

# Air Quality Advisory Committee

February 6, 2024

# Agenda

1. Welcome/Introductions
2. Recap of Previous Meeting
3. Community Opens
4. AQAC Opens
5. Good Neighbor Agreement Items Update
6. Agenda for Next Meeting
7. Public Comments/Questions

# Intel Type 4 ACDP Air Permit Application: Update

## DEQ Permitting Process

1. DEQ holds public meeting after determining application is administratively complete
  - DEQ can continue to request information throughout process
2. DEQ reviews application and develops draft permit
3. DEQ publishes draft permit and requests public comment
4. DEQ holds public hearing on draft permit
5. DEQ reviews and responds to comments submitted during public comment period and at hearing
6. After considering and responding to comments, DEQ will issue a final permit and notify interested parties.

## Permit Timeline Updates

- Type 4 ACDP permit application: 7/7/23
- Type 4 ACDP permit application update: 9/6/23
- DEQ public meeting held: 10/11/23
- DEQ public comment period: 1/10/24 – 3/1/24
- DEQ public hearing – 2/15/24
- A link to the application has been published on the AQAC website
  - ORAQAC.com
  - <https://www.oregon.gov/deq/Programs/Pages/Intel.aspx>

# Proposed Voluntary Actions

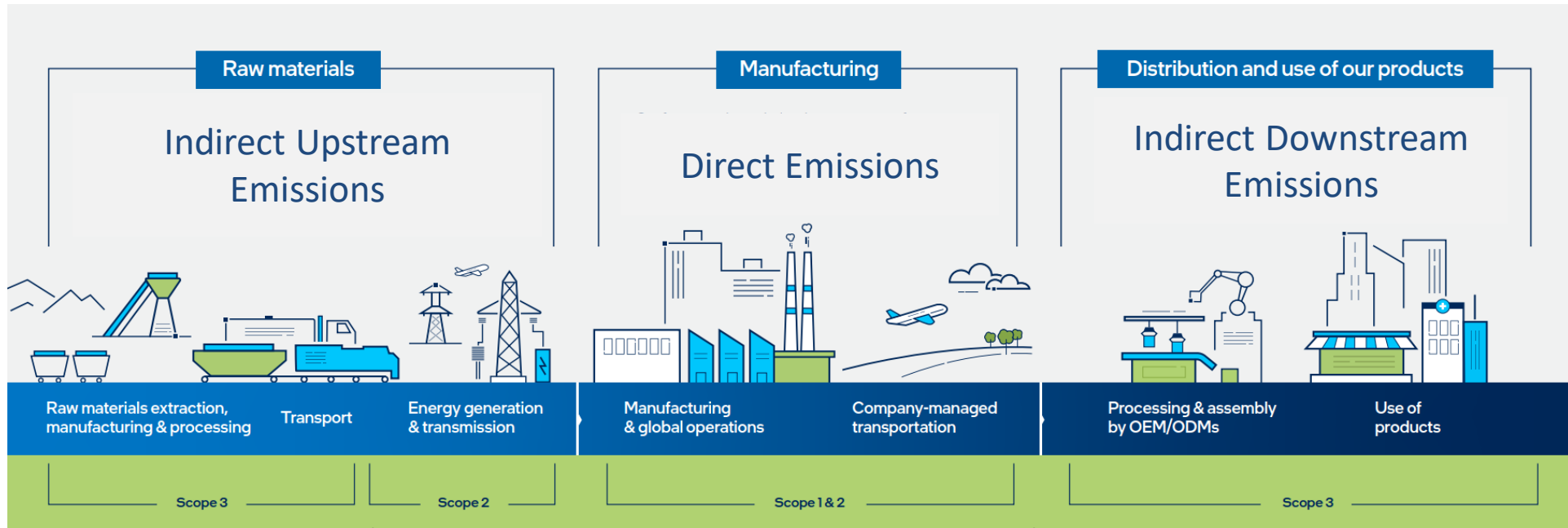
1. Voluntary Pollution Controls
  - Catalytic Diesel Particulate Filters
  - Wet Electrostatic Precipitators
2. More frequent stack testing of control devices
3. Test pilot new NO<sub>x</sub> emissions reduction system

