
[http://www.oregonlive.com/hillsboro/index.ssf/2013/10/intels\\_air\\_quality\\_permit\\_deq\\_1.html](http://www.oregonlive.com/hillsboro/index.ssf/2013/10/intels_air_quality_permit_deq_1.html)

### **4) Require Intel to Abide by Major Source Polluter Regulations**

Due to the danger posed by the pollutants emitted by Intel in conjunction with the serious potential health impacts, Intel should be required to abide by the regulations of a Major Source Polluter.

### **5) Place Strict Limits on Greenhouse Gas Emissions**

Intel's request to more than quadruple greenhouse gas emissions to 819,000 tons per year is excessive and should be denied.

A 5/10/13 New York Times article [Heat Trapping Gas Passes Milestone, Raising Fears](http://www.nytimes.com/2013/05/11/science/earth/carbon-dioxide-level-passes-long-feared-milestone.html?pagewanted=all&_r=1&:) by Justin Gillis warned of the dangers of climate change due to carbon dioxide:  
[http://www.nytimes.com/2013/05/11/science/earth/carbon-dioxide-level-passes-long-feared-milestone.html?pagewanted=all&\\_r=1&:](http://www.nytimes.com/2013/05/11/science/earth/carbon-dioxide-level-passes-long-feared-milestone.html?pagewanted=all&_r=1&:)

The best available evidence suggests the amount of the gas in the air has not been this high for at least three million years, before humans evolved, and scientists believe the rise portends large changes in the climate and the level of the sea.

“It symbolizes that so far we have failed miserably in tackling this problem,” said Pieter P. Tans, who runs the monitoring program at the National Oceanic and Atmospheric Administration that reported the new reading.

Ralph Keeling, who runs another monitoring program at the [Scripps Institution of Oceanography](#) in San Diego, said a continuing rise could be catastrophic. “It means we are quickly losing the possibility of keeping the climate below what people thought were possibly tolerable thresholds,” he said.

As stated in my 9/16/13 testimony, the substantial increase in greenhouse gas emissions requested by Intel is a matter of serious concern. The State of Oregon encourages area residents to carpool, use public transportation, bicycle, walk and make other lifestyle modifications to reduce global warming impacts. In 2007 with the passage of ORS 468A.205, the state established legislative goals for addressing global warming - arresting emissions by 2010, reducing Oregon's emission growth to 10 percent below 1990 levels by 2020 and at least 75 percent below 1990 levels by 2050.

Along the same vein, President Obama has proposed reducing greenhouse gas emissions by 17 percent to 2005 levels by 2020.<sup>1</sup>

Intel's proposal to increase greenhouse gas emissions more than four-fold, from a combined total of 177,196 tons per year (tpy)<sup>2</sup> in 2011 to 819,000 (tpy)<sup>3</sup> runs counter to this state and national effort. Even without the waiver, Intel is the largest industrial source of greenhouse gas emissions in Washington County followed by Maxim Integrated Products (79,992 tpy) in Beaverton, TriQuint (61,102 tpy) in Hillsboro, and Jireh Semiconductor, Inc (41,033 tpy) in Hillsboro. With the proposed increase, Intel will become the fourth largest greenhouse emitter in the entire state surpassed only by 3 power plants – Boardman, Hermiston Generating Company and Klamath Cogeneration Project.

It is also noteworthy that these emission projections appear to be based only on the Ronler Acres and Aloha manufacturing facilities and do not include emissions generated by Intel's corporate jet fleet or emissions generated by the Oregon International Air Show, which Intel sponsors.

DEQ's air quality permit with Intel should require Intel to reduce rather than increase greenhouse gas emissions.

Due to high levels of greenhouse gas emissions and other pollutants, DEQ's air quality permit with Intel should include a mandate that Intel abide by the requirements of the federal emissions control program Prevention of Significant Deterioration <http://www.epa.gov/NSR/psd.html>.

## **6) Require Continuous Monitoring and Short Term Monitoring Limits (Hourly, Daily, Monthly)**

Since the rate at which toxins are released into the environment has a major impact on public health, short term limits (hourly, daily, and monthly) should be placed on all Intel emissions as opposed to a maximum release over a one year period. Some pollutants emitted within a shorter time-frame are known to have serious negative health impacts and can be lethal.

Establish a provision requiring continuous monitoring of Intel emissions and insure that these emission levels be readily available to the public.

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<sup>1</sup> Landler, M and Broder, J. Obama Outlines Ambitious Plan to Cut Greenhouse Gases. New York Times. (6/25/13). Available at <http://www.nytimes.com/2013/06/26/us/politics/obama-plan-to-cut-greenhouse-gases.html?pagewanted=all&r=0>.

<sup>2</sup> 2011 Greenhouse Gas Emissions from Large Facilities. Environmental Protection Agency (EPA). Available at <http://ghgdata.epa.gov/ghgp/main.do#/listFacility/?q=Find a Facility or Location&st=OR&fc=41067&fid=&sf=11001000&lowE=0&highE=23000000&g1=1&g2=1&g3=1&g4=1&g5=1&g6=0&g7=1&g8=1&g9=1&g10=1&s1=1&s2=1&s3=1&s4=1&s5=1&s6=1&s7=1&s8=1&s9=1&s201=1&s202=1&s203=1&s204=1&s301=1&s302=1&s303=1&s304=1&s305=1&s306=1&s307=1&s401=1&s402=1&s403=1&s404=1&s601=1&s602=1&s701=1&s702=1&s703=1&s704=1&s705=1&s706=1&s707=1&s708=1&s709=1&s710=1&s711=1&s712=1&s801=1&s802=1&s803=1&s804=1&s805=1&s806=1&s807=1&s808=1&s809=1&s810=1&s901=1&s902=1&s903=1&s904=1&s905=1&s906=1&s907=1&s908=1&s909=1&ss=&so=0&ds=E&yr=2011&tr=current&cyr=2011>.

