



### **Meeting Minutes**

Coordination Committee

Monday August 9, 2021, 3:00 – 5:00 pm

Online WebEx

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#### **Present:**

Dr. Bruce Newbold, (Chair)  
Abigail Amponsah, Ministry of the Environment, Conservation and Parks  
Andrea McDowell, Healthy and Safe Communities, City of Hamilton  
Dan Dobrin, Ontario Ministry of Environment & Climate Change  
Dr. Denis Corr, Corr Research Inc.  
Geoffrey Knapper, HIEA  
George McKibbon, McKibbon & Wakefield Inc.  
Heidi Levitzky, HIEA  
Jahanvi Desai, Healthy and Safe Communities, City of Hamilton  
John Lundrigan, ArcelorMittal Dofasco  
Lubna Hussain, Ministry of the Environment, Conservation and Parks  
Lynda Lukasik, Environment Hamilton  
Mainul Husain, Health Canada  
Megan Sutton, Green Venture  
Nico Strabac, Mohawk College Sustainability Office  
Sara Yonson, Hamilton Oshawa Port Authority  
Spencer Skidmore, Planning and Economic Development, City of Hamilton  
Stephanie Gasko, Ministry of the Environment, Conservation and Parks  
Stephen Burt, Ministry of the Environment, Conservation and Parks  
Tiffany Singh, Planning & Economic Development, City of Hamilton  
Timothy Hung, Ministry of the Environment, Conservation and Parks

#### **Regrets:**

Adriano Mena, Citizen  
Alexandra Graham, Citizen  
Andrew Sebestyen, Stelco  
Barry Duffey, Citizen  
Brian Jantzi, Citizen  
Charles Hostovsky, Citizen  
Christine Newbold, Planning and Economic Development, City of Hamilton

Don Curry, Public Health Services, City of Hamilton  
Fran Scott, McMaster Institute for Health Equity, McMaster University  
Giuliana Casimirri, Green Venture  
Heather Donison, Green Venture  
Kate Flynn, Mohawk College  
Katie Chan, U.S. Steel Canada  
Kayli Thorp, Mohawk College  
Ken Smith, Citizen  
Kerry LeClair, Councillor Nann's Office, City of Hamilton  
Lucas Neil, Hemmera  
Linda Campbell, Energy Office, Public Works, City of Hamilton  
Mark Smithson, Citizen  
Matt Adams, University of Toronto  
Matthew Lawson, Public Health Services, City of Hamilton  
Myles Sergeant, Trees Please  
Natalie Stacey  
Patrick Quealey, Environment Canada  
Paul Panabaker, Energy Dimensions  
Peter Topalovic, TDM, PED, City of Hamilton  
Rachel Johnson, TDM, PED, City of Hamilton  
Rob Conley, Public Works, City of Hamilton  
Sally Radisic, Public Health Services, City of Hamilton  
Sarah Styler, McMaster University  
Shirook Ali, Ecosystem Informatics Inc.  
Shelley Rogers, Public Health Services, City of Hamilton  
Tom Chessman, Energy Office, Public Works, City of Hamilton  
Trevor Imhoff, Healthy and Safe Communities, City of Hamilton

## **1. Introductions & Welcome**

## **2. Approval of June 14, 2021 Minutes**

- Approved

## **Presentations:**

### **3. Sulphur Dioxide levels in Hamilton (60 minutes), Stephanie Gasko, MECP (*Presentation Attached*)**

- Sulphur dioxide (SO<sub>2</sub>) belongs to group of sulfur oxides. It is the result of combustion when fuel source contains the element sulfur.
- Sulfur dioxide has a distinct smell of burning matches. It is the precursor to sulfates (and is a main component of secondary PM 2.5).
- SO<sub>2</sub> also contributes to the formation of acid rain as SO<sub>2</sub> dissolves easily in water to form sulfuric acid
- SO<sub>2</sub> emissions come from raw materials or fossil fuels containing sulfur being burnt
- Recent trends suggest a decrease of 27% in SO<sub>2</sub> emissions across the province (see page 5)

