



May 15, 2023

Julia DeGagné
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: AirArc and Grinding Capture Efficiency Verification Testing, Eagle Foundry Co.

Dear Julia:

On behalf of Eagle Foundry Company (Eagle Foundry), please find attached the Permanent Total Enclosure (PTE) verification test report for the Grind and Air_Arc toxic emission unit (TEU) enclosures. Maul Foster & Alongi, inc. (MFA) wishes to address the issue of assumed capture efficiency.

The PTE verification testing has demonstrated that the Air_Arc and Grind enclosures easily meet three of the four PTE criteria required by EPA Method 204. Some of the differential pressure readings did not demonstrate a pressure drop of >0.007 in H_2O . However, all tested locations demonstrated inward flow and all differential pressure readings were negative, indicating a motive force for inward flow at every location. Moreover, the average differential pressure among all readings for each enclosure were >0.007 in H_2O . This is significant because of how the testing was conducted.

Method 204 offers two options to demonstrate adequate inward flow. A source may demonstrate an average facial velocity of 200 fpm or measure a differential pressure across the enclosure of >0.007 in H_2O . This differential pressure reading across the enclosure is an average of sorts as well, as it is typically conducted by measuring the pressure drop at one or more central locations in the enclosure with all doors closed, as they normally would be, relative to the exterior. The testing conducted by Bison looked at differential pressure at every door or gap, by opening them partially or measuring over a short distance through a gap. This is not an average for the enclosure, and it also may bias the readings by reducing the pressure drop across a segment of the wall that would normally be closed. This technique is perfectly fine if an enclosure has such a high level of vacuum that each natural draft opening (NDO) achieves 200 fpm or a pressure drop of >0.007 in H_2O . After reviewing the enclosure differential pressure data, it is believed that the pressure drop across the enclosure, if measured centrally, would demonstrate compliance.

It is the conclusion, after a review of all the Method 204 criteria, that the enclosures tested demonstrate 100% capture of emissions for the following reasons:

1. All pressure differential readings were negative, indicating flow would be inward.
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2. The average of the differential pressure readings across the entire enclosure is compliant with a limit of >0.007 in H_2O , corresponding to an average facial velocity would meet 200 fpm.
3. All locations demonstrated observable inward flow over the hour of testing and were documented with photographs.
4. If using the average facial velocity method, the velocity would be greater than 200 fpm, as determined by the rating of the baghouse flowrate and the size of the NDOs measured.
5. Although fumes were visible in the enclosure, no fumes were visible outside the enclosures during the test.
6. None of the fumes generated is directed toward an NDO in the enclosure. As a result, there is no case to be made that the inertia of the particulate would carry it against the inward flow.

Next Steps

Eagle Foundry intends to conduct a retest of the PTEs in June 2023 to reaffirm that the tested areas fully comply with the Method 204 criteria. This should allow sufficient time to submit a report to the DEQ and incorporate the conclusions into the emissions inventory by the due date. It is assumed that Bison Engineering will not need to submit a revised modeling protocol if they conduct the same methodology as indicated in the original test protocol. To prepare for a successful test, Eagle Foundry has or is making the following improvements to the enclosures:

Air_Arc enclosure - Eagle Foundry personnel have further sealed any gaps in siding seams and added a gasket seal around the hinged door in the Air_Arc enclosure. The freezer strip door is being replaced by a similar hinged door.

Grind enclosure - Eagle Foundry personnel are adding gasket material under the NW rollup door, which previously had a gap along the bottom. Eagle Foundry is reviewing other gaps to see if improvements can be made.

If you have any questions, please don't hesitate to call me at (503) 523-7142 or reach out to Jack Scott (Eagle Foundry) at (503) 637-3048.

Sincerely,



Chad Darby

cc: Thomas Rhodes, DEQ
Jack Scott, Eagle Foundry