Public Consultation Report
Site-Specific Air Concentration Standard Request
Owens Corning Composite Materials Canada LP
Guelph Plant

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1.0 INTRODUCTION

This Public Consultation Report by the Owens Corning Guelph Glass Plant documents the company's efforts to inform the public, respond to questions from interested citizens and solicit input from the community regarding its request to the Ontario Ministry of the Environment and Climate Change (Ministry) for a site-specific air standard for hexavalent chromium as an allowable compliance approach. The Owens Corning Guelph Glass facility is making this request under Section 32 of Ontario Regulation 419/05: Air Pollution – Local Air Quality (O. Reg. 419/05). The public consultation and this report have been prepared in accordance with Section 34 of O. Reg. 419/05.

The Guelph Glass Plant is located at 247 York Road, Guelph, Ontario in the Township of Guelph/Eramosa and Wellington County. The facility produces fiberglass reinforcements for commercial and industrial markets worldwide. The facility has been operating in Guelph since 1951 and owned by Owens Corning since 1989. It is the sole producer of fiberglass for reinforcements in Ontario and Canada. Due to the nature of the process, the facility operates continuously 24 hours per day, 365 days per year. The facility currently processes approximately 22,000 tonnes of glass fiber product per year.

The Owens Corning Guelph Glass Plant, during its public consultation period, has satisfied the Ministry's public consultation requirements and gone beyond those requirements to ensure a process of open communications and transparency.

A facility requesting a site-specific standard must:

- ✓ Host a public meeting
  - Owens Corning held two Public Information Sessions on March 5, 2015 (an afternoon session from 3-5 p.m. and an evening session from 7- 9 p.m.) at the Italian-Canadian Club of Guelph (135 Ferguson Street, Guelph), which was attended by 60 residents, employees and local officials.
  - The afternoon session was held in response to the request of the City of Guelph.

- ✓ Inform local stakeholders and the ministry at least 15 days before the meeting by publishing a notice of the meeting in a newspaper with a general circulation in the area and by letter to properties within 500 feet of the property boundary and all those being potentially impacted by current air emissions based on modeling predictions.
  - Owens Corning published two notices, one in the *Guelph Mercury* (daily, circulation 12,863) and one in the *Guelph Tribune* (twice weekly, circulation 45,959) on February 17, 2015, more than 15 days before the March 5, 2015 public meeting.
  - The placement of an advertisement in the *Guelph Tribune* was in response to the suggestion of the City of Guelph.
  - Owens Corning issued more than 4,100 letters to owners and tenants, including properties beyond the area required by the regulation. The majority of letters were

delivered by Canada Post on February 12, 2015; the remainder was hand delivered by February 17, 2015.

- ✓ Make supporting documents available to the public before submitting your application through a community forum where you respond to questions, provide a plain language information package that includes an outline of your proposed action plan, and offer to provide a complete written copy of the proposed package to request a site-specific standard.
    - Owens Corning developed and made available at the March 5, 2015 public meetings three fact sheets, a glossary of terms, copies of the Ministry's fact sheets that explain the process, an explanation of how Owens Corning actions satisfies the Environmental Bill of Rights, and copies of O. Reg. 419/05.
    - Owens Corning provided written copies of the draft ESDM Report Executive Summary as well as draft executive summaries for the Technical Benchmarking, Economic Feasibility and Action Plan reports.
    - This is in addition to poster boards and graphics to provide information in plain language terms on hexavalent chromium, the Ministry's process and the facility's proposed action plan.
    - Owens Corning also created a website www.ocguelph.com (more information below) where all materials at the public meeting are posted.

- ✓ Provide a written summary of the public meeting and submit that as part of your request.
    - This report meets the Ministry's requirement to document input received at the public meeting.
    - In addition, public input received by Owens Corning via email, at meetings and by phone calls is also reflected in this document.

In addition, Owens Corning created three communications mechanisms specifically for this project:

- A website, www.ocguelph.com;
- A dedicated toll-free phone number; and
- A dedicated email address.

The website, www.ocguelph.com, allows interested residents and officials to review all materials presented at the public meeting, as well as the notification letter and public notice. The notification materials were posted to the website on February 14, 2015, and all information materials presented at the public meeting were posted for public access on March 5, 2015, the same day as the meeting.

The toll-free number and dedicated email address allow residents and officials to contact Owens Corning directly with their questions about the site-specific standard request. Summaries of all questions and comments received, as well as the responses, are included as part of this report.

Before notices were published or letters mailed, Owens Corning Guelph Glass Plant conducted outreach to local officials, groups and organizations within the vicinity of the plant to brief them

on the planned request for a site-specific standard, answer questions directly and seek their input. Meetings included briefings for the City of Guelph officials, officials of Wellington-Dufferin-Guelph Public Health, the local school boards, the University of Guelph, Guelph Water Works, Sacred Heart School and others.

Owens Corning also responded to and initiated outreach to the *Guelph Mercury* to broaden community awareness in advance of the March 5, 2015 public meeting. In all, three articles and an editorial were written. Owens Corning submitted a letter to the editor following the meeting to ensure that the website and future opportunities for public comment were publicized. The *Guelph Tribune* published the letter on March 17, 2015 and the *Guelph Mercury* published it on March 23, 2015.

Through the avenues described above, the Owens Corning Guelph Glass Plant has reached out to thousands of residents in the greater Guelph region. As of the writing of this report, Owens Corning has received 18 written statements through the Community Information Session and through the dedicated email address opposed to the Guelph Glass Plant receiving a site-specific standard for hexavalent chromium by the Ministry. The vast majority of the public exchange to date covered six areas of inquiry and/or concern: accountability (monitoring and transparency), communications (clarity of the public notification materials), emissions (past, current and future), health risk (hexavalent chromium), operations (including nuisance issues such as noise and odours), and the Ministry's compliance process. This report provides further detail on these exchanges.

Owens Corning is committed to a transparent process and plans to continue to proactively inform and respond to inquiries regarding this request.

2.0 PUBLIC MEETING

Owens Corning held two Public Information Sessions on March 5, 2015 (an afternoon session from 3-5 p.m. and an evening session from 7- 9 p.m.) at the Italian-Canadian Club of Guelph (135 Ferguson Street, Guelph).

2.1 ATTENDANCE

A total of 60 people registered their attendance at the March 5, 2015 public meetings (27 people at the afternoon session and 33 people at the evening session).

47 Area Residents
2 City Officials
4 Business Representatives
3 City Water Services Representatives
3 Owens Corning Employees
1 Member of the Media

2.2 SUMMARY OF COMMENT FORMS

Comments were submitted to Owens Corning for documentation directly by attendees and also by Ministry and Owens Corning representatives as a means to record their discussions with meeting attendees.

In general, comments covered six areas of inquiry and/or concern: accountability (monitoring and transparency), communications (clarity of the public notification materials), emissions (past, current and future), health risk (hexavalent chromium), operations (including nuisance issues such as noise and odours), and the Ministry's compliance process.

Eight (8) individuals submitted personal written questions or comments at the public meeting. Of those, four (4) individuals submitted written statements strongly opposed to Owens Corning receiving a site-specific standard for hexavalent chromium by the Ministry.

Written statements from the public provided as part of the process are provided in Appendix G. Below is a high level summary of the concerns and questions raised by the public.

2.2.1 <u>Accountability</u>

There were a significant number of comments focused on accountability, in terms of: 1) monitoring to ensure the facility fulfills its commitments and achieves and maintains

its target reductions; and 2) transparency of the monitoring results as related to ongoing compliance and continued progress.

Monitoring: There was a general interest in source testing and/or community monitoring to ensure compliance. A range of frequency was suggested and there were questions as to who would be responsible for such monitoring, if conducted.

Transparency: Many of the comments that were submitted for monitoring also called for the future data regarding the facility's operations to be released to the public. Questions covered how and when the community would be kept informed, and some requested air quality testing in the community not just for hexavalent chromium but for all carcinogens.

A few participants specifically recommended the constitution of a Community Advisory Panel similar to what is used by the chemical industry as part of its Responsible Care program, as a means to maintaining open communications and mitigating community concerns.

2.2.2 Communications

A few individuals expressed frustration regarding a lack of clarity of the written communications (letter and ad) to notify residents and the company's overall explanation of the process in a non-technical way.

There were also questions about the facility's plans for future communications regarding the submission of its request and the posting by the Ministry of its decision.

2.2.3 Emissions

There were a significant number of questions regarding data related to historical, current and future emissions, such as how those numbers are calculated and the facility's actions for reducing emissions.

2.2.4 Health/Risk

There were many questions regarding the health risks associated with exposure to hexavalent chromium related to past, current and future emissions (if the facility's request for an site-specific standard is granted). Questions focused primarily on air as the pathway of potential exposure, but there were also questions of impacts to soil and specifically gardening in soil containing hexavalent chromium particulates.

