Oregon
Tina Kotek, Governor

Department of Environmental Quality
Northwest Region Portland Office
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Portland, OR 97232
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November 18, 2024

Mutual Materials Company
James Smith – Plant Manager
2300 SE Hogan Rd
Gresham, OR 97080-9267

CERTIFIED MAIL NO.: 9589 0710 5270 0110 6015 45

Re: Official Information Request
Facility ID: 26-0088
Multnomah County

Attention: James Smith

This letter is an official information request from the Oregon Department of Environmental Quality (DEQ) related to Mutual Materials Company's (Mutual Materials) emissions of regulated air contaminants from the brick manufacturing facility located at 2300 SE Hogan Road in Gresham, Oregon. The intent of this information request is to investigate the applicability of Mutual Materials' operations to both state and federal air quality regulations. A summary of background information relevant to DEQ's information request is provided below.

1) Mutual Materials owns and operates a brick and structural clay products (BSCP) manufacturing facility that is a source of regulated air pollutants, including toxic air contaminants (TACs). Regulated air pollutants are defined in Oregon Administrative Rules (OAR) Chapter 340, Division 200, and a list of TACs may be found in OAR 340-247-8010, Table 1.
2) Mutual Materials was called in to the Cleaner Air Oregon (CAO) program on April 26, 2024. In accordance with CAO regulations, Mutual Materials was tasked with submitting an air emissions inventory for all TACs emissions originating from source operations. A review of the air emissions inventory identified potential data gaps in emissions of regulated air pollutants. Namely, the emissions estimate did not include total fluorides emissions. Following communication of this data gap to the source, Mutual Materials provided the following information:
    a) Mutual Materials provided mass balance analysis of fluoride samples collected from clay before and after firing in their kiln;
    b) Mutual Materials argues that the total mass of fluoride lost during the firing process is converted into HF; and
    c) Results of the mass balance analysis from two sets of samples resulted in estimated HF emission factors of 0.64 lb/ton and 0.74 lb/ton of brick fired.

3) Total fluorides are a group of chemicals regulated as a TAC and it is critical to have an accurate emission factor for the purposes of evaluating risk to human health and the environment. Furthermore, total fluorides are also a regulated air pollutant that, depending on the estimated emission rate, may also be subject to other air quality regulations not directly related to the CAO program.
   a) Complete conversion of fluoride in raw clay to HF as a result of the firing process may be a conservative estimate for HF emissions by mass balance. It is recognized that some fluorides in the clay may be converted to other compounds emitted from the kiln's exhaust stack.
   b) In the Environmental Protection Agency's (EPA) Compilation of Air Pollutant Emission Factors from Stationary Sources (AP-42), Table 11.3-4 uses an uncontrolled emission factor for total fluorides that is 1.6 times the emission factor for HF[1]. As such, the emission factor for total fluorides, using the 2014 source test results for HF, would be calculated to be approximately 1.22 lb/ton.
   c) With total fluorides emissions at 1.22 lb/ton and an estimated production throughput of 25,500 tons per year (tpy) of brick fired, the source would have annual emissions of fluorides at approximately 16 tpy. The significant emissions rate (SER) for total fluorides, when subtracting HF emissions, is 3 tpy per OAR 340-200-0020(160). Using the 2014 HF emission factor and the permitted production throughput of 25,500 tpy, HF emissions are estimated to be 10 tons annually. If the estimated total fluoride emission factor per AP-42 is accurate, then Mutual Materials would have total fluorides emissions of 6 tpy for comparison to SER thresholds. As such, the source would be subject to State New Source Review (NSR) requirements per OAR Chapter 340, Division 224, and plant-site emission limits (PSEL) requirements in OAR Chapter 340, Division 220.
4) Using the 2014 HF source test, and the estimated production throughput of 25,500 tpy brick fired, Mutual Materials has estimated annual HF emissions of 10 tons per year (tpy). A source that has the potential to emit a single HAP at a rate of 10 tpy or more, or any combination of HAPs at a rate of 25 tpy or more is considered a major source of HAP emissions. A BSCP manufacturing facility that is a major source of HAP emissions is subject to the requirement in Title 40 of the Code of Federal Regulations (CFR), Part 63, Subpart JJJJJ. DEQ has been delegated authority to administer the rules in 40 CFR Part 63, Subpart JJJJJ and those rules have been incorporated by reference in Oregon Administrative Rules (OAR) Chapter 340, Division 244. Currently, the source does not have a federally enforceable limit on either the throughput of brick fired through the tunnel kiln nor HF emissions.