- At a local scale, the following sectors release the most Sulphur Dioxide (data from 2017 NPRI, page 5):
  - Integrated iron and steel sector
  - Carbon black sector
  - Lime manufacturing
  - Bulk asphalt storage facility
  - Coal tar
  - Land filling
  -
- Exposure to sulphur dioxide causes negative health effects.
  - Acute health effects (one-time exposure to emissions can cause health impacts)
  - People with asthma (9% of Canadian population) and sensitive populations (such as children) are especially vulnerable to SO<sub>2</sub>
  - Image representing short term health effects associated with SO<sub>2</sub> was put together by toxicologists (see page 6)
  - Long term SO<sub>2</sub> exposure damages buildings, trees, and crops
- SO<sub>2</sub> Air limits (page 7)
  - O. Reg 419/05 Air Standards for SO<sub>2</sub> assess individual facility emissions compliance. These are estimated from air dispersion modelling, air monitoring results
  - ON Ambient Air Quality Criteria (AAQC) are the desired concentration of contamination in the air that protects against adverse effects against health. When AAQCs are updated, phase-in is immediate. This differs from Air Standards that generally have a 5-year phase-in period for industry to take action. This can result in a period of time when both the above are not aligned.
  - Canadian Ambient Air Quality Standard (CAAQs) have the overall goal of improving air quality. New CAAQs came into effect in 2020.
- It is not appropriate to compare 1 hour measured concentration of SO<sub>2</sub> to CAAQs. The calculations for CAAQs are complicated – 1-hour concentrations are calculated using 3-year averages of annual 99<sup>th</sup> percentile of daily maximum 1-hour SO<sub>2</sub> concentrations.
- Page 8 compares the Air Limits for sulphur dioxide. Ministry will be reporting against the 2020 CAAQs in the Ministry's Air Quality in Ontario 2020 Report which is aimed to be released in the Spring
- In March 2018, updated Air Standards for SO<sub>2</sub> were introduced with 5-year phase-in periods. Time until July 1<sup>st</sup> 2023.
- Air Monitoring for SO<sub>2</sub> in Hamilton
  - Taken place for a number of years, industry has undertaken air quality monitoring since 2003
  - Air technicians in Hamilton West Central Region conducted 180 audits of air monitoring equipment. These efforts continued throughout the COVID-19 pandemic.
  - Monitoring continuously at 4 locations – 2 of these fall under HAMN, the other two are by ECCC and the Ministry (see page 11 for location)
- Actual SO<sub>2</sub> levels at Hamilton

- 2020 levels were recorded at Industry 1 (Downtown AQHI station data was not ready in time for this presentation. Will be shared with Clean Air Hamilton for the CAH Annual Report 2020)
- Slight decrease in SO<sub>2</sub> across the province. Both locations – Downtown Hamilton and Industry 1 are above the AAQC.
- Station specific results for time periods of 10 minutes and 1 hour, see pages 13 to 20
- Data Analysis
  - Real time data provided by industry is analyzed by air quality analysts for trends and potential sources of contaminant emissions.
  - Information is shared with district abatement staff who will conduct follow-up according to technical standards and air quality follow up procedure.
  - High level of valid data for 2020.
    - 97.2 to 99 levels of confidence in four stations
- Ministry determines SO<sub>2</sub> air quality trends in a number of ways
  - Pollution roses: point the direction where pollution is coming from
  - Bivariate polar plots: help understand and identify SO<sub>2</sub> sources
  - Aerosol chemical speciation: combustion signatures to help identify sources
- Ministry analysis concludes that the largest contributors are the integrated iron and steel sector, carbon black sector, which is consistent with NPRI reporting
- Addressing SO<sub>2</sub> levels in Hamilton (see page 22)
  - Clean Air Hamilton, Ministry, and other stakeholders have contributed to ambient air quality and significant SO<sub>2</sub> reductions, acknowledge that more work needs to be done.
  - The updated air standard with spur further action
  - Development of sector compliance approaches - industry standards and site specific standards
  - Development of technical standard for the integrated iron and steel sector and carbon black sector
- There are challenges
  - Misalignment of phase-in dates – Base-Level Industrial Emissions Requirements (BLIERS). Coke oven gas desulphurization is required by 2026. Updated air standard comes into effect in 2023.
  - Capital expenditures for SO<sub>2</sub> are at 80 to 95 million per facility.
  - Few or no fixes other than what has been identified in the BLIERS program have been identified.

#### Questions/Discussion

- Carmeuse Lime has potential for technical standard development. Still in the early stages

**ACTION: Lynda to be kept updated, interested in participating.**

- Even though the percentages of times when we have problematic SO<sub>2</sub> levels might seem small, however, for sensitive populations (people with asthma), the exceedances, even spread out over the year, can have significant health impacts.
- 400 million dollars given by federal government to convert to hydrogen based steel making. Help cut contaminant emissions.

- Columbian Chemicals – Birla Carbon – is high on the sulphur dioxide levels, along with significant releases of B[a]P. What is the status of the technical standard for carbon black?
  - Currently underway with industry. Birla carbon has facilities in Hamilton and Sarnia.
  - Discussions are underway, identified best available controls and public engagement will happen soon.