There was high interest in research - from what research currently exists (both background levels assessed and health studies conducted) to questions about plans and recommendations for future research, including health monitoring in the community near the plant.

There were two written statements from the public that any exposure is unsafe and unacceptable.

2.2.5 Operations

There were a range of general questions regarding the facility's operations and associated offsite community impacts in relation to operations. These mostly pertained to odours and noise. (While hexavalent chromium has no associated odour, there are odours associated with the facility's CSM process.)

There were several questions regarding the current and future technology of the furnace and glass transport structures, specifically related to the use of chromic oxide bricks in their construct, which are the root material cause of the creation of hexavalent chromium as a byproduct of the plant's operations. Questions focused on what analysis had been performed to date to identify alternative materials, and if the same bricks would be used in the upcoming planned furnace rebuild.

There were several questions about the facility's plans if the Ministry does not approve the request for a site-specific standard.

2.2.6 Ministry's Process

Questions and statements focused mainly on why the Ministry's process allows a site-specific standard as a compliance approach and how best to submit to the Ministry statements from the public of concern or recommendations for additional requirements the facility should be required to satisfy if approved.

A few questions focused on how to stay informed, the duration of the term for a site-specific standard and what the process is if the facility is unable to meet the general standard when the term expires.

2.3 SUMMARY OF DISCUSSION

Through a listing of paraphrased questions and answers and a recording of statements from the public, this section provides a more detailed summary of discussions between meeting attendees and representatives of Owens Corning and the Ministry.

For the purposes of consistency, discussion topics are broken down into the same six areas of inquiry and/or concern identified in Section 2.2: accountability (monitoring and transparency), communications (clarity of the public notification materials), emissions (past, current and future), health risk (hexavalent chromium), operations (including nuisance issues such as noise and odours), and the Ministry's compliance process.

2.3.1 Accountability

Q. What mitigation measures is the facility planning to take between the time they achieve the 85 percent improvement and meet the standard?

Owens Corning will continue to research, develop, and when feasible implement new technologies and process changes that reduce the generation and emission of hexavalent chromium. It is not possible to identify or predict specific measures at this time.

Q. Who will be measuring the air emissions sampling (specifically, which labs)?

The air samples are collected by a qualified source testing consultant with specific experience in collecting samples for hexavalent chromium analysis. The samples are then analyzed by a third-party accredited laboratory.

Q. Why isn't there a way for people to know what's in their community?

The National Pollutant Release Inventory (NPRI) has a website available https://www.ec.gc.ca/inrp-npri/. There is also the Ontario Toxics Reduction Act and Regulation to which many companies disclose their emissions information. For more information on the Toxics Reduction Regulation in Ontario, please go to http://www.ontario.ca/environment-and-energy/map-toxics-reduction

Q. Where can community get info on progress during the 10-year site-specific standard period?

All changes to the facility that affect hexavalent chromium emissions will be submitted to the Ministry. Improvements can be tracked through the Ministry information access process.

Q. Owens Corning plans to reduce emissions to 85 percent by 2017, with confirmation testing through 2018. Does the Ministry hold them to the timeline proposed in their plan to reduce emissions?

The Ministry will closely oversee progress using a framework for managing risk that was developed in cooperation with public health units in Ontario and other stakeholders. If the site-specific standard is approved, Owens Corning will be held accountable to the timeline in the Action Plan.

Q. Who is responsible for site cleanup if the plant closes?

There are no plans to close the plant. Owens Corning is committed to working with the Ministry to maintain compliance for emissions of hexavalent chromium and to remaining in the City of Guelph. Owens Corning is working to reduce air concentrations as much as possible with technology-based solutions and best practices, and pursuing a compliance

process developed by the Ministry based on these efforts. The plant will continue to work with the Ministry in this endeavour.

Statements from the Public

"Source emission standards are great, but I want to know that my overall exposure to hazardous substances is declining. Air quality testing in the community is needed ASAP to establish a baseline and follow up testing on a regular basis is needed, with results made available to the public would be appreciated (not just for hexavalent chromium but for all carcinogens)."

"While Owens Corning works to meet the general standard, I think it should continue to communicate with the community about whether its actions are producing the intended result, what monitoring is being performed and the results of that monitoring, and what progress is being made. I once participated in a Responsible Care Community Advisory Panel for the chemical company Huntsman and found that approach to community outreach very informative for neighbours and for the company. I recommend that Owens Corning create a similar panel as a mitigation step with the community. The Huntsman CAP discussed its emergency response protocols and how it tracked its products. I think a panel like this could be used Owens Corning to communicate proactively with the community about all its risks and what it doing to protect the community. It also could be used to discuss issues such as odours, noise and fibers floating offsite into the neighbourhood. I would prefer not to have to always be the one to reach out to Owens Corning about my concerns. This would make it more of a two way conversation."

2.3.2 Communications

Q. Is Owens Corning's full submission to the Ministry available to the public, including the Benchmarking Report?

Yes. Owens Corning is required to make a written copy of its full submission available to the public upon request. In addition, Owens Corning will voluntarily post its full report on the project website established to enable greater transparency of this process. The website address is www.ocguelph.com.

Q. Will Owens Corning notify me when the Ministry's draft decision is posted to the Environmental Bill of Rights (EBR) website?

Yes. Although not required to do so, Owens Corning will notify all Community Information Session attendees who provided their email or street address of the Ministry's posting of its draft decision to the EBR website (www.ebr.gov.on.ca). Following the posting of its draft decision, the Ministry will consider additional comments.

Q. Is Owen's Corning required to send circulation notices to properties surrounding their site regarding their planned request?

Yes. Three avenues of notification to the public are required as part of a request for a site-specific standard. We are required to: issue a public notice through the mail system to a defined area surrounding the plant based on Ministry guidelines; place an advertisement in an area newspaper; and hold a public information session.

The overlap is intentional, recognizing that people receive information in different ways.

In each of these areas, Owens Corning has gone above and beyond what is required, in an effort to ensure this is a transparent process. The Company placed the ad in both the *Mercury* and the *Tribune*. The company held two information sessions (afternoon and evening) and sent notification letters beyond the required area.

Q. The notice sent out to the public was clearly written by Owens Corning Communications Department. It was not written to a level most residents can understand.

Owens Corning did write the public notification materials that were sent to more than 4,100 residents within the immediate vicinity of the plant, in accordance with the Ministry's public notification requirements. We did our best to take the complex nature of this information and translate it into terms residents could understand. More importantly, residents were invited to reach out to the facility via email, telephone call and by attending the Community Information Sessions on March 5 to ask questions directly of Owens Corning and the Ministry in order that they may better understand the issue.

Q. Someone should have been reviewing this to ensure the process was fairer.

The letter and advertisement were both provided in draft form to the Ministry for their input and conforms to the Ministry's public outreach requirements.

Q. How did you determine the mailing destinations? How many letters were mailed? Where?

The regulations required Owens Corning to mail a public notification to properties within 500 meters of the property boundary and to every property and occupant identified as being potentially impacted by current air emissions based on modeling predictions.

Owens Corning mailed more than 4,100 letters, to an area beyond what was required. See Appendix B for a graphic of the area.

2.3.3 Emissions

Q. Is Owens Corning in compliance with current air regulations?

Yes. The Guelph Glass Facility is in compliance with the current air regulations.

Q. What are the facility's current emissions?

Based on the modeling assessment of current operations, the annual average modelled maximum concentration for hexavalent chromium is 0.0208 micrograms/cubic meter predicted at the facility's south east fence line.

Q. Where is your data from?

The exhaust stacks were tested to collect the hexavalent chromium emission data. These air samples were collected by a qualified source testing consultant with specific experience in collecting samples for hexavalent chromium analysis. The samples were then analyzed by a third party accredited laboratory.

Q. Why can't Owen's Corning comply with the Ministry's general standard in the required time and therefore needs a site-specific condition?

There are both unique technical challenges and related economic limitations to achieving the future general standard within the designated timeframe for the change. The site-specific standard approach was designed by the Ministry with the understanding that achieving such a significant reduction takes time, and to enable facilities to maintain compliance while continuing to pursue actions to achieve the new standard. Modeling predicts the implementation of Owens Corning's current Action Plan will reduce the plant's off-site air concentration of hexavalent chromium by 85 percent from what it is today.

Q. How soon are you going to have an 85 percent reduction?

Modelling predicts that Owens Corning will achieve more than an 85 percent reduction in the concentration of hexavalent chromium by July 1, 2016, when the new standard goes into effect.

