

## Air Quality Advisory Committee Meeting

Meeting Minutes: April 1, 2020 Meeting

### Next Meeting

September 16, 2020 from 6:00 – 8:00 PM

Location TBD, will be posted to the website once confirmed

### Attendees

1. Members present:
  - a. Allen Amabisca
  - b. Carly Riter
  - c. Julie Layshock
  - d. Mark Mueller
  - e. Robert Bailey
  - f. Stephanie Shanley
  - g. Tom Wood
  - h. Tori Heroux
2. Facilitator:
  - a. John Harland

### Meeting Minutes

1. Members of the AQAC introduced themselves. Members in attendance listed above.
2. Facilitator John Harland thanked community members for joining the meeting virtually. Preview of meeting agenda shared.
3. Recap of previous meeting provided.
  - a. An updated [Frequently Asked Questions](#) document has been posted on the Index of Documents Page on the [www.oraqac.com](http://www.oraqac.com) website.
  - b. Due to the cancellation of the Q1 2020 meeting, Intel Corporation will be presenting stack testing results during this meeting for testing that occurred since the Q4 2019 meeting.
2. Community Opens
  - a. A community member asked for an update on Intel's Title V application to Oregon DEQ and how it is related to the Good Neighbor Agreement.
    - i. Stephanie Shanley, Intel, noted Intel has submitted an update to its Title V application and it is still pending with DEQ. She also noted that Rafe Christopherson, also from Intel, will present a slide on the Title V application update.
  - b. A community member asked if there are plans for additional monitoring beyond what monitoring has already been conducted per the Good Neighbor Agreement.
    - i. Stephanie Shanley, Intel, noted there are no current plans for additional monitoring at this time.

- c. AQAC member Robert Baily noted that he, along with AQAC member Allen Amabisca, submitted comments to the AQAC encouraging the AQAC to consider additional monitoring at some point in the future.
3. AQAC Opens
  - a. No AQAC member comments
4. Good Neighbor Agreement Items Update: Rafe Christopherson, Intel
  - a. Rafe Christopherson, Intel, reviewed the information in the meeting presentation materials, which can be found on the AQAC web site: [www.ORAQAC.com](http://www.ORAQAC.com).
    - i. Rafe will be taking a different role within Intel and will likely not be providing the updates to the AQAC moving forward. Another representative from Intel will provide the updates moving forward.
  - b. Stack testing
    - i. Intel uses stack testing to determine compliance with air permit limits, to determine the control efficiency of its Rotary Concentrator Thermal Oxidizers, and to determine emission factors for oxides of nitrogen (NOx) and carbon monoxide (CO) for emission calculations as well as to determine compliance with air permit Best Available Control Technology (BACT) limits. Any AQAC member is invited to witness the third party stack testing on the Intel site
    - ii. 2019 Stack Testing Update – Rotary Concentrator Thermal Oxidizer Test Results
      1. Intel compared stack testing results to its air permit limits. Rafe Christopherson noted that both NOx and CO test results were all below Intel’s BACT permit limits.
      2. A community member asked what company Intel hires to conduct stack testing.
        - a. Rafe Christopherson, Intel, noted ERM is the stack testing firm used by Intel. ERM is a third-party company, and is licensed and accredited. ERM followed the approved stack test protocol by the Oregon Department of Environmental Quality and uses EPA standard methods, including method 25a for testing of volatile organic compounds (VOCs). All results from ERM are submitted to the Oregon Department of Environmental Quality for review.
        - b. A community member asked what types of instrument are used by ERM to conduct stack testing.
        - c. Rafe Christopherson, Intel, noted ERM uses flame ionization detectors (FID) for VOC testing as required by US EPA Method 25a.
    - iii. 2019 Stack Testing Update – Scrubber Test Results
      1. Each scrubber test was run for 8 hours. All results were submitted to the Oregon Department of Environmental Quality and shared with AQAC members in February. Results will be used in future emission inventory calculations for hydrogen fluoride (HF) and total Fluorides (TF).
      2. A community member asked what Intel estimates its future emissions will be in regards to the permit limits currently in place.

- a. Rafe Christopherson, Intel, noted for the current expansion, Intel has committed to stay under existing permit limits. In the future, if Intel were to request higher permit limits, Intel would demonstrate emissions would be below any applicable regulatory and air quality standards. In the Health Risk Assessment in 2015, the AQAC assumed Intel was emitting at its permit limits. To date, Intel has not emitted at its permit limits.
  - 3. A community member asked in regards to charts on the Explore Intel website, why it seems as Intel's emission are increasing.
    - a. Rafe Christopherson, Intel, noted he would answer this question further along in the presentation, as he had a slide that would help reflect this information.
- iv. 2020 Stack Testing Plan
  - 1. Intel will be conducting stack testing at our Aloha fab in 2020. There is also potential Intel will be testing on D1X MOD 1 Rotary Concentrator Thermal Oxidizers.
- c. Continuous Emission Monitoring System Overview
  - i. Rotary Concentrator Thermal Oxidizers are used to control emissions of volatile organic compounds through combustion, of which temperature is a key factor. Intel has alarms to identify instances where temperatures are outside of the designated range. Intel has wet scrubbers that are used to control emission of acid gases. Water flow rates and pH are key factors in this process.
- d. Continuous Emission Monitoring Reporting
  - i. Since the AQAC did not meet in Q1, the table does include Q4 2019 and Q1 2020 data. Regarding the chart, blue is the number of alarms, and orange is the number of hours the alarm lasted.
- e. Annual Air Permit Compliance and Emissions Report Review
  - i. This information was submitted to The Oregon Department of Environmental Quality on March 10, 2020. It was also submitted to Neighbors for Clean Air and NEDC via email on March 17, 2020 from Stephanie Shanley and CCed AQAC committee members. This content is also posted to the Explore Intel websites for Ronler Acres and Aloha.
  - ii. The annual report included one deviation for the calendar year 2019, which we also reported to the AQAC at that time. All of our emission rates are below our air permit for both the Ronler and Aloha facilities.
  - iii. Regarding the question from the community member earlier in the meeting, Rafe Christopherson, Intel, noted Intel's emissions for particulate matter for 2018 to 2019 actually went down slightly, even though our production has increased – this is due to the installation of Wet Electrostatic Precipitator (WESPs). Intel manufacturing operations did increase from 2018 to 2019 which is reflected in increased emissions of other pollutants, but Intel is still below all applicable permit limits.
  - iv. A community member asked how much Intel is anticipating manufacturing to increase in the coming year.