<sup>3</sup> Public Notice: Proposed Air Quality Permit for Intel's Semiconductor Manufacturing Plants in Aloha and Hillsboro: September 10 Informational Meeting, September 16 Hearing. (Issue Date: 8/16/13). Pg. 2.

In an effort to protect the public health and the environment, Intel should be required to report all high-concentration spikes.

#### **7) Require Full and Comprehensive Reporting of all VOC's, HAP's and Other Pollutants**

Require Intel to provide a detailed list of all Volatile Organic Compounds, Hazardous Air Pollutants and other toxic pollutants emitted by its Washington County facilities including the Ronler Acres and Aloha locations as well as Jones Farm and Hawthorne Farms.

#### **8) Include Toxic Emissions from Intel Generated Aviation Activity**

The permit should also require Intel to report toxic emissions from Intel-generated aviation activity at the Hillsboro Airport and other airports in the region, including types of aircraft flown and number of operations (arrivals and departures) on a daily, monthly, and annual basis. This requirement should also include details as to whether the flights are business or recreational in nature. If cargo is being shipped, include tonnage and destination, type of aircraft utilized for transport, and the airport from which the cargo is being shipped. Also identify if cargo is being shipped to Intel and if so, how much.

Information on whether or not Intel pumps either jet fuel or leaded avgas at the Hillsboro Airport or any other airport in the region, should also be reported and, if so, how much daily, weekly, monthly, and annually.

#### **9) Establish a Community Safety Plan**

Intel and DEQ should establish a community safety plan in the event of an excessive toxic release due to equipment malfunction, aircraft crash, terrorist activity or other unanticipated emergency at an Intel facility.

#### **10) Decrease Toxic Emissions**

Intel is seeking DEQ approval to increase volatile organic compound (VOC) emissions from 99 to 178 tons per year. Increasing VOC's and other pollutants poses significant health risks, especially since many of the toxins included in this category are either known or probable carcinogens. The annual cost of treating pollution related cancer in Oregon is \$131 Million.<sup>4</sup> Some pollutants are linked with asthma and chronic respiratory disorders. According to the Oregon Environmental Council (OEC), the prevalence of asthma in Oregon is on the rise, and at 9.9% in Oregon adults and 8.4% in Oregon children "is considerably higher than the U.S. average of 7.2%."<sup>5</sup> Health cost estimates to address the medical needs of Oregonians who are suffering from this condition are approximately \$30 Million annually.

The Portland Air Toxins Study (PATs)<sup>6</sup> lists a number of pollutants that are already well above benchmark levels in Hillsboro. Including, but are not limited to:

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<sup>4</sup> The Price of Pollution. Oregon Environmental Council. (February 2008). Pg. iv.

<sup>5</sup> Ibid.

<sup>6</sup> Portland Air Toxic Solutions Advisory Committee. PATS 2017 Pollutant Modeling Study. (1/25/11). Available at <http://www.deq.state.or.us/aq/toxics/docs/pats/15pollutantsAboveSummary.pdf>.

- 1,3-Butadiene, a probably carcinogen that is also linked with heart disease, is already more than 10x above benchmark levels in Hillsboro. DEQ's PATS study recommended an 85% reduction, not an increase.
- Benzene, a known carcinogen associated with blood disorders, anemia and genetic disorders is also more than 10x above benchmark levels in Hillsboro. DEQ's PATS study recommended an 88% reduction, not an increase.
- Acetaldehyde, a possible human carcinogen, is also more than 10x above benchmark levels in Hillsboro. DEQ's PATS study recommended an 81% reduction, not an increase.
- Ethylbenzene, a possible carcinogen that affects the blood, kidneys, and liver is 2-5x above benchmark levels in Hillsboro. DEQ's PATS study recommended a 42% reduction, not an increase.
- Formaldehyde in Hillsboro is 1-2x above benchmark levels in Hillsboro. DEQ's PATS study recommended a 10% reduction, not an increase.
- Naphthalene, a possible carcinogen, is 5-10x above benchmark levels in Hillsboro. DEQ's PATS study recommended a 77% reduction, not an increase.

DEQ informational materials also reveal that residents throughout the Portland region are at a higher risk for cancer than most areas of the country.<sup>7</sup>

#### **11) Impose Sanctions on Intel for Failure to Report Fluoride Emissions**

Intel has been emitting fluoride since 1978 but did not report emissions to DEQ until 2012. Intel represented this omission as an "inadvertent oversight" and has not yet disclosed how many tons of this pollutant were emitted over the past 35 years.

[http://www.oregonlive.com/hillsboro/index.ssf/2013/09/intel\\_come\\_clean\\_on\\_fluoride\\_e.html](http://www.oregonlive.com/hillsboro/index.ssf/2013/09/intel_come_clean_on_fluoride_e.html)

[http://www.oregonlive.com/hillsboro/index.ssf/2013/09/intel\\_responds\\_to\\_fluoride\\_emi.html](http://www.oregonlive.com/hillsboro/index.ssf/2013/09/intel_responds_to_fluoride_emi.html)

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<sup>7</sup> Fact Sheet: Air Quality in Portland. Portland Air Toxins Report and Recommendations. Oregon Department of Environmental Quality. (DEQ). Available at  
<http://www.deq.state.or.us/eq/factsheets/12aq035patsReport.pdf>