



City of Richmond

Report to Committee

To: General Purposes Committee **Date:** November 26, 2019
From: Peter Russell **File:** 10-6175-02-01/2019-
 Director, Sustainability and District Energy Vol 01
Re: **Metro Vancouver's Proposed Air Emission Regulation for Cannabis Production and Processing Operations**

Staff Recommendation

That the comments regarding Metro Vancouver's regulation to manage emissions from cannabis production and processing operations, as listed on pages 5 and 6 in the report titled "Metro Vancouver's Proposed Air Emission Regulation for Cannabis Production and Processing Operations", dated November 26, 2019 from the Director, Sustainability and District Energy, be endorsed and forwarded to Metro Vancouver.

Peter Russell
 Director, Sustainability and District Energy
 (604-276-4130)
 Att. 1

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Community Bylaws	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
Building Approvals	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The federal Government of Canada legalized the sale and production of recreational cannabis on October 17, 2018. Metro Vancouver is seeking input from local communities, including the City of Richmond, to determine how emissions released from cannabis production and processing operations should be managed in the region.

Metro Vancouver is proposing new air emission regulations for cannabis production and processing, and is seeking feedback from local communities, businesses, government partners, and health authorities in the region. Metro Vancouver's first phase of consultation began in June 2019. Details on the proposed cannabis emissions regulation are described in Metro Vancouver's: *Proposed Emission Regulation for Cannabis Production and Processing Operations Discussion Paper*. Feedback received during this period will be compiled and reported to the Metro Vancouver Regional District Board of Directors for consideration in early 2020. A second phase of consultation is anticipated to start in spring 2020 following completion of the consultation report. Stakeholder comments will continue to be received and considered until the Board adopts the new cannabis air emission regulation.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.4 Foster a safe, caring and resilient environment.

Analysis

Regulation of Odours in Metro Vancouver

Metro Vancouver is responsible for managing and regulating air quality in the region under the authority delegated through the provincial *Environmental Management Act*. Metro Vancouver has implemented a tiered-approach to managing the discharge of air contaminants from a variety of sources that includes the use of site-specific air contaminant discharge permits, air emission regulations for specific types of businesses, and the *Greater Vancouver Regional District Air Quality Management Bylaw No. 1082*. Site-specific air contaminant discharge permits are required for activities and facilities with levels of emissions that may have the potential for environmental and public health impacts (eg. organics processing facilities). Metro Vancouver also has industry-specific air emission regulations that require air emission control mitigations for businesses with a high potential to emit air contaminants and Metro Vancouver's *Greater Vancouver Regional District Air Quality Management Bylaw No. 1082* prohibits any person from polluting the air.

Regional Air Quality Concerns

The legalization of recreational cannabis in 2018 has led to the rapid expansion of commercial cannabis production in the region and Council has raised community concerns about the potential air quality impacts cannabis facilities pose to the environment and public health. A

number of greenhouses, formerly used for vegetable production, have been retrofitted to produce cannabis without the ability to collect and treat air contaminants.

Cannabis production has the potential to cause negative air quality impacts when emissions are not managed. Volatile organic compounds are emitted during cannabis production and processing that can contribute to the formation of ground-level ozone and fine particulate matter. Odorous emissions are typically most noticeable during the flowering and harvesting phases of cannabis production, when high levels of volatile organic compounds called ‘terpenes’ are present. Research conducted by Public Health Ontario in 2018 indicated that the substances responsible for cannabis odours in the outdoor air are not commonly present at levels that can cause long-term health effects but exposure to unpleasant odours may affect an individual’s quality of life and sense of well-being.