Q. What has been done so far?

Owens Corning has already invested millions of dollars to assess and pursue technologies to eliminate the creation of hexavalent chromium as a byproduct of its processes. LEHDER Environmental Services performed a comprehensive assessment of the plant to identify all existing and potential areas of the process where hexavalent chromium is generated and emitted. They also worked with Owens Corning to conduct a Technology Benchmarking study to identify all possible control technologies. Based on these

findings, Owens Corning has selected a combination of options for implementation that are set to occur in early 2016.

Q. What will the new concentration of hexavalent chromium be if Owens Corning does what it says it will do and reduces the off-site air concentration by 85 percent?

After Owens Corning implements its Action Plan, the maximum modelled annual concentration of hexavalent chromium will be 0.0024 micrograms/cubic meter.

Q. What additional actions does Owens Corning plan to take to reduce its emissions?

The glass making process is a continuous one, which is why the process must run 24 hours a day, 365 days a year. Based on the operation cycle and investment of the furnace, the process is shut down every 10 years to enable technology upgrades. The next planned shutdown is to occur in early 2016 and this is when we plan to make additional improvements. During that window of time Owens Corning will: replace the existing furnace with a similar, smaller furnace with improved technology; install a state-of-the-art combustion controls system and use improved construction techniques on all remaining sections of the process; and re-engineer the furnace stacks, the remaining forehearth stack, and the general ventilation exhauster for the new furnace to overcome site-specific dispersion challenges.

Q. Are economic considerations the only reason you cannot meet the future emission standard?

No, there are technical challenges as well. However, economic considerations are understood by the Ministry as a contributing factor in the decision-making process. If a facility works to reduce air concentrations as much as possible with technology-based solutions and best practices, a site-specific standard is an allowable option for compliance, as long as the Ministry determines it falls within its framework of an acceptable risk to the local community.

Q. Can you give me an example of how a technology may not be feasible or effective?

The technical challenges are related to a number of different elements including physical or chemical restrictions, commercial availability of emerging technologies, and engineering principles. For example, one of the potential technological process changes would result in the product no longer meeting the required specifications. The product would be unusable, so this option is considered infeasible. Fiberglass products are manufactured to meet very specific performance standards set by our customers. Our customers will not purchase our product if it does not meet the required specifications.

Q. How do you develop these technologies and gather more information?

We are continually working on process improvements at Owens Corning Research and Development facilities. In addition, there are other plants in the world that have some similar processes and challenges. We can, in some cases, gather data at these facilities.

Q. Is there any chance you will meet the 99 percent reduction?

We have a plan for continuous improvement. While we cannot provide any guarantees based on currently available technologies, we can commit to continuing to evaluate, research and implement new technologies in order to continue to reduce our emissions toward meeting the general standard. For example, the state-of-the-art combustion technology we are now implementing was not available five years ago. Technology is always changing and we will continue to look for opportunities that make sense for this facility.

Q. How are the concentrations of hexavalent chromium going to fluctuate over the course of the day/month/year?

The emissions from the facility are continuous and released in a steady state. Any fluctuations in the concentration at a given location will be due to changes in meteorological conditions such as wind direction and wind speed.

Q. What are your maintenance requirements in order to ensure hexavalent chromium concentrations stay below or at what you are proposing?

The facility will be required to comply with any requirements set out by the Ministry as part of the approval for a site-specific standard. The approval will establish requirements such as maintenance procedures, testing requirements, and reporting tools to demonstrate the Action Plan is being implemented. As part of the Action Plan proposed by Owens Corning, source testing is scheduled to confirm the technologies implemented are performing as expected.

2.3.4 Health/Risk

Q. Historically, is there an aberration for the statistical number of diseases in the area? Has there been a health study of the neighbourhood near the plant?

As far as we know, the health of residents has not in the past and is not currently being monitored for potential effects of hexavalent chromium.

Q. How does Owens Corning currently contribute to research into and monitoring of the adverse respiratory system and carcinogenic effects of the Guelph plant's emissions of hexavalent chromium?

Owens Corning Guelph Glass Plant is a manufacturing facility; as such we do not contribute to medical research.

We do invest in research into the plant's manufacturing process for many reasons, including maintaining compliance with environmental and health regulations. We are currently compliant with Ministry regulations for emissions of hexavalent chromium and are working to maintain plant compliance through the processes developed by the Ministry.

Q. How is the health of residents monitored for the potential respiratory system and carcinogenic effects?

We are not aware of any current local health-based research or studies related to respiratory or carcinogenic effects of hexavalent chromium.

After Owens Corning implements its Action Plan, the theoretical increased cancer risk is less than one extra cancer per 100,000 people exposed over a lifetime to the highest concentration predicted for a sensitive receptor location. The true risk may be lower. There are several reasons for this, include:

1. It is assumed (not known) that hexavalent chromium can cause cancer at these low levels of exposure.

2. The science assumes continuous exposure 24 hours per day, 365 days for 75 years. Most people will not be exposed continuously over a lifetime, since people tend to move around during the day, and during their lives.

3. The calculations are for the most sensitive location (for example, the highest concentration that could occur where people live). At every other location, exposure concentrations and risks will be lower.

Since no adverse health effects are predicted, such a study would be unlikely to find any links between exposure to this level of hexavalent chromium and health.

Q. Why is the new standard so low?

For carcinogens, all exposures are associated with some level of risk. Various jurisdictions world-wide deem certain cancer risk levels to be acceptable. The Ministry's risk benchmark is one in 1 million. Other jurisdictions have levels that are one in 100,000.

Q. What is background level of hexavalent chromium?

We are not aware of any data specific to the Guelph region, but some other regions have monitoring data. An approximate background value of hexavalent chromium is 0.003-0.004 micrograms/cubic meter. This is referenced from the Ministry *Rationale Document for the Development of Ontario Air Standards for Chromium and Chromium Compounds*, dated July 2009.

Q. What does hexavalent chromium do to you?

Ministry comment card: Hexavalent chromium is a known human carcinogen. However, risk associated with current and future emission by the facility is considered low. Ms. Tanya Onica explained MOECC policy regarding risk targets.

Q. How long does hexavalent chromium stay in your body? Does it accumulate?

Ministry comment card: Data from occupational exposures (high concentration, long exposures, in chromate production plants) show that hexavalent chromium can accumulate in the body. Less is known about whether it accumulates at lower levels (low concentrations, limited exposure). Generally, hexavalent chromium is eliminated from the body via urine.

Q. How long does hexavalent chromium stay in the air?

Hexavalent chromium can stay in the air anytime from hours to days potentially, depending on a number of factors. However, once in the environment, hexavalent chromium can be converted to the less toxic compound, trivalent chromium.

Q. Is there anything I can do to prevent exposure or biological uptake of hexavalent chromium?

Ministry comment card: The Ministry is not aware of any actions a person can take to prevent or minimize exposure to hexavalent chromium.

Q. If the air quality standard for the community is 0.00007 µg/m3 (or 0.00000007 mg/m3), why is the standard for workers inside the plant 100,000 times higher (i.e. 0.01-0.05 mg/m3 for hexavalent chromium).

[Note: This question is provided verbatim and contains inaccurate values and units.]

In general, Occupational Exposure Guidelines (permissible exposure levels) are generally much higher than standards set for the general population for a range of reasons.

For example, standards set for the community are based on a lifetime of exposure and include an assessment of risks to children and the elderly. (The science assumes continuous exposure 24 hours per day, 365 days for 75 years.) In contrast, the standards

set for the protection of workers assumes only intermittent exposure (less than 24 hours per day) to adults only. Additionally, standards are not always updated at the same time and this may also account for the difference between the two.

Occupational exposure is regulated by the Ontario Ministry of Labour.

Q. If the hexavalent chromium disperses as a particulate, what research is done into its dispersal range and distribution pattern?

Air dispersion modeling is conducted to translate facility emissions into a predicted off-site air concentration for comparison to the Ministry standards. A great deal of research and ongoing improvements have been incorporated into the USEPA AERMOD air dispersion model which is a Ministry-recognized advanced dispersion model. Owens Corning is using the most recent version of this updated software (as approved by the Ministry) along with 5 years of local meteorological data to make the best possible predictions for the dispersion of hexavalent chromium emissions in the atmosphere. The modeling also takes into account the physical geometry of the facility and local land use.

Q. If the particulates fall to the ground, are they absorbed into the groundwater?

While the Ministry includes some environmental fate information in its rationale document for the air standard, that information doesn't directly answer the question.

More information is available at
http://www.epa.gov/ogwdw/pdfs/factsheets/ioc/tech/chromium.pdf, which states:

"Chromium is not likely to migrate to ground water. A field trial on the application of wastewater treatment sludge to soils found movement of heavy metals, including chromium, from the soil surface to a depth of 10 cm, but most of the metal (mean 87%) remained in the upper 5 cm of soil. Uptake by plants is generally low; it was found to be greater from ultrabasic soils by a factor of 5-40 than on calcareous or silica-based soils."

