Director's Order Number
1-134982315

Director's Order Issued To:

Rain Carbon Canada Inc.

Site
725 Strathearne Ave N
Hamilton, Ontario
L8H 5L3, Canada

Refer to the Definitions section in Part B of this Director's Order, for the meaning of all the capitalized terms that are used in this Director's Order.

PART A - WORK ORDERED

Pursuant to my authority under section 18 of the EPA, I order you to do the following:

Item No. 1 **Compliance Due Date: January 31, 2023**

By January 31, 2023, the Orderee shall submit to the undersigned Director, an ESDM report as described in paragraphs 1 and 2 subsection 33(1) of O.Reg 419/05, that reflects the following:

i. The highest concentration of the contaminants at a point of impingement for both operating conditions described in subsection 10 (1) of O.Reg 419/05.

ii. The highest concentration of the contaminants at a point of impingement for the existing operating scenario or status quo, if this is different than the operating condition above.

Item No. 2 **Compliance Due Date: March 17, 2023**

By March 17, 2023, the Orderee shall submit to the undersigned Director, a *Technology Benchmarking Report* in respect of Benzene and Benzo(a)pyrene emissions from the Site.

Item No. 3 **Compliance Due Date: April 3, 2023**

By April 3, 2023, the Orderee shall submit to the undersigned Director, an Action Plan that includes the information set out in paragraph 7 of subsection 33(1), or paragraph 4 of subsection 33(4) of O.Reg 419/05, and prepared in accordance with section 2.7 and 2.8 of the GIASO. The Action plan must include, but not be limited to the following:

i. the strategy for implementing the preferred technically feasible pollution control

combination, as identified in its Technology Benchmarking Report, that predicts the lowest maximum concentration of Benzene and Benzo(a)pyrene at a point of impingement. This should include the details of the chosen preferred technically feasible pollution control combination.

ii. determination of whether multiple temporal site-specific standards need to be included in the approval to reflect different stages of implementation of the final action plan.

iii. a schedule setting out timelines for the implementation of the preferred technically feasible pollution control combinations including interim steps, if applicable.

Item No. 4 **Compliance Due Date: April 3, 2023**

By April 3, 2023, the Orderee shall submit to the undersigned Director, an update of the ESDM report submitted to the Director as required by Item No.1 as described in paragraphs 1 and 2 of subsection 33(1) and subsection 33(2) of O.Reg 419/05. The updated ESDM report shall include an assessment of the point of impingement concentrations that would now include implementation of the pollution control strategy that was recommended in the Technology Benchmarking Report.

This ESDM report shall include all of the requirements set out in section 3.3 and 3.5 of the Guide to Requesting a Site-specific Standard.

Item No. 5 **Compliance Due Date: April 17, 2023**

By April 17, 2023, the Orderee shall hold one *public meeting* on the proposed request to set a site-specific standard for Benzene and Benzo(a)pyrene and shall comply with the requirements set out in subsections 34(2) to 34(4) of O.Reg. 419/05 in respect of the public meeting.

Item No. 6 **Compliance Due Date: May 1, 2023**

By May 1, 2023, the Orderee shall request a new site-specific standard for Benzene and Benzo(a)pyrene for the Site from the Director, Local Air Quality Regulation, s.35. The Orderee shall include in the request the information set out in section 33 of O.Reg. 419/05 and the Guide to Requesting a Site-specific Standard

Item No. 7 **Compliance Due Date: May 1, 2023**

By May 1, 2023, the Orderee shall submit to the Director, Environmental Approvals and Permissions Branch, an electronic copy of a completed application for an Environmental Compliance Approval (air and noise), with all necessary supporting documentation and applicable fees for all operations at the Site including in respect of any changes to operations and equipment in support of the request for site-specific standard.

Item No. 8 **Compliance Due Date: May 1, 2023**

By May 1, 2023, the Orderee shall provide a copy of the completed ECA application referred to in Item No. 7, and the completed request for a new site-specific standard referred to in Item No.8 to the undersigned Director.

PART B - BACKGROUND AND REASONS

This Director's Order is being issued for the reasons set out below.