Technology is available in the industry to control cannabis emissions during production. Metro Vancouver has been collecting information from industry to assess the suitability and application of several technologies that can reduce cannabis odours and emissions including:

- **Odour masking agents** – Artificially deployed chemical scents (eg. cinnamon scent), that also contain volatile organic compounds are used to mask the smell of cannabis.
- **Carbon filters** – Activated carbon filters used to control and reduce odours. Carbon filters can be effective and reliable when properly maintained.
- **Biofilters** – A filtration system that employs microorganisms such as bacteria and fungi to remove cannabis odours from the air.
- **Odour neutralizers** – Plant-based odour neutralizers that use natural plant oils to reduce odours. Results vary from 20% to 90% depending on product and contact time. Odour neutralizers may also contain odour-masking agents.
- **Thermal oxidation** – Thermal oxidizing technology applies high levels of heat to decompose volatile organic compounds to odourless waste products (typically carbon dioxide and water).
- **Ozone generators** – These generators are generally used as disinfection agents in industrial settings to control strong odours. Ozone generators are potentially harmful to crops and human health because they produce ozone by design.

Metro Vancouver’s Proposed Regulatory Approach

Metro Vancouver is proposing to regulate regional emissions from cannabis production and processing operations by adopting a new air emission regulation specific to cannabis product and operations. Facilities can choose to have their emissions authorized under the proposed regulation, if all the future requirements are met. If a facility is not able to comply with all of the proposed new cannabis air emission regulation requirements, or if a facility employs unique technologies not authorized in the proposed regulation, operators will need to obtain a site-specific air contaminant discharge permit from Metro Vancouver. Metro Vancouver is also assessing thresholds to assist in the decision making process as it may be more appropriate for larger facilities with operational area of more than 50,000 m², for example, to obtain a site-

specific air contaminant discharge permit. Additional regulation controls proposed by Metro Vancouver also include:

- **Proposed Design Requirements** – A series of compliance standards for facilities to control emissions based on best practices and technologies such as enclosed building envelopes, minimum distances from areas of residential uses (schools, hospitals, daycares etc.) and use of activated carbon filters to treat emissions prior to release.
- **Metro Vancouver Approved Emissions Management Plans** – The proposed new cannabis air emission regulation outlines requirements for facilities to implement an approved odour and emission management plan. Content within the plan will be comprehensive and cover topics such as technology, maintenance and monitoring intervals, waste management and record keeping.
- **Administration** – Metro Vancouver is proposing to use its existing regulatory system to administer permits and regulations that is based on a ‘discharger pay’ principle. Applicants will be required to pay a registration fee of \$2,000 and an annual fee of \$250.
- **Enforcement** – Metro Vancouver will use its existing regulatory system to enforce non-compliant emissions from cannabis facilities. Metro Vancouver Officers will be responsible for ensuring that businesses are operating in adherence to the proposed cannabis emissions bylaw or a site-specific air contaminant discharge permit. Officers would rely on education, compliance promotion and ticketing as regulatory options.

Impact of Proposed Regulations to Richmond

Richmond currently has one cannabis facility operating in East Richmond and two proposed facilities currently in the rezoning process of development. Metro Vancouver currently regulates the emissions from cannabis facilities in the region with site-specific air contaminant discharge permits. Under the newly proposed regulations, each facility will be required to meet the operational requirements or obtain a permit at that time.

The City has adopted policies in Official Community Plan Bylaw 9000 and amendments to the Richmond Zoning Bylaw 8500 to regulate cannabis in the Agricultural Land Reserve to the fullest extent possible within the limits of the *Local Government Act*, and the *Agricultural Land Reserve Regulation*. The Official Community Plan currently directs cannabis production to industrial areas wherever possible, and production on lands zoned for agriculture is limited to soil-based production, soil-based greenhouses, or in a building previously used for producing crops. The intent of the City’s policies is to protect agricultural land for agriculture, preventing large-scale greenhouses covering fertile, high quality agricultural land.

City Advisory Committee Feedback

Metro Vancouver also identified the City’s Advisory Committee on the Environment (ACE) and Food Security and Agricultural Advisory Committee (FSAAC) as stakeholders. Metro Vancouver staff presented to ACE (on July 10, 2019) and FSAAC (on September 12, 2019) to

provide an overview of air quality concerns in regards to cannabis production and related activities, and the proposed regulatory approach to address this matter.

