

# Human Health Risk Assessment Frequently Asked Questions



PARKLAND

## 1. What is a Human Health Risk Assessment?

A Human Health Risk Assessment (HHRA) is a scientific process that assesses the potential human health risks from exposures to environmental contaminants. Many regulators and industries globally use an HHRA to evaluate:

- whether proposed activities may result in environmental conditions where levels of chemicals are above guidelines or standards that are protective of human health;
- whether proposed activities are predicted to contribute chemicals to the environment;
- whether proposed activities are in an area that is already experiencing environmental releases from other current or approved projects;
- the safety of chemicals in environmental media including soil, groundwater, sediment, surface water, ambient air and food; and
- concerns raised from the public, health authorities, regulators and/or Indigenous communities.

In Canada, this process is used by Health Canada, the Canadian Council of Ministers of the Environment (CCME), and various provincial ministries and agencies to assess the quality of air, soil, food and drinking water.

## 2. Why is Parkland's Burnaby Refinery conducting a Human Health Risk Assessment?

Parkland's Burnaby Refinery (hereafter the Refinery), is conducting an HHRA as part of an application to renew and amend its Metro Vancouver Regional District (MVRD) air permit set to expire in July 2022. As part of the renewal process, the Refinery is committing to invest in new technologies and infrastructure to reduce emissions. These changes must be reviewed and approved by the regulator and the HHRA is part of the process.

## 3. How often is a Human Health Risk Assessment conducted?

The findings of an HHRA are used to inform decisions related to proposed activities and it does not expire unless there is a change in the environmental conditions upon which the HHRA is based. In this case, the Refinery is applying to renew its current MVRD air permit and amend it to reflect the infrastructure it plans to put in place to reduce emissions of criteria air contaminants.

## 4. When was the last Human Health Risk Assessment completed?

The last full HHRA was conducted in 2002 in response to the community's concerns about air quality and potential health risks for those living near the Refinery. The results of the 2002 HHRA showed that levels of most contaminants were within recommended guidelines. Sulphur dioxide (SO<sub>2</sub>), benzene and 1,3-butadiene were identified as contaminants of concern in the 2002 HHRA, and in 2013, a partial HHRA was conducted by Metro Vancouver Regional District (MVRD) and Fraser Health Authority at the request of the Community Advisory Panel to follow up on levels of these contaminants. The 2013 HHRA concluded that levels of SO<sub>2</sub>, benzene and 1,3-butadiene had decreased significantly since 2002 and were within recommended guidelines.

## 5. How will this Assessment ensure that chemicals released by the Refinery do not impact the health of the community and nearby residents?

Ensuring the health and safety of the community, nearby residents and our employees while minimizing environmental impact is our number one priority at the Refinery. The HHRA helps the Refinery to gauge the continued safety of our operations and helps MVRD make an informed decision prior to issuing the replacement permit and greenlight for the proposed emissions reductions.

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## 6. What are some of the contaminants the Refinery might emit?

The Refinery recognizes that its operations release chemicals that can have a potential impact on one's health if not managed and handled in a safe manner. To ensure the safety of the community, residents and employees, we monitor the following key contaminants: Nitrogen Dioxide (NO<sub>2</sub>), Particulate Matter (PM), Sulphur Dioxide (SO<sub>2</sub>) and Volatile Organic Compounds (VOCs).

For additional background information on criteria air contaminants, please refer to MVRD's website at <http://www.metrovancouver.org/services/Permits-regulations-enforcement/air-quality/factors/contaminants/Pages/default.aspx>

## 7. What steps does the Refinery take to monitor potential contaminants near the facility?

The Refinery has been part of the Burnaby community since 1935 and has maintained reliable and safe operations while minimizing impact to the environment. With the advancement in monitoring technologies, the Refinery regularly monitors on-site emission sources. The monitoring has helped in ensuring compliance with our air permit, reducing potential impacts to the community and nearby residents. The Refinery also partially funds the operations of 2 MVRD air quality monitoring stations located in the neighbourhoods close to the Refinery. Finally, the Refinery will soon be installing fence-line monitoring locations for the measurement of certain VOCs along the perimeter of both the tank farm and refinery. Taken together, all of this monitoring ensures that air contaminant levels in the community around the Refinery are very well characterized.

## 8. How is air quality regulated?

The MVRD is responsible for regulating air quality within the region and any industry, trade or business that discharges air contaminants (gases, vapours and solid or liquid particles) into the environment, must obtain authorization. In the case of the Refinery, this authorization takes the form of an air discharge permit which sets conditions on the type and amount of air contaminants that can be discharged from each source within the Refinery.

For more information on the current air permit for the Refinery, please visit [www.metrovancouver.org](http://www.metrovancouver.org).