**ACTION: Stefanie to send Lynda contact info for consultation.**

#### **4. Local Poor Air Quality Notification (LPAQN) Protocol (30 minutes), Stephanie Gasko, MECP (*Presentation Attached*)**

- LPAQN was developed so that industries and public can be informed and take decisions on poor air quality days
- 1971 Notifications on the Air Pollution Index were based on SO<sub>2</sub> and Co-efficient of haze
- 2003 No Hamilton specific program, but on a province wide basis via Smog Alert System
- In 2015, replaced with AQHI, trigger levels no longer applied.
- Total of 33 industries and municipal operations participate in Hamilton LPAQN program (full list in the Appendices)
- Each entity has a plan/voluntary initiative that they undertake during a local poor air quality event. They voluntarily undertake control measures to reduce fugitive non-stack emissions to air.
- This can include covering coal/gravel piles, postponing material handling, increased property and road cleaning, and curtailing production processes
- Any local efforts to reduce air pollution would be encouraged and are beneficial
- Due to air inversion conditions, a lot of emissions end up getting trapped in the air
- Four current considerations for triggering LPAQ Notifications
  - AQHI level greater than six at the Downtown Hamilton AQHI Station and elevated AQHI readings are localized to the Hamilton area.
  - AQHI level is being largely influenced or driven by fine particulate matter (PM<sub>2.5</sub>).
  - Temperature Inversion conditions are occurring in downtown Hamilton. When PM<sub>2.5</sub> is trapped with cooling air, PM<sub>2.5</sub> reaches a high health risk
  - Temperature inversion conditions and/or the elevated AQHI reading is expected to last for six hours or more in duration.
- AQHI scale relates air quality to potential health risk
- Reports the combined health effects of zone, SO<sub>2</sub> is currently not considered
- See appendices (page 41) for AQHI categories and related health messages
- Current Considerations for Notifications when AQHI > 6
  - Special Air Quality Statements (SAQS) issued by Environment and Climate Change Canada when AQHI > 7 is expected to last 1 to 2 hours
    - Released during the forest fires smoke
  - Smog and Health Advisories (SAHA) issued by Environment and Climate Change Canada when AQHI > 7 is expected to last for at least 3 hours.
  - There could be cases when both SAQS and SAHA are issued but LPAQN is not. It needs all the checks

- Check Appendices for SAQS and SAHA statistics
  - You can sign up to receive air quality statements and/or download AQHI Canada's app to your cellphone.
- Stacked column chart reflects PM 2.5 trends in ON from 2009 to 2018 (see page 33)
  - Decrease of 10% across the province
  - Key sources of PM 2.5
    - Residential (home firewood burning)
    - Industrial
    - Transportation
- Temperature Inversion Conditions
  - Topography contributes to the buildup of pollutants in the lower part of the city
  - There is good dispersion of pollution under normal circumstances
  - As a result of how air flows in the inversion, cooler air and pollutants get trapped and create a stagnated pocket of air.
  - Temperature inversions are most likely to occur in Spring and Fall
- Recent LPAQN days (see page 35)
  - March 23 2021 and May 20 2021
  - Temperature inversions were prolonged in downtown Hamilton (AQHI 6 & 7)
  - Was driven by high levels of PM2.5
  - Notification was given to industries to voluntarily reduce fugitive emissions
- Next steps
  - Contact information updates
  - IT enhancements
  - In progress – what AQHI threshold to be used for the issuance of notification
  - Modified AQHI for SO<sub>2</sub>
  - Compliance activities with the Hamilton District Office
    - Updating facility specific plans
    - District office to conduct inspections
    - Inspections on fugitive dust management plans

### Questions/Discussion

- Question about what happens when southern Ontario was affected with forest fires and relevant air quality issues. Does the local notification work in those problems, when PM2.5 or other contaminants are migrating in from outside the community? Does this initiate local response, if now how can be modify the LPAQN?
  - From a policy perspective, require localized reductions in these scenarios
  - When the special air quality statement was released in July due to the forest fires, we were not experiencing an air inversion scenario, and thus LPAQN was not triggered
  - Clean Air Hamilton can input for policy, must look into the value LPAQN has for non-localized causes of increased PM2.5
- 33 participating entities – could and should there be more participation?
  - Clean Air Hamilton's role can be to advocate and encourage more participants

- Hamilton district exercise was conducted, resulted in additional facilities that will hopefully be engaged
- Can we look into inclusion of SO<sub>2</sub> into the air quality process specifically for Hamilton?
  - Ministry is looking at other modified AQHI and considering modifying with SO<sub>2</sub> as an option for Hamilton
  - One other location this has been done is in BC, it is not commonly done.
  - Will keep Clean Air Hamilton updated with more information
- Is there overlap between local air quality and special air quality statements?
  - Need to think about notification system that triggers city actions due to larger events

### Discussion Items:

#### 5. CAH virtual committee photo (5 minutes), Jaharvi Desai

- Background: Clean Air Hamilton's work is being featured on Bay Area Climate Change Council's social media platforms
- A good opportunity to update Clean Air Hamilton's team picture - to be included in the Annual Report as well.