# AQAC Opens

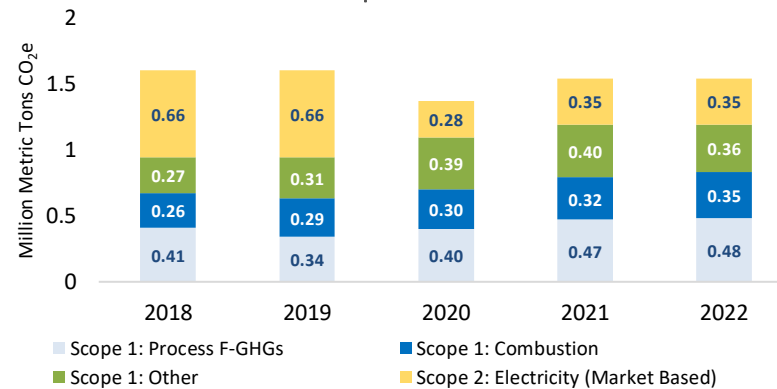
# Intel's 2040 Net Zero Goals

- Overview of what will be covered
  - Scope 1, 2 and 3 GHG emissions
  - Intel's Scope 1+2 GHG reduction goals

# Greenhouse Gas Emissions Overview

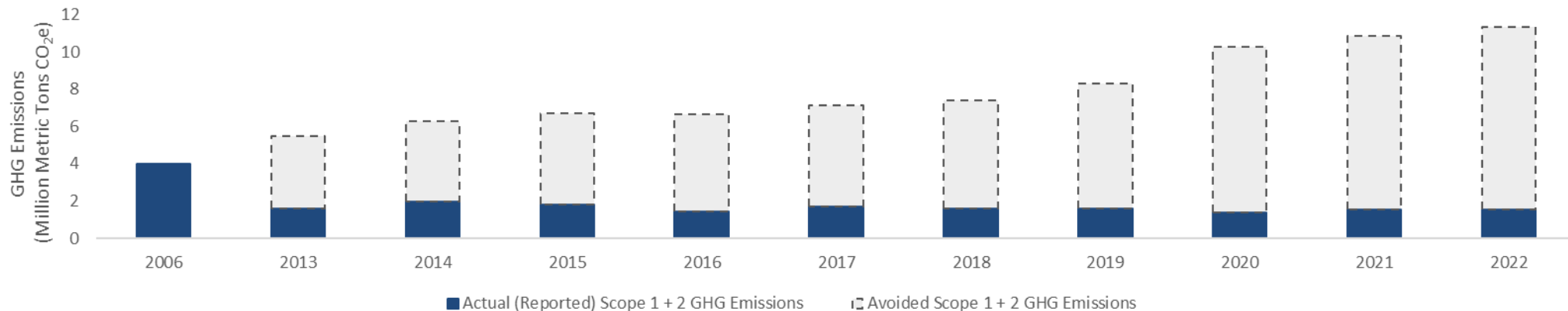


Intel's Global Scope 1 and 2 GHG Emissions



# Corporate Goals – Operational GHG Emissions

- By 2030:
  - Achieve a 10% reduction in Scope 1+2 GHG emissions.
  - Achieve 100% renewable electricity globally (Scope 2).
  - Conserve 4 billion kWh of energy, cumulatively.
  - Build new factories and facilities to meet US Green Building Council LEED® Standards.
- By 2040:
  - Net-zero Scope 1+2 GHG emissions.





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# GNA-Specified Agenda Items

- Intel to report to the AQAC at its quarterly meetings on:
    - Stack testing completed since the last AQAC meeting; any stack testing planned before next AQAC meeting
    - Annual or semiannual reports submitted by Intel to DEQ pursuant to Intel's air permit
    - Any requests to DEQ for authority to modify emission factors or emission sources that were submitted since the last AQAC meeting or that Intel anticipates will be submitted prior to the next AQAC meeting
    - Any excess emissions and upsets reported to the Department during the most recent calendar quarter
- \*Implemented measures identified on Attachment A

# Stack Testing Overview

- Why does Intel perform stack testing?
  - Determination of compliance with Best Available Control Technology (BACT) emission limits
  - Determination of Rotary Concentrator Thermal Oxidizer (RCTO) control efficiencies
  - Development of emission calculations for fluorides and hydrogen fluoride
  - Good Neighbor Agreement Attachment B requirements
- Stack testing plans are reviewed and approved by Oregon DEQ and utilizes standard EPA and/or DEQ test methods
- Stack testing performed by a 3<sup>rd</sup> party stack testing firm