Q. Will you be testing soil for hexavalent chromium?

There are no plans for soil testing.

Q. Are there any concerns about the kids using the community swimming pool?

No. Sensitive receptors were assessed and would have higher exposure than pool users. The calculations are for the most sensitive location (for example, the highest concentration that could occur where people live). At every other location, exposure concentrations and risks will be lower.

Statements from the Public

"Our concern is our health, being that we work in such close proximity to the plant and in the direction of the dominant wind direction. It is unknown what the effects are if exposed at low concentration over long periods of time (e.g. 50 years). Research has not been done. This is a concern."

"Every exposure is unsafe and unacceptable."

"We, my family, are seriously opposed to anything less than the standard being met. If the ministry is setting a standard of 99% reduction then 85% reduction or more over 10+ years is simply not good enough. The World Health Organization and Health Canada has said that any exposure to hexavalent chromium is too much. We cannot risk the safety of the community and the future based on this risk. Owens absolutely needs to meet the standard or shut down. It is not worth the risk – no matter how small. The more we learn and the more science improves, the more we realize how many air and environmental mistakes we've made. Let's be proactive and not reactive. Our household opposes this site-specific request. "

2.3.5 Operations

Q. What are the consequences to the Guelph plant's viability if Owens Corning is forced to comply by 2016 with the Ministry's new emissions standards for hexavalent chromium?

Owens Corning is committed to working with the Ministry to maintain compliance for emissions of hexavalent chromium and to remaining in the City of Guelph. The plant is working to reduce air concentrations as much as possible with technology-based solutions and best practices, and pursuing a compliance process developed by the Ministry based on these efforts. We will continue to work with the Ministry in this endeavour.

Q. Why are you requesting 10 years instead of seven?

The glass making process is a continuous one, which is why the process must run 24 hours a day, 365 days a year. Based on the operation cycle and investment of the furnace, the process is shut down every 10 years to enable technology upgrades. The next planned shutdown is to occur in early 2016 and this is will provide the best opportunity from a safety and operational standpoint to implement the action plan. It will also meet the requirements of the Ministry's regulations. The next planned shutdown will be in 2026. The term of the plant's request is based on these windows of opportunity.

Q. In 10 years will you just renegotiate your standard/permit?

Owens Corning will always operate within compliance of the Ministry's regulations. We will continue to strive to meet the standard and actively pursue reduction technologies to

eliminate hexavalent chromium. If we are unable to achieve the standard by the end of our term limit, we will follow the process for compliance afforded by the Ministry.

Q. What precautions are being taken to prevent an air spill and what is your contingency plan?

The nature of the glass melting process and the generation of hexavalent chromium is a steady state continuous process. The facility has not identified any process or maintenance activities that would be likely to result in an unexpected or unplanned air release for hexavalent chromium. There are numerous other particulate control devices at the facility for powder material transfer (which does not contain hexavalent chromium) and there is an operation and maintenance plan in place for these devices to prevent any unexpected or unplanned air releases.

Q. Does Owens Corning have other facilities with the same problem?

Owens Corning has more than 20 plants around the world. Owens Corning has a company-wide target of reducing emissions of hexavalent chromium, as well as other compounds through product formulation, process improvements and advanced technologies. The Guelph Glass Plant is the sole producer of fiberglass for reinforcements in Ontario and Canada. Ontario's hexavalent chromium standard is the most stringent we are aware of in the world.

Q. Are you installing the same brick in the rebuild?

Yes. Reductions in the creation of hexavalent chromium will be achieved by making the furnace smaller and using improved technology. We plan to install a state-of-the-art combustion control system and use improved construction techniques on all remaining section of the process (forehearths).

Q. Why not find bricks without chromium? Are you using the chromic oxide refractory to get ahead of your competitors?

LEHDER has evaluated existing technology, including bricks made of materials without chromium. The current alternative materials do not work with the plant's down-stream processes. Owens Corning will continue to evaluate, research and monitor the development and emergence of technologies that decrease the formation or improve the capture of hexavalent chromium.

Q. Are you just going to install the same bricks in 10 years?

It is too early to predict what the company will do in 10 years' time. New technologies are likely to evolve. For example, the state-of-the-art combustion technology we are now implementing was not available five years ago. Technology is always changing and we will continue to look for opportunities that make sense for this facility.

Q. Are you moving part of the process to Mexico because of lower standards?

The decision to move the CSM process to Owens Corning's operations in Mexico was based on global economic considerations and had nothing to do with the future hexavalent chromium standard.

Q. What's going to happen with the "empty" space after the CSM relocation?

There are no immediate plans for the space currently in use by the CSM processes.

Q. Why not move the whole plant to Mexico?

Owens Corning is committed to maintaining operations in the City of Guelph.

Q. Can you keep your floodlights from glaring into Hooper Street?

Yes. We will tilt down the lights in the warehouse to reduce the glare off of Hooper Street.

Q. What is the facility doing to control the fibers that blow offsite?

Owens Corning has taken several actions to minimize offsite impacts from fibers. We replaced our compacting equipment to reduce the risk of material escape off site during packing and transport. We also implemented new protocols including the wrapping of fiber waste inside the building before being moved outside and annual stack cleaning to prevent excessive fiber build up. In addition, we continue to perform a routing site perimeter cleanup.

Q. There is a loud humming noise carried by the river. It is especially loud at night when it's quiet.

We have developed a noise plan that will begin to be implemented in 2016 and is predicted to reduce noise generated by the facility over the next 5 years.

Q. There are odours detectable on Boult Avenue, described as similar to pre-incinerator odours, "back like it used to be."

We are aware of odours that come from our facility from time to time. However, there are other activities and operations in the neighbourhood that have the potential to generate odours. The odour you describe does not match the common description of our operation and has the potential to be from another source in the area.

Q. Every time I take my child to the playground downwind of the plant I smell a nasty smell kind of like burning plastic and wonder if that is hexavalent chromium?

The odour is related to the Chopped Strand Mat Line (CSM line) oven stack which people sometimes describe as smelling like "hot plastic." The odour is generated from the heating of resin. Hexavalent chromium is odourless.

2.3.6 Ministry's Process

Q. In our discussion with Owens Corning, they only showed modelling on annual standards, but there are also half-hour and 24 hour standards. How do we know they are meeting these?

The future standard is based only on annual emissions. The same is true for the site-specific standard. As such, Owens Corning's modelling for this request is also on an annual average basis. There is a current half-hour comparator (upper risk threshold) that is applicable to the site and Owens Corning's modelling results are well below that comparator beyond the facility fence line.

Q. If the company cannot meet the environmental standard set by the Ministry, why grant site-specific exemptions? What is the company providing that is worth the exemption?

The Ministry makes its determination based on science and risk only. It does not factor into its calculations what a company manufactures, produces or processes.

Because provincial air standards are based on science, the Ministry acknowledges they may not be achievable by a facility or a sector due to unique technical or economic limitations. Instead of making the air standard less stringent, the regulation allows facilities or sectors to exceed the general air standard as long as they are working to reduce their air emissions as much as possible with technology-based solutions and best practices. The Ministry of the Environment closely oversees their progress using a framework for managing risk that was developed in cooperation with public health units in Ontario and other stakeholders.

Q. What is the expected timeframe for the draft decision?

The Ministry expects to have a draft decision for public review and comment by the end of the summer/early fall 2015.

Q. I am concerned about the adequacy and frequency of the testing and modeling. Should compliance be based on such singular and infrequent testing?

Source testing for hexavalent chromium emissions has been conducted numerous times in the last few years under various operating conditions. This testing has provided valuable information about what process parameters may affect the generation and emission of

hexavalent chromium and the consistency of emissions over time. The air samples are collected by a qualified source-testing consultant with specific experience in collecting samples in accordance with testing methods specific to hexavalent chromium. The samples are then analyzed by a third -party accredited laboratory.

Q. If I don't want this approval to go forward what do I do?

You should complete a comment card. Your input will be provided to the Ministry through the Public Consultation Report.

Q. Can the public request higher standards of compliance because they are located in a recreation and residential neighbourhood (for e.g. an automatic air sampler on the smoke stack that samples randomly x-times a year)?

All comments submitted to Owens Corning will be provided to the Ministry through the Public Consultation Report.

The Ministry already considers the most sensitive location (for example, the highest concentration that could occur where people live) in its determination. At every other location, exposure concentrations and risks will be lower.

It should be noted that there are no technologies available to automatically collect and analyze air samples for hexavalent chromium.

3.0 ADDITIONAL PUBLIC INPUT

Owens Corning created three communications mechanisms to facilitate the exchange of information and the public's ability to provide input to this process. They include: a website, a dedicated toll-free phone number, and a dedicated email address. These vehicles were publicized in the public notification letter and public notice. They also were provided to community leaders and organizations in meetings and outreach initiated by Owens Corning (See section 4.0).