1. Rafe Christopherson, Intel, noted he anticipates manufacturing will increase, but he could not specify by how much. He noted Intel will continue to stay below permit limits, even with the completion of our Mod 3 that is currently under construction. He went on to note that currently the Intel D1X facility is comprised of two Mods, and we are building a third Mod – so D1X will increase in clean room space by 33% for the D1X complex.

f. DEQ Submittals

- i. Intel submitted a Title V Application update in March. It includes a renewal of the current air permit, incorporation of Type 1 and Type 2 applications, as well as minor administrative corrections.
  1. A community member asked if Intel has submitted paperwork regarding its Air Contaminant Discharge Permit.
    - a. Patty Jacobs, Oregon Department of Environmental Quality, was in attendance and noted she has issued a completeness decision for the package that was submitted on March 10, and the renewal application of the Air Contaminant Discharge Permit is complete.
- ii. Intel also submitted an emission factor update to Oregon DEQ that requested updated emission factors to be used in the calendar year 2019 emission inventory based on recent tool-level testing as well as the recent RCTO stack testing results (discussed earlier in the meeting).
- iii. Rafe Christopherson, Intel, noted the last submittal was for a bypass report submitted on March 5 for D1B fab scrubber #3. The bypass occurred early in the morning and lasted for 1 hour and 22 minutes. The day before the bypass event technicians performed a full scrubber preventative maintenance. At the beginning of this preventative maintenance, the scrubber was isolated so work could safely be completed by removing the air to the air-actuated make-up valve. At the conclusion of the PM, this valve was not reconnected properly. When the scrubber restarted, the air actuated valve did not function properly and therefore the scrubber sump level dropped slowly until the level got to a level where the recirculation pumps could not be operated. There was then a loss in flow of recirculation water to the top of the scrubber, causing “dry scrubbing”. This triggered an alarm, upon which the issue was identified and the valve properly reconnected. The equipment was then restarted, ending the bypass event.
  1. A community member asked if a bypass event would be reported to Oregon Department of Environmental Quality.
    - a. Tom Wood, Intel, noted if there is an emissions control device that’s required to be run and the device does not run, Intel is required to treat this as an emission event, and report the event to the Oregon Department of Environmental Quality, as was done in this case.

5. Agenda for Next Meeting

- a. The next meeting is scheduled for September 16, 2020.
  - b. Proposed agenda items
    - i. DEQ Submittals
    - ii. Stack Testing Update, including "Stack Testing 101"
    - iii. Project Update
    - iv. A community member suggested the AQAC host a presentation from Scott Porter, Manager of Washington County Emergency Management
    - v. A community member suggested an update on the construction worker at Intel who tested positive for COVID-19 and how it is impacting Intel.
6. Community Opens
- a. A community member thanked Rafe Christopherson, Intel, for his clear answers and service to the AQAC.
  - b. Patty Jacobs, Oregon Department of Environmental Quality, noted with regard to the D1B scrubber #3 bypass, Intel provided a thorough report to the Oregon Department of Environmental Quality, which was evaluated and the response was deemed appropriate. Should this event happen again, it will go to enforcement. She also noted with regard to the previous community member's question on third-party stack testing, that Source Test Coordinators with Oregon Department of Environmental Quality approve testing methods. Finally she noted if "stack testing 101" is covered at the next AQAC meeting, she could ask a representative from the Oregon Department of Environmental Quality to be in attendance at the meeting to supplement that conversation.
  - c. A community member noted concern for pedestrian safety at the roundabout on Butler Road, adjacent to Intel Ronler Acres.
    - i. Carly Riter, Intel, noted Intel will follow up with him on his concern.
  - d. A community member asked how Intel is controlling diesel emissions with regard to the construction at their Ronler Acres site, and if this was directly related to the Washington County Wood Stove Exchange program contributions Intel has made.
    - i. Stephanie Shanley, Intel, noted Intel's contributions to the Wood Stove Exchange program are unrelated to Intel's emissions abatement. Regarding construction, it is covered within the Good Neighbor Agreement and Intel has made suppliers aware of its focus on diesel emissions. For the construction projects at Intel, the majority of engines are new, cleaner engines.
    - ii. The community member noted they appreciate Intel being a good neighbor and setting those expectations with its suppliers.
  - e. A community member requested an update on Intel's response to the spread of the COVID-19 virus.
    - i. Mark Mueller, Intel, noted Intel is spending a lot of time and effort responding to the COVID-19 situation and that many workers are working from home. Intel is making sure the company complies with the applicable local requirements.

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