# Stack Testing Update Since Previous Meeting

- Activities since Q4 meeting (11/8/23)
  - No compliance stack testing since last meeting
- Planned stack testing
  - RCTO 5 year compliance stack testing (Mid March)
  - EXSC 5 year compliance stack testing (Mid March)

# Continuous Emissions Monitoring System Overview

- Rotor Concentrator Thermal Oxidizer (RCTO)
  - Used to control emissions of VOCs
  - Method of control: Thermal oxidation (combustion)
    - Temperature = Key operating parameter
    - Measurement via thermocouple
    - Minimum temperature established during stack testing
    - Temperature measurements are reviewed on an ongoing basis
    - Alarms are also set to alert when measured value outside the acceptable range
      - Alarms are indication of off-spec operation, not an indication of excess emissions or bypass

# Continuous Emissions Monitoring System Overview

- Wet Scrubbers
  - Used to control emissions of acid gases, primarily Fluorides, HF, and HCl
  - Method of control: pH adjusted water absorption
    - Water flow rate and pH = Key operating parameters
    - Measurements via pH probe and flow meter
    - Minimum pH and flow established during stack testing
    - Measurements are reviewed on an ongoing basis
    - Alarms are also set to alert when measured value outside the acceptable range
      - Alarms are indication of off-spec operation, not an indication of excess emissions or bypass

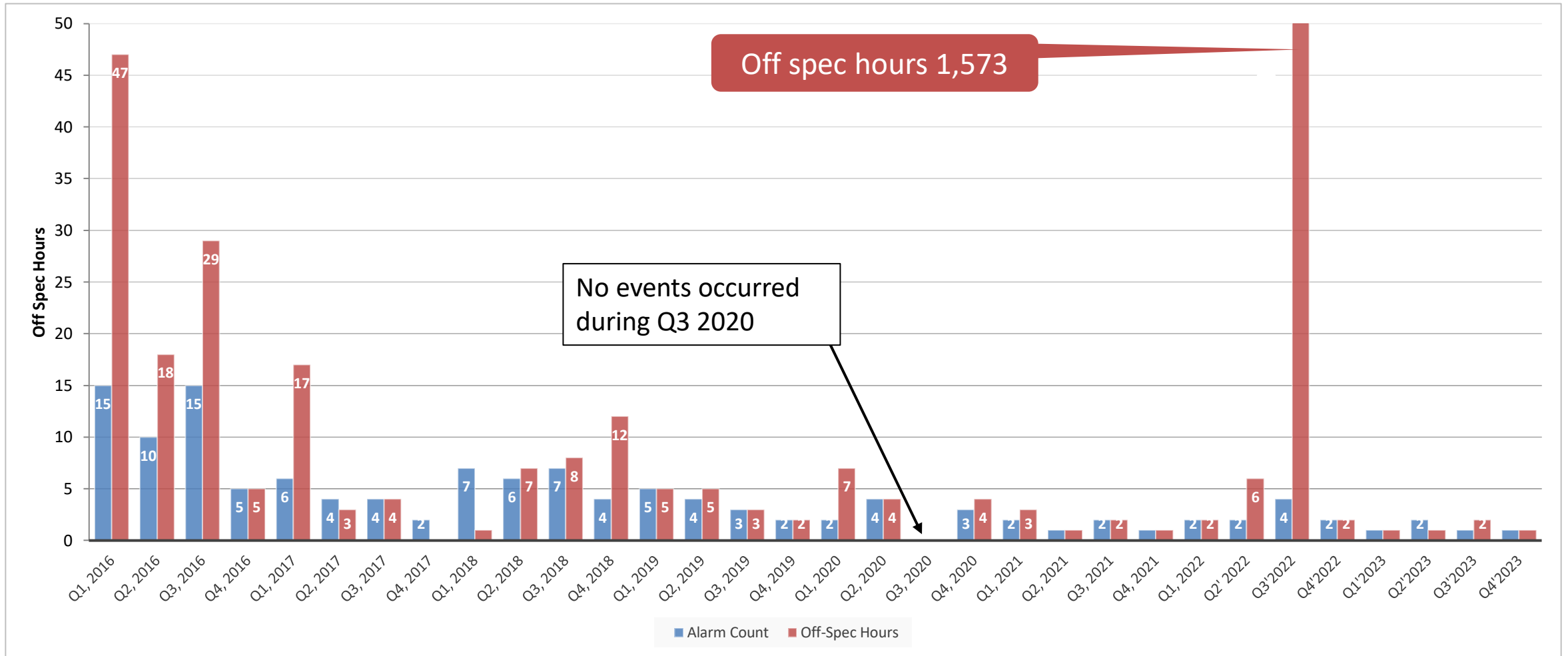
# Continuous Emissions Monitoring Report