Feedback from ACE included questions about worker health and safety, how air quality complaints are processed by Metro Vancouver (including enforcement provisions) and provisions for record keeping and monitoring of cannabis production facilities. No additional comments came from the FSAAC upon receiving the information from Metro Vancouver. An excerpt of the discussion notes from ACE and FSAAC minutes is contained in Attachment 1.

Staff Feedback

The City has been engaged with Metro Vancouver on this issue since June 2019. Staff have participated in a number of stakeholder meetings and webinars coordinated by Metro Vancouver and have reviewed Metro Vancouver's: *Proposed Emission Regulation for Cannabis Production and Processing Operations Discussion Paper*. Staff recommend that Council endorse the following comments for submission to Metro Vancouver during the first phase of consultation:

1. Some cannabis operations may not require a site-specific if they adhere to the operating requirements proposed in the new regulation. The City requests that all operations, including those that meet the minimum operating standards as proposed, be required to obtain a site-specific air contaminant discharge permit from Metro Vancouver.
2. Existing and future operations will have the option of meeting the future requirements of the regulation or obtaining a site-specific air contaminant discharge permit from Metro Vancouver. Both regulatory options should explicitly prohibit the ventilation of untreated air to the environment during the stages of cannabis production including harvesting, drying, trimming and packaging that pose the greatest risk to emit odour generating air contaminants.
3. Technological solutions for cannabis emissions are an effective way to reduce odorous emissions. Consideration should be given to the potential noise disturbances of such technologies to the surrounding area and additional resource requirements such as energy and water needed to run complex air treatment systems. Carbon filters, for example, may reduce airflow needed for production, so additional fans may be required for circulation.
4. The City does not support the use of technologies such as ozone generators or masking agents that introduce volatile organic compounds, fine particulates, by-products or subsidiary waste into the environment.
5. The City recognizes that odour detection and perceived odour impacts can be subjective and difficult to quantify. The City recommends establishing industry-specific air quality standards, similar to those developed for the provincial *Contaminated Sites Regulations* for site vapour, air, water and sediment. Metro Vancouver should work with laboratories to develop standardized quantitative cannabis air emissions assessment methodologies to facilitate regional compliance and enforcement.
6. The proposed regulation targets commercial/industrial cannabis production for the recreational market. The City also expects an increase in private cannabis production in the community pursuant to the federal *Cannabis Act*. The City requests that Metro

Vancouver consider addressing the emissions from private cannabis growers within the proposed regulations and the nuisance complaints that will be subsequently reported.

7. The City requests more information on how Metro Vancouver intends to address outdoor cannabis production/cultivation as permitted under Provincial ALR Legislation and requests that a specific approach be developed by Metro Vancouver to address emissions from outdoor operations.
8. The City requests Metro Vancouver create and maintain a public database that houses all of the information related to site-specific air contaminant discharge permits decisions, permit conditions and a record of formal odour complaints listed by permit number.
9. That Metro Vancouver develop a staff resource plan for enforcement that includes an immediate, full-time enforcement resource to address existing regional enforcement concerns and includes provisions for future enforcement staff as the number of these facilities establish operations in the region.

Next Steps

Staff will forward the City's comments to Metro Vancouver if endorsed. Phase 2 of the consultation process is anticipated to begin in spring 2020. The City will have the opportunity to review and comment on additional details of Metro Vancouver's cannabis air emissions regulatory program during this second consultation program and will report back accordingly.

Financial Impact

None.

Conclusion

Metro Vancouver is proposing a new air regulation to manage emissions from cannabis production and processing operations and is seeking feedback from the City of Richmond. Staff recommend that Council endorse the comments in this report for submission to Metro Vancouver.