Additionally, an independent posting by an interested citizen on the Internet classified ad site Kijiji also encouraged residents to comment on the Owens Corning request.

This section provides input received by Owens Corning through these vehicles as of March 27, 2015.

3.1 CONTACTS

Twenty (20) people contacted Owens Corning through the dedicated email and phone numbers. The majority of these exchanges were via email.

Of these 20 people, two individuals attended the March 5 public meeting and also submitted written comments and statements through that process.

3.2 SUMMARY OF QUESTIONS AND STATEMENTS FROM THE PUBLIC

Fifteen (15) individuals submitted statements by email specifically to request that the Ministry deny Owens Corning request for a site-specific standard.

Some individuals asked multiple questions via multiple emails or calls. In general, comments covered the same six areas of inquiry and/or concern: accountability (monitoring and transparency), communications (clarity of the public notification materials), emissions (past, current and future), health risk (hexavalent chromium), operations (including nuisance issues such as noise and odours), and the Ministry's compliance process.

Every attempt was made to acknowledge every response as soon as possible and provide answers to questions within a reasonable timeframe.

3.2.1 Accountability

One email raised questions about the oversight of Owens Corning during the period of the site-specific standard.

3.2.2 Communications

Two residents phoned and asked about the process for providing comment. Both callers were provided information on how they could comment through the Ministry process or directly to Owens Corning.

3.2.3 Emissions

There were questions regarding data related to past, current and future emissions (if the facility's request for a site-specific standard is granted).

3.2.4 Health/Risk

The majority of statements focused on the health/risks associated with exposure to hexavalent chromium.

Many of the statements from the public opposing the Owens Corning site-specific standard request cited either health concerns or the inability to reduce air emissions sufficiently to meet the Ministry air emission standard.

3.2.5 Operations

General questions regarding the facility's operations and associated offsite community impacts in relation to operations mostly included questions about odours and noise. (While hexavalent chromium has no associated odour, there are odours associated with the facility's CSM process, which is leaving the facility in 2016.)

One resident asked about the viability of the plant should the Ministry deny the site-specific standard request. One individual emailed with a question about where Owens Corning disposes its solid waste. One individual asked whether the plant could use an alternative to hexavalent chromium, which is a byproduct of operations but is not used in the plant.

3.2.6 Ministry's Process

Two questions and many statements from the public were made about the process. One question was why Owens Corning was unable to meet the standard, and when it might be expected to meet the standard.

Fifteen (15) statements from the public stated their opposition to the Ministry granting Owens Corning's request. Copies of these statements are provided in Appendix E.

3.3 SUMMARY OF DISCUSSION

Through a listing of questions (corrected for spelling and punctuation) posed to Owens Corning and answers provided, this section provides a general summary of additional consultation activities between members of the community and Owens Corning. Statements from individuals are provided in the appropriate section.

For the purposes of consistency, discussion topics are broken down into the same six areas of inquiry:

- Accountability,
- Communications,
- Emissions,
- Health/Risk (risk, hexavalent chromium),
- Operations (including nuisance issues such as noise and odours), and
- The Ministry's compliance process.

3.3.1 Accountability

Statement from the Public

"Owens Corning should be held responsible for the 99 percent elimination of hazardous emissions. This is the 21st century, and business must be held accountable for their environmental impact. I would be a huge plus for Owens Corning to enter the 'green zone' of business by gaining amazing public image with a forward, modern and progressive plan for the future. Take the plunge OC. It will pay for itself in the long run."

"I am a resident of Guelph and am completely opposed to the site-specific standard for this operation. OC should be held to the provincial standard - continuous improvement is subjective and UNACCEPTABLE without a detailed plan that will be approved and monitored by a party outside Owens Corning organization."

3.3.2 Communications

Q. What is the role of the average neighbourhood dweller in this process? If someone can't make it to the information session on Thursday, can they still have their comments reflected in the request to the Ministry?

Public input is encouraged as part of this process. Owens Corning will place all information materials available at the public meeting on its website www.ocguelph.com. All emails or letters received by Owens Corning will be presented to the Ministry as part of the Public Consultation report. Also, the public may submit comments directly to the Ministry. In addition, the Ministry will post their draft decision on the EBR and seek public input again at that time.

3.3.3 Health/Risk

Q. I have health concerns for my family and am curious about the emission and odours produced.

We appreciate you have concerns. The public consultation process is in place to make sure you have access to information about what concerns you, and access to representatives of both Owens Corning and the Ministry to better understand what improvements are planned.

The odours sometimes detectable by the plant are not related to hexavalent chromium, which is odourless. The odour, which people sometimes describe as smelling like "hot plastic," is generated from the heating of resin and related to a separate process that will be removed from the facility within the next 12-18 months.

Q. Please send me the current air pollution and air quality levels as well as the ministry's acceptable levels of hexavalent chromium.

The plant is in compliance with the Ministry's current regulations. The Current Comparator for hexavalent chromium (called an Upper risk Threshold) is 0.07 micrograms/cubic meter (on a 24 hour average).

Based on the modeling assessment of current operations, the annual average modeled concentration for hexavalent chromium is 0.0208 micrograms/cubic meter.

The new general standard coming into effect on July 1, 2016 will be 0.00014 micrograms/cubic meter. Owens Corning is actively pursuing technologies to eliminate the creation of the hexavalent chromium as a byproduct of the plant's processes and is striving to meet the future standard.

Q. Could you please inform me as to how hexavalent chromium is produced as a byproduct of your processes on York Road.

Owens Corning does not use or produce hexavalent chromium. The plant's existing glass melting and molten glass transport structures are made from materials that include chromium oxide. These materials are used because they resist extreme wear conditions in the furnace and forehearths. As a result of the high temperatures and other conditions of the process, an extremely small fraction of the chromium oxide is transformed into hexavalent chromium and emitted to the air.

Statements from the Public

"Concerned and dismayed at the proposal to avoid the 99% reduction for hexavalent chromium. The World Health Organization states that ANY exposure to hexavalent

chromium is too much. It is worth noting that neighbours surrounding me on three sides have cancer of one form or another, including lung cancer. The risks to the health of my children and myself are far too significant for me to ignore this issue. I must insist that the proposal for a site-specific standard be denied."

"Writing to express my concern about the application to the Ontario Ministry of the Environment for a site-specific standard to reduce emissions of hexavalent chromium to only 85%, instead of meeting the new standard of 99% reduction from the Owens Corning Plant on York Road in Guelph. As a frequent user of the river path with my children and a member of the Unitarian Congregation nearby, I am very concerned about the possible release of carcinogens into the air in such a densely populated and used area. Please reconsider this application."

"I would like to express my concerns about the Owens Corning fiberglass plant's wish to reduce its hexavalent chromium to only 85%. I am absolutely befuddled as to why anyone would feel the urge to use hexavalent chromium. There are clearly many, many more disadvantages than benefits to using the chemical. Anyone who thinks otherwise needs to do more research or watch the movie Erin Brockovich. I cannot even imagine any good reason to use the chemical if it has been proven to directly impact the health of people living in its vicinity. When given the option to protect health or produce goods the clear choice should be to preserve health, should it not? In conclusion, I am strongly against lowering standards for the reduction of hexavalent chromium."

"I'm a resident of the city of Guelph and would like to express my strong opposition to your application to the MOE to reduce your emissions of hexavalent chromium to only 85% rather than meeting the new 99% reduction standard. I have significant concerns re: the carcinogenic effects of your emissions not only for myself but for my family as well. Please meet the MOE's 99% emission standards for the sake of the health of our current and future generations."

3.3.4 Operations

Q. What are the consequences to the Guelph plant's viability if Owens Corning is forced to comply by 2016 with MOE's new emissions standards for hexavalent chromium?

We are in compliance. Currently available technology will not ensure meeting the new standard, which is why we are requesting a site-specific standard. We will continue to work with the Ministry in this endeavour.

(There were multiple questions about odour. These are two representative questions.)

Q. Every time I take my child to the playground downwind of the plant I smell a nasty smell kind of like burning plastic and wonder if that is hexavalent chromium?

Q. Walking my dog along the path by the river just down from your plant, I frequently smell the pungent emissions and am now considerably fearful for my health and the health of our city residents.

This is unrelated to hexavalent chromium, which has no associated odour. If the odour smells like burning plastic, it is likely related to the Chopped Strand Mat Line (CSM line) oven stack which people sometimes describe as smelling like "hot plastic." That odour is generated from the heating of resin.

Q. Is the plant changing or just the air standards? Will the average person notice any difference in 2016 from now?

The request for a site-specific standard is not related to any changes at the plant; it is in response only to changes to air standards going into effect on July 1, 2016. There will be no obvious noticeable changes to the average person if the request is granted.

