

# Bulletin: Questions and Answers Iqaluit Dump Fire – Air Quality update

### July 31, 2014

The Government of Nunavut is working closely with Environment Canada and Health Canada to monitor air quality related to the dump fire smoke and to identify public health measures.

### Q1: What is in the dump fire smoke?

**A1:** The smoke contains a mixture of chemicals and fine particles, depending on what is burning and the burn temperature at the time. Typically, the dump holds materials such as plastic, wood, metal, paper, cardboard, food and electronics. Prevailing winds tend to carry the smoke away from the community, but smoke events do occur in Iqaluit.

#### Q2: Is the air quality related to dump fire smoke being monitored?

**A2:** The air quality in Iqaluit is being monitored in several ways. The Government of Nunavut in partnership with Environment Canada has been monitoring pollutants through the National Air Pollution Surveillance Network (NAPS). This equipment measures ozone and nitrogen oxides, and particulate matter in the 2.5 micron range, but not the chemical compounds released by the dump fire.

In June 2014, Environment Canada and Health Canada delivered additional air quality monitoring equipment. This advanced equipment is installed at four locations around Iqaluit (Four Corners, Apex, Tundra Valley, and the Forward Operating Location – the army base).

The equipment is monitoring particulate matter (PM<sub>2.5</sub>), ozone, nitrogen oxides, sulphur oxides, associated metals, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), dioxins/furans and polychlorinated biphenyls (PCBs).

#### Q3: What are the results to date?

A3: To date, analysis of the data collected in Iqaluit has shown that air pollution concentrations are generally low in Iqaluit and most pollutants are present at values well below available guidelines/standards. Short-term peaks in particulate matter air pollution

tend to occur when the wind is still or coming directly from the landfill site (however, the 24 hour averages are well below the standard).

Twelve 24-hour samples have been analysed for dioxins/furans to date. The mean sample concentration over 24 hours in Iqaluit is 0.2 pg TEQ/m<sup>3</sup> which exceeds the Ontario Ambient Air Quality Standard of 0.1 pg TEQ/m<sup>3</sup>. (Note: this standard is to be phased in by 2016 in Ontario). This standard level is considered very conservative and protective of human health.

#### Q4: What do the fine particulate results mean?

**A4:** The results we have seen on fine particulate matter indicate that the levels in Iqaluit are generally low and do not pose a threat to human health.

Short term spikes in fine particulates in smoke may cause nausea, headaches, irritation to the eyes, nose and throat. People with chronic lung disease and heart disease may find that their symptoms worsen.

#### Q5: What do the dioxins and furan results mean?

**A5:** Although dioxin concentrations from the dump fire smoke have exceeded the relevant health standard for exposure over 24 hours on occasion, this does not mean adverse health effects will be observed. The standard is considered to be very conservative (protective of human health).

In order to err on the side of caution, pregnant women, as well as those who may become pregnant while the dump fire is burning, should avoid the smoke, as exposure to dioxins and furans can decrease the fertility of male offspring. As previously communicated, these women should take precautionary measures to minimize their exposures to smoke from the landfill fire by keeping your doors and windows closed; setting air exchangers to recirculate indoor air or turning them off; and reducing or rescheduling outdoor physical activity.

Long-term exposure to high levels of dioxins is known to increase cancer risk; however, the levels of dioxins observed in Iqaluit are far below the relevant health standard for cancer.

In summary, the health risks associated with airborne concentrations of dioxins and furans in Iqaluit remain low

#### Q6: What are dioxins and furans?

**A6:** Dioxins and furans are common names for toxic chemicals that are found in our environment, as well as in some of our foods. Dioxins and furans are produced by

burning garbage, diesel fuel and wood, forest fires, and smoking tobacco. We get 90 per cent of our exposure to dioxins and furans from our food.

For more information on dioxins and furans, please go to: <u>http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/dioxin-eng.php</u>

#### Q7: How can I reduce my exposure to dioxins and furans?

**A7:** You should minimize your exposure to the dump fire smoke by staying indoors as much as possible when the smoke is blowing in your direction. Keep your doors and windows closed, and set air exchangers to recirculate indoor air or turn them off and reduce or reschedule outdoor physical activity.

To further reduce exposure to dioxins and furans in the longer term, you can trim the visible fat off your meat when preparing food, and eat a balanced diet with more fruits and vegetables. Do not burn your garbage, do not smoke, and keep your family away from second-hand smoke.

## Q8: Who is at most risk from the dump fire smoke when it blows into the community?

**A8:** People with heart and lung disease, young children, the elderly, pregnant women, and women who may become pregnant should take precautions and limit their exposure to the smoke.

#### Q9: What should I do if smoke blows in my direction?

**A9:** When the smoke is blowing in your direction, you should minimize your exposure by staying indoors as much as possible. Keep your doors and windows closed, and set air exchangers to recirculate indoor air or turn them off. If the smoke is still getting into your home, you should consider going to a family member or friend's house in another part of the city where there is less smoke. If you have to go outside, limit physical activity.

#### Q10: What symptoms should I look for?

**A10:** You should watch for wheezing, shortness of breath, tightness in your chest, light headedness and dizziness. The smoke may also be irritating to your eyes, nose and throat and may cause nausea.

# Q11: What should I do if I develop symptoms related to the smoke, like trouble breathing or tightness in my chest?

**A11:** If you have symptoms that you are feel are related to the smoke and can't manage your symptoms on your own, you should seek medical attention.