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Att. 1: ACE Discussion Notes (July 10, 2019) and FSAAC Minutes (September 12, 2019)

**Excerpt of Advisory Committee on the Environment Minutes
July 10, 2019**

Metro Vancouver Presentation/Discussion – Cannabis Production Operations (Managing Air Emissions)

Julie Saxton and Esther Berube from Metro Vancouver introduced themselves to the members and provided background on the public consultation currently underway in the region to consult on the development of an emission regulation specific to commercial cannabis production activities. Metro Vancouver staff noted that the consultation period would be until the end of September 2019 and involves a number of stakeholders and groups around the region.

In the Metro Vancouver presentation, summary information was provided on the following:

- Metro Vancouver is the regulatory authority specific to air emissions in the region. It has been found that the commercial production of cannabis has the potential to produce air emissions that can pose hazards to health and damage to the environment (through volatile organic compounds and ground level ozone).
- Moderate to strong odours have also been identified for commercial cannabis operations on farmland (typically from greenhouse production operations).
- In comparison to other typical agricultural sectors, cannabis production was noted to have significantly higher emissions (up to 10 times greater).
- Metro Vancouver management approaches to cannabis activities has been to require site-specific permits for operations as consultation and development of emission regulations for this industry sector occurs over the next 18 months.
- The proposed development of emission regulations will cover cannabis cultivation, processing and product extraction. A potential emission regulation may control what emissions are discharged (through enclosure/containment), application of treatment/filtration systems and limit other odour management techniques (i.e., application of scents to mask odours).
- Record keeping and when/how emissions are discharged will be covered in any regulation.
- A timeline of consultation and development of an emission regulation was summarized including:
 - First phase of consultation with stakeholders and public (currently underway).
 - Second phase of consultation would occur sometime after and would likely include draft emission regulations.
 - Metro Vancouver noted that the earliest that an emission regulation would be considered by the MV Board (via Bylaw) would be sometime in mid-2020 (timeline is preliminary and subject to change).

Staff and committee members thanked Metro Vancouver staff for the presentation. ACE members had the following questions and comments:

- Questions about employee health and safety for those employed in cannabis facilities.

- Questions about Metro Vancouver’s air quality stations throughout the region. Metro Vancouver staff confirmed there are specialized air quality monitoring stations in Richmond and throughout the region.
- In response to questions about how complaints are processed, Metro Vancouver staff noted that there is a dedicated air quality enforcement staff group responsible for following up and investigating such complaints and comments from the public.
- ACE members also identified how monitoring of cannabis operations would occur if such an emission regulation was implemented. Metro Vancouver staff responded that record keeping from the operator would form part of the monitoring in conjunction with any records from Metro Vancouver staff.
- In response to questions about liaising with cannabis operators, it was noted that an operations emissions management plan would form the basis of reviewing either a site specific permit or operation that is consistent with a sector specific emission regulation. Staff noted that Metro Vancouver would need to approve site-specific permit applications. For those operations falling under an emission regulation, the proponent would need to demonstrate compliance with the regulations.

ACE members thanked Metro Vancouver staff for providing information to the committee.

**Excerpt of Food Security and Agricultural Advisory Committee Minutes
September 12, 2019**

Metro Vancouver Potential Emission Regulation for Cannabis Production and Processing Operations

Esther Berube, Division Manager of Bylaw and Regulation Development (Metro Vancouver), presented on the proposed Metro Vancouver emission regulation for cannabis production and processing operations, and provided the following comments:

- Potential health and environmental issues associated with cannabis production include volatile organic compounds (VOCs), ground-level ozone formation, particulate matter formation and odorous air contaminants;
- The amount of VOCs emitted by cannabis is significantly higher than those of typical crops and plants;
- The *Farm Practices Protection (Right to Farm) Act* requires compliance to the *Environmental Management Act*, which gives Metro Vancouver the authority to regulate emissions;
- Measures controlling what is discharged through the potential regulation include:
 - enclosing or containing key emissions sources;
 - treating air with activated carbon; and
 - limiting additional VOC sources.
- Developing a tiered system for permitting requirements based on the size of the facility is being considered; and
- The potential regulation is currently in the public consultation phase with a deadline of October 31, 2019.