Definitions

For the purposes of this Director's Order, the following capitalized terms shall have the meanings set out below:

"**Action Plan**" means a plan for reducing emissions of Benzene and Benzo(a)pyrene which meets the requirements outlined in the Guidance for Request for Site-Specific Standard section 3.8

"**Benzene**" means the chemical compound with the molecular formula C_6H_6 and included in O.Reg 419/05, having Chemical Abstract Service registry number 71-43-2, and is a contaminant that is listed in Schedule 3 of O.Reg.419/05.

"**Benzo(a)pyrene**" means the chemical compound with the molecular formula $C_{20}H_{12}$ and included in O.Reg. 419/05, having the Chemical Abstract Service registry number 50-32-8, and is a contaminant that is listed in Schedule 3 of O.Reg.419/05.

"**Director**" means a person appointed by the Minister pursuant to section 5 of the EPA in respect of sections of the EPA or its regulations.

"**ECA**" means an Environmental Compliance Approval.

"**EPA**" means the Environmental Protection Act, R.S.O. 1990, c. E. 19.

"**ESDM report**" means Emission Summary and Dispersion Modelling report prepared in accordance with s.26 of O.Reg. 419/05.

"**GIASO**" means Version 3.0 of the Ministry's publication with PIBS# 5166e03, titled "Guideline for Implementation of Air Standards in Ontario (GIASO) [Guideline A-12]"

"**Guide to Requesting a Site-specific Standard**" means Version 2.0 of the ministry's publication with PIBS # 6322e02 titled "Guide to Requesting a Site-Specific Standard: Guidance for Request for Site-Specific Standard Approvals under Section 32 Under Ontario Regulation 419/05 Air Pollution – Local Air Quality made under the Environmental Protection Act"

"**Ministry**" means the ministry of the government of Ontario responsible for the administration of the EPA, currently the Ontario Ministry of the Environment, Conservation and Parks.

"**Order**" means this Director's Order Number 1-134982315.

"**Orderee**" means *Rain Carbon Canada Inc.*, with a registered office located at 1959 Upper Water Street, 1100, Halifax, Nova Scotia, Canada, B3J 3N2

"**O.Reg. 419/05**" means Ontario Regulation 419/05 (Air Pollution – Local Air Quality) made under the EPA.

"**Public meeting**" as required and described in O.Reg 419/05 subsections 34 and 34.1 in conjunction with Part 3.2.4 - Pre-submission Consultation with Local Stakeholders of the Guide to Requesting a Site-specific Standard.

"**Rain Carbon**" means Rain Carbon Canada Inc.

"**Site**" means the Rain Carbon Canada Inc. facility located at 725 Strathearne Ave N, in Hamilton Ontario and legally described as: PT LT 1 CON BF BARTON PT 1, 2 62R8914, S/T & T/W CD417392; CITY OF HAMILTON

"**Technology Benchmarking Report**" means a report that includes the information set out in paragraphs 3 to 6 of subsection 33(1) of O.Reg 419/05, and prepared in accordance with Appendix A (Technology Benchmarking Reports) of the Guide to Requesting a Site-Specific Standard.

Description of Person(s) Subject to the Director's Order

Rain Carbon has a registered office located at 1959 Upper Water Street, 1100, Halifax, Nova Scotia, Canada, B3J 3N2, and formed through amalgamation with Ruetgers Canada Inc. on January 30, 2013.

Rain Carbon is named as the Orderee and is the company that carries on business at the Site and has done so since the amalgamation date.

Rain Carbon is a person that has management and control of the Site (725 Strathearne Ave N in Hamilton, Ontario) and the undertaking, namely the processing and distillation of coal tar and petroleum materials into naphthalene oil and other products.

Description of the Site and/or System/Facility

Rain Carbon operates a coal tar and petroleum processing plant located at the Site. The property is legally described as PT LT 1 CON BF BARTON PT 1, 2 62R8914, S/T & T/W CD417392; City of Hamilton and occupies an area of approximately 52,635 square metres. The Site is located in a primarily heavy industrial area. Ruetgers Canada Inc. which has since amalgamated with Rain Carbon, purchased the Site in 1987.