Q. Where do you dispose of your waste? Your NPRI data says that in 2013 there were 0.3761 tonnes disposed off-site.

The 0.3761 tonnes for disposal refers to chromium in the di, tri and metallic states, which are in a solid form embedded in unusable glass. The material was sent to an approved waste handler for disposal.

Q. As an alternative to hexavalent chromium, has Nickol-Tungsten Alloy been considered?

To clarify, we do not use hexavalent chrome refractory. The base material is chromic oxide refractory. As a result of the high temperatures and other conditions of the process, an extremely small fraction of chromium oxide is transformed into hexavalent chromium as a byproduct and emitted to the air.

As a company, we are conducting ongoing research into material selections in the plant's process and have evaluated nickel-tungsten. It was determined that it was not a viable option for the plant's process due to the incompatibility of those materials with the downstream processes. As part of our Action Plan, we are committed to further research in this area.

Statement from the Public

"I do not like the idea of releasing more things in the atmosphere, which meet government limits. Personally I wish your plant would just go away. You are noisy. There was only peace and quite in the area when we had the power outage. It would be nice if companies would exceed government limits not just meet them."

3.3.5 Process

Q. Why is Owens Corning unable to comply with the general standards in OR 419? Is it a matter of technology or economics?

The Guelph Glass Facility is in compliance with the current regulations. However, the future general standard (taking effect July 1, 2016) represents a reduction of more than 99 percent from the existing standard. That is a significant change.

There are both unique technical challenges and related economic limitations to achieving the future general standard within the designated timeframe for the change. This site-specific standard option was designed by the Ministry with the understanding that achieving such a significant reduction takes time, and to enable facilities to maintain compliance while continuing to pursue actions to achieve the new standard.

Owens Corning is investing millions of dollars to assess and actively pursue technologies to eliminate the creation of the hexavalent chromium as a byproduct of its processes. Another $10 million will be invested to install a refurbished furnace in 2016. Modeling predicts both investments will reduce the plant's emissions by 85 percent from what they are today. Several other potential technologies to prevent formation of hexavalent chromium at the source are still in their infancy and more time is required to evaluate their potential effectiveness for this industry.

Q. The latest available NPRI data for your plant says that you released 0.006 tonnes of hexavalent chromium in 2013. Is it possible for you to convert this to micrograms/meter cubed? I ask this because the provincial standards are in the latter units (allowing an annual average of 0.00014 micrograms/meter cubed), and I would like to know how your emissions compare.

Compliance with the air standard is assessed using the Ministry-approved mathematical model for air dispersion. The model predicts an estimate of the resulting concentration in micrograms per cubic meter of a contaminant in the local air at the facility's fenceline. The amount of the contaminant released by the facility is a factor in the model, but there are other factors considered as well, such as predominant wind direction, wind speeds and nearby building influences, as just three examples. NPRI data is collected for different purposes. It is not possible or appropriate to use NPRI data to evaluate compliance with air quality standards.

Q. What is the timeline we can expect the plant will come into compliance with the general standards? In other words, how long are you going to emit more than the general standards?

As mentioned above, the site-specific standard process was designed by the Ministry to enable facilities to maintain compliance while working to continue to improve their emissions, with close oversight by the Ministry. This approach was designed by the Ministry with the understanding that achieving such a significant reduction takes time.

We are requesting the site-specific standard be granted for a term of 10 years. Again, more time is required to evaluate the potential effectiveness for this industry of several other developing technologies, still in their infancy, to prevent formation of hexavalent chromium at the source.

Statements from the Public

“I am a resident of Guelph and am completely opposed to the site-specific standard for this operation. Owens Corning should be held to the provincial standard. Continuous improvement is subjective and unacceptable without a detailed plan that will be approved and monitored by a party outside the Owens Corning organization.”

“Owens Corning should be held responsible for the 99 percent elimination of hazardous emissions. This is the 21st century and businesses must be held accountable for their environmental impact. It would be a huge plus for Owens Corning to enter the 'green zone' of business by gaining amazing public image with a forward, modern and progressive plan for the future.”

“My family lives within two blocks of the plant, and I am currently pregnant. I want to register my protest against Owens Corning evading the new emissions standard, and to urge the ministry to enforce the new 99% standard in Guelph, for the health of our community.”

“This plant is located right in the middle of residential neighbourhoods - not way out in the industrial areas and therefore has a direct effect on a great number of people including children and seniors. It is my hope that their request will be denied and that Owens Corning will be required to meet the new standards set out by the Ontario Ministry of the Environment.”

Caller stated "grave concerns" about the request and questions whether this request is in the best interest of the neighbourhood.

“I do NOT support your application to the Ontario Ministry of the Environment for a site-specific standard in order to only reduce emissions of hexavalent chromium to 85% instead of meeting the new standard of 99% reduction.”

3.4 COMMENTS RECEIVED THROUGH SOCIAL MEDIA

The Internet classified ad site Kijiji had “calls to action” asking people to send emails to Owens Corning Guelph Glass Plant opposing the air emissions standard. Two calls to action were posted on February 22, 2015 and visited a combined total of 770 times. On March 7, 2015, two items were posted urging people to oppose the Owens Corning request for a site-specific standard and were visited a total of 177 times.

3.4.1 Posting on February 22, 2015

Owens Corning received four (4) emails with the suggested language provided in the following posting:

"Many of you may have received a notice from Owens Corning Guelph in your mailbox. Please have a read of the notice and, if you are so inclined (and I hope you are), please email Rob Nixon (ocguelph@owenscorning.com) and the Ministry of Ontario Environment and Climate Change (http://www.ebr.gov.on.ca/ERS-WEB-External/contactUs.jsp?menuIndex=6_1&language=en).

"There are also two community information sessions on March 5th. 3-5pm & 7-9pm at the Italian Canadian Club (135 Ferguson St. Guelph)

"Feel free to use the text below, or adjust to make it your own. Thank you."

ATTN: Rob Nixon at ocguelph@owenscorning.com

Comments re: Owens Corning's request for a site-specific air standard for hexavalent chromium

To Whom It May Concern,

Our household is strongly opposed to Owens Corning receiving a site-specific standard for hexavalent chromium by the Ministry.

While it is likely a costly and involved process to meet the new standards it is absolutely vital that Owens Corning comply with and meet these new standards fully and completely in order to proceed with their business.

There should be no grandfathering, or newly created site-specific standard created for Owens Corning in order that they may either prolong or forgo complying with the new standards.

The notice we received in the mail doesn't indicate that Owens Corning has any intention of meeting the new standard. In fact, the letter doesn't even mention a deadline by which they will meet the new standard. They simply say they will "undertake continuous improvement efforts to work toward meeting the new provincial standard." That suggests that Owens Corning could continue to improve indefinitely without ever actually meeting the new standard.

We all remember what happened in the United States with regards to hexavalent chromium in Hinkley, California, in large part because of the feature film 'Erin Brockovich', but there are numerous other locations that have suffered due to improperly manager hexavalent chromium including: Midland, Texas; Belmont Massachusetts;

Davenport, California; Chicago, Illinois; Milwaukee, Wisconsin; Cameron, Missouri, and other parts of the world including Australia and Greece.

Comprehensive studies indicate that hexavalent chromium has serious, negative impact on people:

Chronic inhalation exposure to chromium (VI) in humans results in effects on the respiratory tract, with perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, asthma, and nasal itching and soreness reported.

Chronic human exposure to high levels of chromium (VI) by inhalation or oral exposure may produce effects on the liver, kidney, gastrointestinal and immune systems, and possibly the blood.

Dermal exposure to chromium (VI) may cause contact dermatitis, sensitivity, and ulceration of the skin.

To grant Owens Corning a site-specific standard for hexavalent chromium is irresponsible and has the potential to endanger the residents of Guelph for generations.

We, in no way, support Owens Corning receiving a site-specific standard for hexavalent chromium.

3.4.2 Posting on March 7, 2015

"The Owens Corning Fiberglass plant on York Road in Guelph has applied to the Ontario Ministry of the Environment for a site-specific standard in order for them to only reduce its emissions of hexavalent chromium to 85% instead of meeting the new standard of 99% reduction.

"There are some important facts worth noting:

- The World Health Organization states that ANY exposure to hexavalent chromium is too much because it is so carcinogenic.
- Health Canada states that there is a definitive connection between hexavalent chromium and lung cancer as well as a host of other serious medical conditions.
- Human toxicologists at the Ontario Ministry of the Environment use a benchmark for risk of 1 case of cancer per million population. Guelph is already at 1 case of cancer per 100,000 population – 10 times worse than the benchmark!
- The Ministry of the Environment is imposing a new air standard of a 99% reduction--nearly zero emissions--for hexavalent chromium.