– Q4 2023

Attachment C

Source	Frequency	Parameter	Monitoring Equipment	Q4, 2023 Report
Rotary Concentrator Thermal Oxidizers (RCTO)	Continuous	Temperature	Thermocouple	No events
Acid Gas Scrubbers	Continuous	Flow	Flow Meter	1 event
		pH	pH probe	No events
Emergency Generators/Fire Pumps	When used	Hours of operation including time of engine start, time of engine stop and reason for operating		No events

# Continuous Emissions Monitoring Report



- Normal hourly operations for Q4 2023 is > 99.99%
  - Off-spec operation is not an indication of excess emissions and was limited to <0.01% of the hours for Q4 2023
- Blue bars indicate the number of alarms per quarter
- Red bars indicate the number of hours outside of normal operation per quarter



# Since Previous AQAC Meeting DEQ Submittals

- D1D EXSC Bypass Report (1/25/24)
- Process Emission Factor Update (Mid February)
- EXSC Stack Test Plans (Mid February)
- RCTO Stack Test Plans (Mid February)

# D1D EXSC Bypass

On January 13<sup>th</sup> due to extreme cold weather conditions, a sensor monitoring line for one scrubber at D1D froze causing some monitoring sensors to not function properly on the unit.

- This triggered a loss of recirculation flow and started the bypass event for one scrubber
- A redundant scrubber was brought online, and the scrubber mentioned above was taken offline. The total time of bypass over the course of this event was 1 hour and 38 minutes.

# D1D EXSC Bypass

- Assessment of D1D 2024 Scrubber event
  - Calculated Maximum Acute Residential Impact if we assume the affected scrubber offered zero control
  - Used DEQ screening methodology from Cleaner Air Oregon (aka, Level 1)
  - Maximum Acute Residential Impact: 0.03 due to scrubber malfunction
  - Added scrubber-specific impact (0.03) to the facility-wide impact (0.46) from 2015 HRA
  - Maximum Acute Residential Impact: 0.49
  - Total impact < 3
- Conclusion: Acute impact from scrubber event was well below the HRA Threshold Level of 3.

# Agenda for Q2 AQAC Meeting 2024

2024 Proposed AQAC meeting dates:

- Wednesday May 8
- Wednesday August 14
- Wednesday November 13

AQAC members input into the next agenda

Standing agenda items

- DEQ Submittals
- Stack Testing Update
- Project Update
- Update on Type 4 air permit application
- Other?

# Public Comments/Questions

# Backup

# Attachment A

Emission Reduction Project	Target Date	Status / Method of Confirmation
Advocate to contractors working at the Facility to use newer onroad and nonroad diesel engines	2 <sup>nd</sup> quarter 2016	Ongoing collaboration with suppliers to encourage reductions
Evaluate ways to reduce (if possible) diesel particulate matter emissions either with onsite or offsite projects	3 <sup>rd</sup> quarter 2016	Reported out during Q3, 2016 AQAC quarterly meeting
Decommission four Fab 5 boilers	3 <sup>rd</sup> quarter 2016	Completed
Assess feasibility of reducing waste tank emissions	4 <sup>th</sup> quarter 2016	Completed
Retrofit RCTOs to optimize natural gas usage	2 <sup>nd</sup> quarter 2017	Completed
Boiler replacement with ultra low-NOx burner boilers at RA2 and RP1	3 <sup>rd</sup> quarter 2017	Project completed. Report out during Q3, 2017 AQAC meeting
Compare actual emissions inventory in 2020 to inventory used in HRA	2 <sup>nd</sup> quarter 2021	Completed. Reported to AQAC at quarterly meeting