## 9. Who can the community contact if they have air quality concerns related to Refinery operations?

Parkland encourages community members to report their questions and/or concerns to the Parkland Burnaby Refinery Community Relations team at [CommunityBC@parkland.ca](mailto:CommunityBC@parkland.ca) or 604-257-4040.

## 10. Will the community be notified of any exceedances of the conditions of the Refinery's air discharge permit?

Should they occur, the Refinery discusses exceedances relative to MVRD air permit limits in the quarterly Community Advisory Panel meetings, as well as in the annual public meeting. Minutes of these engagements are posted on [www.burnabyrefinery.ca/en/community/community-advisory-panel](http://www.burnabyrefinery.ca/en/community/community-advisory-panel). The Refinery is also required to notify MVRD of any exceedances relative to air discharge permit limits.

## 11. How does the Refinery measure the air quality?

Health, safety, environment, and community are our top priorities at the Refinery. To ensure compliance with MVRD air permit discharge limits, the Refinery utilizes real time in-stack monitoring for some emission sources and hires a third-party firm to measure contaminants at other smaller sources on an annual basis. Additionally, the Refinery will soon be installing a fence line monitoring locations for measurement of certain VOCs along the perimeter of both the tank farm and the refinery.

The Refinery supports MVRD's air quality monitoring stations that are located at Harbourview Park and McGill Park. These stations monitor the air quality for the nearby residents of the Refinery.

## 12. How many air monitoring stations are in North Burnaby?

In partnership with MVRD, the Refinery funds two air quality monitoring stations in Burnaby. They are located at Harbourview Park and McGill Park.

MVRD operates additional air quality monitoring stations regarding the following locations close to North Burnaby:

- in Pandora Park in Vancouver,
- at Simon Fraser University on the top of Burnaby Mountain,
- at Burmount on the side of Burnaby Mountain,
- at Kensington Park in Burnaby,
- to the NorthEast of the Second Narrows Bridge and
- in Rocky Point Park in Port Moody.

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For more information, please visit MVRD's air quality monitoring network website at [airmap.ca](http://airmap.ca).

## 13. What do air quality monitoring stations do?

Air quality monitoring stations measure the levels of chemicals or particles in the air, along with meteorological parameters such as wind speed, wind direction, temperature and humidity.

## 14. How will the community be notified of the high level of contaminants in the air?

Data from the air quality monitoring stations are collected in real time, and in the event of high levels of contaminants detected in the air, an automatic notification is sent to the MVRD. In the event that contaminant levels exceed MVRD's air quality advisory threshold levels, MVRD will issue a public air quality advisory notice. The Refinery's current air permit also includes provisions to monitor and adjust operation should local monitoring stations register elevated levels of SO<sub>2</sub>.

## 15. How can I report an odour?

Parkland encourages community members to report their odour concerns to the Parkland Burnaby Refinery Community Relations email or phone number: [CommunityBC@parkland.ca](mailto:CommunityBC@parkland.ca) / 604-257-4040.

Community members can also make an air quality or odour complaint directly to MVRD via their website (<http://www.metrovancouver.org/services/Permits-regulations-enforcement/air-quality/air-quality-complaints/complaint/Pages/default.aspx>) or phone number: 604-436-6777.

## 16. Will you make the Human Health Risk Assessment report public?

Parkland is committed to an open and transparent process in HHRA. Currently, we are seeking feedback on the draft Workplan to inform how the HHRA is executed. The final HHRA report will then be published late this year or early 2022.

## 17. How will the community be notified of the process and results of this Assessment?

The Refinery will ensure that the latest information on the HHRA is posted to its website.

## 18. How will the community be consulted?

Parkland intends to maintain a transparent and open a process with respect to the HHRA and the study findings. As such, the public will be given an opportunity to review and provide comments on the HHRA Workplan, and results of the final study will also be shared.

We are seeking comment on the draft HHRA Workplan from August 15 to September 12, 2021. It is recommended that all comments be included with your name, address, phone number and email address. All comments must directly relate to the contents of the HHRA report and be submitted using one of the following methods:

**Mail:** c/o: Community Relations  
Solo Office - 2025 Willingdon Avenue,  
Burnaby B.C. V5C 0J3

**Email:** [CommunityBC@parkland.ca](mailto:CommunityBC@parkland.ca)

**Online Comment Form:** [www.burnabyrefinery.ca/en/community/engagement](http://www.burnabyrefinery.ca/en/community/engagement)

**For more information on the HHRA, please email [CommunityBC@parkland.ca](mailto:CommunityBC@parkland.ca) or call 604 257 4040.**

At Parkland, ensuring the health and safety of the community, nearby residents and our employees while minimizing environmental impacts is our number one priority.