"Under these circumstances, the 85% reduction in emissions proposed by Owens Corning is clearly unacceptable. History has repeatedly demonstrated how people underestimate the environmental and long-term health consequences of our actions. Owens Corning

should not be allowed to proceed with its proposal which in no way meets the air standard.

“Please write to ocguelph@owenscorning.com before the end of March to express your concerns. All feedback will be included with their submission to the Ministry.

“Please share this with anyone who might care -- you don't have to live in Guelph to email with your concerns.”

4.0 COMMUNITY OUTREACH AND MEDIA COVERAGE

Throughout the Public Consultation, the Owens Corning Guelph Glass Plant actively sought out community leaders and groups who might be interested in the facility's request for a site-specific standard and worked to maintain an open relationship with local media. This section provides an overview of that proactive outreach.

4.1 COMMUNITY OUTREACH

Owens Corning Guelph Glass Plant actively engaged leaders in the community to inform them of the facility's plans to submit its request to the Ministry and solicit their questions and support for notifying the community of the request and the opportunity to provide input through the public consultation process.

4.1.1 Public Notification

Owens Corning issued more than 4,100 letters to owners and tenants, including properties beyond the area required by the regulation.

On February 12, 2015, the majority of letters were delivered by Canada Post according to mailing routes within 500 feet of the property boundary and all those being potentially impacted by current air emissions based on modeling predictions. Approximately 1,200 letters were delivered by Student Housing Services to residents living in University of Guelph's East Area Residences.

4.1.2 Proactive Outreach

Owens Corning initiated meetings where it anticipated potential interest in the request or where organizations were in close proximity to its Guelph Glass Plant.

The chart below summarizes the meetings initiated by Owens Corning. Often emails or telephone calls occurred both before and after the meetings as part of an ongoing dialogue with stakeholders. Questions raised at these meeting were consistent with questions raised at the public meetings, and through emails and phone calls.

MEETING DATE	COMMUNITY REPRESENTATIVE AND AFFILIATION
2/3/15	Councillor Bob Bell, Ward 1
2/3/15	City of Guelph: • Mayor Cam Guthrie • CAO Ann Pappert • Deputy CAO Albert Horsman, Infrastructure, Development and Enterprise Services • Rob Kerr, General Manager, Guelph Municipal Holding Inc. (GMHI)
2/5/15	Owens Corning and Wellington Dufferin Guelph Public Health Dept.: Environmental Services area • Director Rob Thompson • Manager Shawn Zentner * Environmental health specialist Bo Cheyne (spoke with by phone and email)
2/6/15	Councillor Dan Gibson, Ward 1
2/9/15	Sacred Heart School • Sue Majer, Nancy Culham
2/10/15	University of Guelph • Director of Residential Housing Irene Thompson
2/10/15	Guelph Water Works: • Peter Busatto and colleagues
2/19/15	Upper Grand District School Board (Tytler) • Manager of Ops John Veit
2/23/15	City of Guelph • Deputy City Engineer Don Kudo
3/3/15	Guelph Water Works: • Manager of Technical Services Wayne Galliher • Manager of Environment, Health and Safety Diane Sudds • Water Conservation Program Coordinator Jennifer Gilks • Water Conservation Program Coordinator Julie Anne Lamberts • Bryce McDonald • Matthew Phillips • Alicia Wind • Carl Cober • Jean-Paul Palmer
3/3/15	Two Rivers Neighbourhood Association • Ryan Ritskes

4.2 MEDIA COVERAGE

In the Guelph region, local print news organizations are dominated by the Metroland Media, which operates the daily newspaper *Guelph Mercury*, the twice-a-week newspaper *Guelph Tribune,* the ourwindsor.ca website and many other smaller and local news organizations and websites. Metroland news organizations often share their articles. So, articles that were written by a reporter for one organization often were run in other news outlets.

4.2.1 Public Notice

As required, a formal public notice of the site-specific standard request and the public meeting was placed in the *Guelph Mercury* (daily, circulation 12,863) as a newspaper of general circulation in the Guelph-plant vicinity. In addition, in response to a suggestion by the City of Guelph, Owens Corning also placed the same public notice in the *Guelph Tribune* (twice weekly, circulation 45,959). Both notices were published on February 17, 2015, more than 15 days before the March 5, 2015 public meeting.

4.2.2 Media Coverage

On February 23, 2015, the *Guelph Mercury* posted a front-page article regarding Owens Corning's request for a site-specific standard, which included a statement from Owens Corning. The same article also appeared online at ourwindsor.ca and in the *Waterloo Region Record.* The radio station The Grand, 92.9 FM, also reported Owens Corning's request during broadcasts on February 24, 2015.

On March 4, 2015, Owens Corning met with the senior editors of the *Guelph Mercury* and two members of the newspaper's Citizen Advisory Committee at Owens Corning's request to discuss the Ministry's process for requesting a site-specific standard as an acceptable compliance approach, and the Owens Corning Guelph Glass Plants plans to reduce emissions.

That same day, the *Guelph Mercury* posted an editorial on its website, "Owens Corning application will challenge the province". It was also posted on the Metroland Media website, *Inside Brockville*, (www.insidebrockville.com).

That same day, an article also appeared on the *Guelph Mercury* website, "Owens Corning seeks to stay in Guelph though unable to meet future provincial emission standards". The same article was published in the March 5, 2015 print edition of the *Guelph Mercury*. The same article also appeared on two Metroland Media websites: ourwindsor.ca and *Inside Belleville,* found at www.insidebelleville.com.

On March 6, 2015, the *Guelph Mercury* printed an article resulting from its reporter's attendance at the afternoon session of the public meeting, "Owens Corning presents to the public proposed pollution control plans for Guelph plant".

Since the March 5 session, three letters to the editor have appeared in the *Guelph Mercury*.

- Published March 9: "Mercury: Hexavalent chromium a dangerous chemical" by Richard Hamilton
- Published March 10: "Owens Corning proposal doesn't meet air standard" by Aphra Zimmerman-Holy
- Published March 23: "Owens Corning will post request in early April" by Charles White, Plant Manager, Owens Corning Guelph Glass Plant

Since the March 5 session, two letters to the editor have appeared in the *Guelph Tribune*.

- Published March 10: "Emissions standards must be met" by Aphra Zimmerman-Holy
- Published March 17: "Owens Corning will keep residents posted" by Charles White, Plant Manager, Owens Corning Guelph Glass Plant

5.0 CONCLUSION

The Owens Corning Guelph Glass Plant, during its public consultation period, has satisfied the Ministry's public consultation requirements and gone beyond those requirements to ensure a process of open communications and transparency.

On March 24, 2015 and March 26, 2015, we issued notes of appreciation to those members of the public who registered their contact information at the Public Meeting or contacted us through other avenues. Through this note, issued through letter and email, Owens Corning communicated its intent to:

- Maintain a project website (www.ocguelph.com) through the issuance of the Ministry's final decision and beyond, if there is community interest to do so.
- Make this public consultation report and Owens Corning's full request available via the project website.
- Notify those who register for website updates of any future postings the company provides on the site.
- Provide a printed copy of the full application, upon request.
- Notify by email to those who register for website updates when the Ministry posts its draft decision on the EBR website.

Owens Corning is committed to maintaining a transparent process. We will continue our efforts to both proactively inform the public about our achievement of key compliance milestones and respond to inquiries regarding this request and about operations in general.

Owens Corning is also committed to the principles of environmental sustainability, product stewardship and to continuing to operate in the City of Guelph in compliance with the Ministry's regulations and in a manner that safeguards the health of our employees and the community.

Appendix A - Stakeholder List and Notification Materials

Required by O. Reg. 507/09, s. 34

1) Owners and occupants of every property that:

a) Adjoins or is within 500 metres of the property, and
b) According to an approved dispersion model, there is a point of impingement where, as a result of discharges of the contaminant that is the subject of the request, the concentration of the contaminant may exceed the standard.

Owners and occupants were notified by sending letters via the following mail routes:

- N1E LC 0061
- N1E LC 0063
- N1E LC 0065
- N1E LC 0067
- N1H LC 0001

Letters to an additional 34 residences (provided in Appendix B) were independently posted. Students of the University of Guelph living in the East Residence / East Residence Townhouses were notified by hand-delivered flyers distributed by the University.