This letter is being sent to request information pursuant to DEQ's authority under Oregon Administrative Rules (OAR) Chapter 340, Division 214. Division 214 provides DEQ authority to request any information reasonably required for the purposes of regulating sources, including issuing a permit, determining compliance with a permit requirement, determining the applicability of any requirement, determining compliance with an applicable requirement, or incorporating monitoring, recordkeeping, reporting, or compliance certification requirements into a permit (OAR 340-214-0110).

This letter serves as an official information request from DEQ. Complete the information request in this letter and submit your response to DEQ by the dates provided in the Information Requested section below. Your failure to submit the requested information to DEQ by the due date would be in violation

[1] Bronson, Denis A., 'BIA HF Research Program Stack Testing Results' (November, 1995), https://gaftp.epa.gov/ap42/ch11/s03/reference/ref26_c11s03_1997.pdf

of this request under OAR 340-214-0110 and could result in enforcement action, unless an extension has been approved by DEQ in writing.

If you have questions or would like to schedule a meeting to discuss this information request with DEQ, please contact me by telephone at (971) 303-6575 or by email at stephen.wozab@deq.oregon.gov.

Information Requested

1) Conduct source testing of total fluorides and HF at the kiln exhaust stack. Source testing for total fluorides and HF is necessary to establish emission factors required for assessing these regulated pollutants' risk to human health and the environment per CAO regulations, to determine applicability to Oregon air quality PSEL and State NSR requirements, and to federal major source requirements for HAPs per 40 CFR Part 63, Subpart JJJJJ.
   a) All tests must be conducted in accordance with DEQ's Source Sampling Manual and the approved source test plan. The source test plan must be submitted to the Regional Source Test coordinator at least 30 days in advance of the source test date. The source test must be conducted by March 18, 2025, unless otherwise approved by DEQ. The source test report must be submitted to the Regional Source Test coordinator within 60 days of the completion of testing, unless otherwise approved in the source test plan.
   b) Only regular operating staff may adjust the combustion system or production processes during the source test and within two hours prior to the source test. Any operating adjustments made during the source test which are a result of consultation with source testing personnel, equipment vendors or consultants must be recorded and may render the source test invalid.
   c) Emissions testing must be conducted at an EPA Method 1 criteria sampling location on the kiln exhaust stack. For circular ducts, two perpendicular test ports must be installed at a location at least two duct diameters downstream and a half diameter upstream from any flow disturbance such as a bend, expansion, or contraction in the stack, or from a visible flame.
   d) Unless otherwise specified in the DEQ-approved source test plan, all compliance source tests must be conducted while operating at normal maximum operating rates. Furthermore, the process material and fuel that generate the highest emissions for the pollutants being tested must be used during the testing.
2) Testing Methods
   a) Hydrogen Fluoride: Testing must be conducted via EPA Methods 26, 26A or 320.
   b) Total Fluorides: Testing must be conducted via EPA Method 13B.

Please send the requested information to:

Send one (1) copy to:
Oregon Department of Environmental Quality
Northwest Region Air Quality – Permit & Compliance Program
Attn: Stephen Wozab
700 NE Multnomah St., Suite 600
Portland, OR 97232

Send one (1) copy to:
Oregon Department of Environmental Quality

Air Quality – Cleaner Air Oregon Program
Attn: Katie Eagleson
700 NE Multnomah St, Suite 600
Portland, OR 97232

Additionally, submit electronic copies of the requested information to the following DEQ personnel:

1) Stephen Wozab (Air Permit Writer) – stephen.wozab@deq.oregon.gov;
2) Katie Eagleson (Air Toxics Permitting Engineer) – katie.eagleson@deq.oregon.gov; and
3) Josh Muswieck (NWR Source Test Coordinator) – joshua.muswieck@deq.oregon.gov.

Thank you for your attention to this matter.

Sincerely,

Stephen Wozab

Stephen Wozab
Air Permit Writer and Inspector
Northwest Region Air Quality Division Office
Oregon Department of Environmental Quality

CC: Joe Taff, Mutual Materials Director of Manufacturing (via email)
Joshua Alexander, DEQ Northwest Region AQ Manager (via email)
J.R. Giska, DEQ Program Manager – CAO (via email)
Katie Eagleson, DEQ Air Toxics Permitting Engineer (via email)
Air Quality Permit Source File (26-0088)