

DATE: June 26, 2017

TO: Tania Steele
Licensing Clerk

FROM: Eshetu Beshada, Ph.D., P.Eng.
Environmental Engineer
Municipal and Industrial Section

SUBJECT: **File 5873.00 – West End Radiators. – Information for Public Registry**

Tania,

Please find attached the following correspondence related to West End Radiators–Radiators Manufacturing facility file (5873.00) for distribution to the public registries. The documents included are:

- June 21, 2017 email from Environmental Compliance and Enforcement Branch, 1 page
- June 12, 2017 email from West End Radiators with attachment, 3 pages

4 pages total

Thank you.

Eshetu Beshada, Ph.D., P. Eng.

Beshada, Eshetu (SD)

From: Suresh, Nada (SD)

Sent: June-21-17 8:18 AM

To: Beshada, Eshetu (SD)

Cc: Hawryliuk, Yvonne (SD)

Subject: RE: Observations on response to comments on the EAP - West End Radiators_File: 5873.00

Hello Eshetu,

The Environmental Compliance and Enforcement Branch (Winnipeg District Office) of Manitoba Sustainable Development has reviewed the response to the comments and has no further concerns at this time.

Nada Suresh

Environment Officer

Manitoba Sustainable Development

Beshada, Eshetu (SD)

From: Tessa Jaspers [<mailto:tessa@westendrad.ca>]

Sent: June-12-17 8:39 AM

To: Beshada, Eshetu (SD)

Subject: RE: File: 5873.00 West End Radiators - EAP review- additional info required

Good Morning Eshetu,

Attached is the detailed response for the Environmental Compliance and Enforcement Branch. Sorry this took a bit longer than expected.

Please let me know if you need more information.

Tessa Jaspers, EIT



E-Mail: tessa@westendrad.ca

Ph: 204.633.5648, Fax: 204.633.4679

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Response to Comments on Environmental Act Proposal (Environment Officer)

1. Solder exhaust system – air emissions

- When contacting the solder emission equipment supplier (based in the United States) they have never been required to incorporate a filtering system for their solder systems.
- Detailed calculations can be performed to ensure the lead emissions do not exceed provincial guidelines ($2.0 \mu\text{g}/\text{m}^3$ for a 24 hr avg. & $0.7 \mu\text{g}/\text{m}^3$ for a 30 day avg.). Calculations will be based off credible sources for emission factors. If conservative calculations show values approaching or exceeding provincial guidelines, through tests will be conducted.

2. Diagram identifying stacks exhausting to environment for current WER operations:



3. Diagram identifying stacks exhausting to environment for future operations:

- The facility is still in the designing stages, process flow is yet to be determined let alone exhaust system.
- Pollution control devices – explained in previously posted document:

Alumina Scrubber

- *The scrubber filters the hydro fluoride (HF) molecules which arise during the brazing process*

- *Air is cleaned through the scrubber by passing through the packing – HF molecules bind to the packing element surfaces*
- *Packing element surfaces consist of activated alumina which have a large surface area and result in a low pressure loss (for the air)*

HF Measurement

- *The only toxic components developed during the aluminum brazing process are HF molecules*
- *These molecules are developed during the brazing process between 530 to 600 °C*
- *Most of these molecules are filtered out by the activated alumina through adsorption – minimal amounts of HF are released to the atmosphere*
- *Measurements on a continuous furnace (much larger than WER proposed) of HF values never reached 1 ppm (detection limit)*

Measured by: Dräger test measuring tube (measuring range 1 to 10 ppm)

Measurement distance 1 m fare of the unit / 0,8-1 m height from the floor

4. Chemical storage in compliance with National Fire Code of Canada – a detailed fire inspection has been conducted for West End Radiators. This will be included in the Winnipeg Fire Department Variance and West End Radiators Fire Safety Plan.