Rain Carbon and its operations at the Site are subject to Environmental Compliance Approval (ECA) # 7313-8KEN49 that was issued on August 8, 2011, in respect of air and noise emissions. Rain Carbon distils coal tar and petroleum materials. Coal tar is received mainly from Hamilton steel manufacturers where it is the by-product of the manufacture of coke from coal. Coal tar is received mainly via trucks and stored in above ground storage tanks. The coal tar from various sources is first blended into feed tanks and is then distilled. The various fractions from the distillation units are collected in different storage tanks. Upon further processing and quality testing the distillates can be shipped out.

The major air contaminants are products of combustion and volatile organic compounds that are emitted from the process and the storage tanks. Most of the storage tanks have been equipped with condensers and/or fume scrubbers and their emissions are further “treated” by process heaters, process boilers and a thermal oxidizer.

Events Leading up to Director's Order

The Director, Local Air Quality Regulation, s.35 approved site-specific standards for Rain Carbon in respect of Benzene and Benzo(a)pyrene on November 21, 2017, in accordance with O.Reg. 419/05. The site-specific standards expire on November 21, 2022.

Benzene is a volatile liquid, with a faint characteristic, aromatic odour. It is a major petroleum derivative used to produce petrochemicals that are utilized in the manufacturing of plastics, nylons, synthetic fibres, resins, pesticides, pharmaceuticals and detergents. Benzene is rapidly absorbed from exposure through inhalation and ingestion. Studies indicate that benzene is carcinogenic in humans and animals.

Benzo(a)pyrene is a pale-yellow solid with a faint aromatic odour that is generally formed during incomplete combustion of organic material and fossil fuels. The carcinogenic effects associated with exposure to Benzo(a)pyrene have been widely reported.

On April 21, 2022, Rain Carbon submitted notification to the Ministry of a modelled exceedance of their site-specific standards for both Benzene and Benzo(a)pyrene. Exceedances of the annual standards for the contaminants were modelled near the Site property boundary as part of Rain Carbon’s annual ESDM report update for 2021. This notification was submitted in accordance with the requirements of subsection 28(1) of Ontario Regulation 419/05.

On May 20, 2022, Rain Carbon submitted an abatement plan that outlines measures proposed to reduce the discharge and potential impacts of the discharge of Benzene and Benzo(a)pyrene. The abatement plan details a list of improvements to be made to the Site’s operations and

maintenance procedures along with improvements to equipment to reduce emissions. Some of the changes to be implemented include: a third-party assessment to improve their leak detection and repair program, new procedures for daily leak assessment of tar/tar oil tank pressure vacuum relief valves, upgrades to several pitch pumps, and replacement of aging storage tanks. Rain Carbon also committed to carrying out a pilot project at their truck loading operation to automate product loading and plans to expand the automated product loading program to include their rail car operations. These improvements are expected to contribute to a reduction in emissions from the Site; however, these improvements may not be enough to bring Rain Carbon into compliance with its Benzene and Benzo(a)pyrene standards.

Rain Carbon has also proposed a compliance pathway that includes a significant investment to install new air pollution control equipment to better manage process emissions and to reduce the potential impact of emissions, including Benzene and Benzo(a)pyrene, to the natural environment. Rain Carbon has outlined milestones in their goal to assess, design and commission new air pollution control equipment which includes completion of a Technology Benchmarking Report, an Action Plan, and an ESDM report detailing the contaminants being discharged to the natural environment before and after commissioning of the new equipment. Completion of these reports will be followed by the submission of applications for new site-specific standards and an amended Environmental Compliance Approval. These applications will be submitted and reviewed concurrently.

Ontario’s Local Air Quality Regulation (O.Reg 419/05) recognizes that sometimes significant investments may be needed to keep pace with new or updated requirements. The site-specific standard compliance approach allows a facility the time needed to assess and implement where possible technical or operational adjustments to improve their environmental performance over time. A facility that meets a site-specific standard is in compliance with O.Reg 419/05.

A site-specific standard is a standard for a contaminant established for an individual facility that is challenged in meeting a provincial air standard due to technical or economic reasons. This compliance approach focuses on actions to reduce emissions to air as much as possible. considering the technology that is available and best operational practices.