### Member Updates:

Stephanie Gasko, Ministry of the Environment, Conservation and Parks

- No updates

Abigail Amponsah, Ministry of the Environment, Conservation and Parks

- No updates

Stephen Burt, Ministry of the Environment, Conservation and Parks

- Birla Carbon has approached the ministry to discuss and request a technical standard. Currently working through the process and the final decision for a technical decision is the right option. Hope to provide update at the next CAH meeting.

Dan Dobrin, Ontario Ministry of Environment & Climate Change

- Mobile air monitoring is active in Hamilton
- Will soon go to other locations in West Central Region

Dr. Denis Corr, Corr Research Inc.

- Lobbying for small modular nuclear reactors to meet climate change targets – to be able to meet our goals, nuclear will have to part of the electricity mix
- Take 50 years or more to get them standardized and put a lot of them into operation, however, installing a couple in the Nanticoke Industrial area can be instrumental. With 1000 acres to spare, Stelco and AMD operations can be shifted there and this would free up 1600 acres of free space in downtown Hamilton. Can transform this location into a steel museum for culture.
- Also conducting air quality monitoring at Pearson Airport with new air monitors from Finland

Geoffrey Knapper, HIEA

- No updates

Heidi Levitsky, HIEA

- No updates

John Lundrigan, ArcelorMittal Dofasco

- AMD has officially announced intention to transform the company
- Putting a plan together to achieve carbon neutrality by 2050
- Requires a lot of work: benchmarking, technical assessments, and exploring all options for new technology to be able to maximize carbon reductions
- Bay front operations are planning 1.8 billion dollar investment into steel making; expected reduction is of 300 million tonnes of greenhouse gas emissions.
- Our plan is to go beyond just emissions reduction and elimination of environmental impacts, it is also to reduce the levels of PM, benzene, B[a]P, and SO<sub>2</sub>
- Moreover, half a million tonnes of Scope 3 reductions are also expected
- Working on electric arc furnace facility to completely eliminate coal and coke in the steel making process.
- There are high end products and use cases where EV is preferred
- AMD plans to contribute to the sustainability of the community
- Upcoming event: October community liaison committee

**ACTION: John to forward links with more information.**

- **Media Release:** [ArcelorMittal and the Government of Canada announce investment of CAD\\$1.765 billion in decarbonization technologies in Canada | ArcelorMittal](#)
- **Video:** [Decarbonising our Canadian operations in Hamilton - YouTube](#)

George McKibbon, McKibbon & Wakefield Inc.

- No updates
- Ontario Professional Planners Institute submitted comments on Draft Land Use Compatibility Guideline. Roughly based on the presentation made at the last CAH meeting.

Lynda Lukasik, Environment Hamilton

- In light of the release of the IPCC report, thrilled about AMD's progress
- Trees Please! is currently conducting tree inventoring in Hamilton neighbourhoods
- Focusing on strategic tree planting efforts
- Stay tuned for the largest free tree giveaway ever upcoming in the Fall

Mainul Husain, Health Canada

- No updates

Andrea McDowell, Healthy and Safe Communities, City of Hamilton

- Working on proposals for local mobile air monitoring in different parts of the City of Hamilton



- Waiting for funding to see if projects go forward, will keep updated in Fall

Megan Sutton, Green Venture

- Updates for Fresh Air for Kids final numbers. 2021 School Year High highlights
  - 208 elementary and high school students reached
  - 6 classes conducted with Dr. Denis Corr
  - Surveys indicate 92% students recorded knowledge of how to improve air quality has increased

Spencer Skidmore, Planning and Economic Development, City of Hamilton

- No Updates

Timothy Hung, Ministry of the Environment, Conservation and Parks

- No Updates

Jahanvi Desai, Healthy and Safe Communities, City of Hamilton

- Thank you to members for their submissions for the Clean Air Hamilton Annual Report 2020
- If not already submitted, please do so by Friday, August 27<sup>th</sup>

Dr. Bruce Newbold, (Chair)

- Currently looking into revising voting protocols
- Ad hoc committee met two weeks ago, follow-up expected soon

### **Next meeting**

**September 13, 2021**

**3:00-5:00pm**

**WebEx**