The Technology Benchmarking Report assesses all methods to reduce or control emissions of air contaminants. The main purpose of this report is to ensure that the actions proposed represent the best practices available in limiting off-site impacts of contaminants. This report will demonstrate that all applicable pollution control options have been identified and considered in determining that a site-specific standard is necessary.

The Action Plan outlines a schedule setting out timelines for the implementation of the preferred technically feasible pollution control combinations including interim steps, if applicable. The facility must demonstrate that it is doing the best that it can reasonably do to reduce the concentrations of the contaminant that is the subject of the request.

The ESDM report includes a summary of aggregate air emissions from the Site. These emissions are converted to off-site point of impingement concentrations using mathematical air dispersion models. The ESDM report required by this Order assesses contaminants being discharged to the natural environment before and after commissioning of the proposed equipment. In conjunction with the Action Plan, this data will assist the ministry in determining phased in site-specific standards, if appropriate.

Once approved new site-specific standards will dictate the Benzene and Benzo(a)pyrene limits and related phase in schedule that will be applicable to the Site. A new Environmental Compliance Approval application is required to assess all other contaminants emitted from the Site against O.Reg 419/05 Schedule 3 standards and to permit the new air pollution control equipment and any changes in facility operations.

On May 3, 2022, Rain Carbon submitted a request for approval from the Ministry for the use of CALPUFF as an approved dispersion model. Given the complex terrain and meteorology associated with the location of the Site, the Ministry determined that using the CALPUFF dispersion model is appropriate and on August 8, 2022, a Notice under section 7 (1) of O.Reg 419/05 was issued by the Ministry requiring that the CALPUFF version 7.2.1 dispersion model be used to assess compliance. Issuance of the section 7 (1) Notice opened a three-year window for Rain Carbon to request that the Ministry set new site-specific standards for the Site. The issuance of this Order will impose strict timelines for various submissions to the Ministry, including a deadline for the submission of applications for a new site-specific standard and an amended Environmental Compliance Approval.

The existing site-specific standards which are set to expire on November 21, 2022, are accompanied by orders that require Rain Carbon to carry out work, such as an ambient air-monitoring program and a leak detection and repair program. Rain Carbon has committed to continuing these programs after the existing instruments expire. The Ministry has drafted a Notice amending Rain Carbon’s Environmental Compliance Approval that will incorporate the monitoring and reporting requirements from the existing site-specific standards and associated orders. This will ensure these items will continue to be legal requirements. The ministry anticipates that the ECA Notice will be issued prior to Nov 21, 2022.

The Work Ordered Items outlined within this Order define several stages in the development of the plan which are required to be documented and submitted to the Ministry for review. The submissions required will ensure that all applicable pollution control options have been identified and considered in determining that a site-specific standard is necessary, and that the best performing technically feasible pollution control options are being implemented to achieve emission reductions. Given the reported exceedance of the existing site-specific standards and the pending expiry of these standards, I have set compliance deadlines to expedite the development and implementation of the plan. Implementation of the work, such as the commitments to be outlined in the Action Plan, that is required by this Order will result in reduced emissions of Benzene and Benzo(a)pyrene from the Site.

The ministry is also requiring that Rain Carbon host a public meeting to consult with local stakeholders, including local community members, prior to submitting a request for new site-specific standards. The results of the work required by Work Ordered Items 1, 2, 3 and 4 of this Order will be shared as part of the public meeting and the local community will have the opportunity to ask questions and comment on the Action Plan and pending request for new site-specific standards.

The Ministry presented a draft copy of this Order to Rain Carbon for comments given the complexity and aggressive timelines for the deliverables. Comments from Rain Carbon were received and considered prior to the issuance of this Order.

Authority to Issue the Director's Order

I am issuing this Director’s Order pursuant to my authority, as a Director, under section 18 of the Environmental Protection Act. I reasonably believe that the requirements specified in this Order are necessary or advisable so as to prevent or reduce the risk of a discharge of a contaminant, namely Benzene and Benzo(a)pyrene into the natural environment from the undertaking or the property;

AND

I further reasonably believe that the requirements specified in this Order are necessary or advisable so as to prevent, decrease or eliminate an adverse effect, namely that may result from (i) the discharge of a contaminant from the undertaking, or (ii) the presence or discharge of a contaminant in, on or under the property.