2) Guelph Public Health Unit

a. Dr. Nicola J. Mercer, Medical Officer of Health, Guelph/ Wellington/Dufferin
b. Bo Cheyne, Environmental Health Specialist
c. Rob Thompson, Director
d. Shawn Zentner, Manager

3) Ministry of the Environment and Climate Change

a. Bruce Gillies, P.Eng., Air Pollution Control Engineer, Standards Development Branch
b. Kevin Noll, Provincial Officer, Guelph District Office

4) City of Guelph

a. Mayor Cam Guthrie
b. Guelph City Council
    - Councillor Bob Bell – 1st Ward
    - Councillor Dan Gibson – 1st Ward
c. Chief Administrative Officer Ann Pappert
d. Deputy CAO Albert Horsman

Supplemental Notification Beyond the Regulatory Requirements

1) **Provincial Parliament - Legislative Assembly of Ontario**
    a. Liz Sandals, Ontario Liberal Party

2) **House of Commons**
    a. Frank Valeriote, Liberal Member of Parliament

3) **Potentially Interested Parties**
    a. Guelph Water Works, 29 Waterworks Place, Guelph
    b. Sacred Heart School, 125 Huron Street, Guelph
    c. Eden House Care Facility, 5016 Wellington Road 29, Guelph
    d. University of Guelph - East Area Residences, Director Student Housing Services Maritime Hall, U of G Guelph, ON N1G 2W1
    e. Two Rivers Neighborhood Association, 122 Harris Street, Guelph
    f. Upper Grand District School Board, 500 Victoria Rd N, Guelph
    g. 1-2-3 Go Early Learning Program, Ontario St., Guelph

4) **Media Outlets**
    a. Guelph Mercury - Guelph's daily newspaper
    b. Guelph Tribune - Twice-weekly community newspaper

OWENS CORNING
866-639-6557

February 14, 2015

RE: **Public Notice by Owens Corning Guelph Glass Plant**
Planned Request by Owens Corning to the Ministry of the Environment and Climate Change for a Site-Specific Air Concentration Standard under Ontario Regulation 419

Dear Owner or Occupant:

In accordance with the Ontario Ministry of the Environment and Climate Change (Ministry) requirements for public consultation, the Owens Corning Guelph Glass Plant (Owens Corning) is providing notification to the public of its intent to submit a request for a site-specific standard under Section 32 of Ontario Regulation 419: Air Pollution – Local Air Quality. Requesting and meeting a site-specific standard is one of the compliance options provided by the Ministry. A site-specific standard can be made available to a facility when they are working to reduce their air emissions, as much as possible, with technology-based solutions and best practices.

The Guelph Glass Plant is located at 247 York Road, Guelph, Ontario N1E 3G4. The plant has been in operation since 1951. Owens Corning has operated this facility as a proud member of the Guelph community since 1989. Owens Corning is committed to conducting its operations in a manner that protects the public's and our employees' health and safety and the environment.

In preparation for upcoming changes to air standards on July 1, 2016, Owens Corning will submit a request in late March 2015 for the Ministry to consider a site-specific standard for hexavalent chromium. If approved by the Ministry, the site-specific standard will allow the Owens Corning Guelph Glass Plant to operate in compliance with Ontario Regulation 419 while undertaking continuous improvement efforts to work toward meeting the new provincial standard.

AN OPPORTUNITY TO LEARN MORE

Owens Corning is committed to an open dialogue with the community as we work through this process. We invite you to join us at a Community Information Session on Thursday, March 5, 2015. Owens Corning will have poster boards available for the community's review to help explain the process and the need for a site-specific standard. Representatives from Owens Corning and the Ministry will be available to answer your questions and listen to your input.

OWENS CORNING COMMUNITY INFORMATION SESSION

Thursday, March 5, 2015

Afternoon Session: 3-5 pm; Evening Session: 7-9 pm
Stop by Anytime.

Italian Canadian Club of Guelph
135 Ferguson Street, Guelph

In the event of cancellation due to inclement weather, the information session will be held March 9 at the same time and location.

Owens Corning also developed a website, ocguelph.com, to provide access to materials from the Community Information Session, and documents developed following the meeting in response to community input.

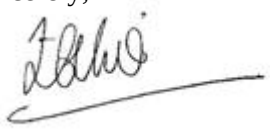
AN OPPORTUNITY TO COMMENT

We welcome your input and feedback, before or after the Community Information Session. We encourage comments from the public and all comments received by Owens Corning through March 9, 2015 will be included in our public consultation report. In addition, the Ministry will post Owens Corning's request on the Environmental Registry under the Environmental Bill of Rights (EBR) for a minimum 30-day comment period.

To send us your comments, you can email them to Rob Nixon, Owens Corning Operations Leader, at OCGuelph@owenscorning.com. Or, you can mail them to Rob's attention at Owens Corning, 247 York Road, Guelph, Ontario N1E 3G4.

Also, please feel free to call us with your questions or comments at **866-639-6557.** Kate Stanley, our Community Liaison, will be the first to respond to your call.

Sincerely,



Charles White
Plant Manager
Owens Corning
Guelph Ontario Canada

OWENS CORNING
866-639-6557

To: Residents Living in University of Guelph East Area Residences

From: Charles White, Plant Manager, Owens Corning, Guelph Ontario

Date: February 14, 2015

Re: **Public Notice by Owens Corning Guelph Glass Plant:** Planned Request by Owens Corning to the Ministry of the Environment and Climate Change for a Site-Specific Air Concentration Standard under Ontario Regulation 419

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The Guelph Glass Plant is located at 247 York Road, Guelph, Ontario N1E 3G4. The plant has been in operation since 1951. Owens Corning has operated this facility as a proud member of the Guelph community since 1989. Owens Corning is committed to conducting its operations in a manner that protects the public's and our employees' health and safety and the environment.
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To send us your comments, you can email them to Rob Nixon, Owens Corning Operations Leader, at OCGuelph@owenscorning.com. Or, you can mail them to Rob's attention at Owens Corning, 247 York Road, Guelph, Ontario N1E 3G4. Also, please feel free to call us with your questions or comments at **866-639-6557.** Kate Stanley, our Community Liaison, will be the first to respond to your call.

PUBLIC NOTICE

By the Owens Corning Guelph Glass Plant
247 York Road, Guelph, Ontario N1E 3G4

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You also may call 866-639-6557 with your questions or comments. Kate Stanley, our Community Liaison, will be the first to respond to your call.

Visit our website at ocguelph.com.

Appendix B – Public Notification Documentation

- Canada Post Receipts
- Area Map – Mail Delivery Routes
- Addresses – Individually Posted
- Confirmation Letter of Receipt and Distribution of Owens Corning Guelph Glass Plant Public Notice by University of Guelph
- Public Notification Advertisements

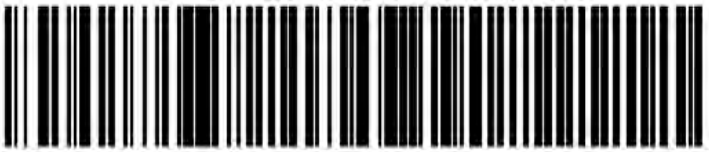
Unaddressed Admail / **Médiaposte sans adresse**

Container Routing / Dest. du conteneur: **N1H 1B0** 1 of/de 3
250 WOODLAWN RD W
GUELPH - LCD - ROYAL CITY MAIL

C135969144 - 0001

Delivery Start Date / Premier jour de livraison: **UPON RECEIPT** / **SUR RÉCEPTION**

ZNHB 11003 13596 91448 00001 0000



Date of Deposit / Date de dépôt: **2015/02/12** | Mono/Skid Id / Id mono/palette

No. of Bundles / Nº de liasses	No. of Residue Pieces / Nº d'articles résiduels	Total No. of Pieces / Nº total d'articles
12	0	1,200

Mailed on Behalf of / Expédié au nom de: **8334843 H&G PUBLIC AFFAIRS, LLC**

Mailed by / Expédié par:
7280974 TSTONE MAILING CORP
19-131 SHELDON DR
CAMBRIDGE ON N1R 6S2

Customer Reference / Référence du client: **HG Public**

Reference 1 / Référence 1:

Reference 2 / Référence 2:

Title of Mail Piece / Titre de l'article de courrier: **Owens Coming**

[X] Transportation / Transport [ ] Version Specific / Version spécifique

Pieces / Bundle / Articles / liasse: **100** | Weight / Piece (g) / Poids / article (g): **11.00** | O/S Pieces [ ] | Articles SURD

[X] Houses / Domiciles [X] Apartments / Appartements [ ] Farms / Fermes [X] Businesses / Commerces

N1E LC 0061 GUE-RYA-CITY-MA
N1E LC 0067 GUE-RYA-CITY-MA
N1E LC 0065 GUE-RYA-CITY-MA
N1E LC 0063 GUE-RYA-CITY-MA
N1H LC 0001 GUE-RYA-CITY-MA

Total No. of Bundles / Nº total de liasses: **31**
Total No. of Pieces / Nº total d'articles: **3,165**

Unaddressed Admail / **Médiaposte sans adresse**

Container Routing / Dest. du conteneur: **N1H 1B0** 2 of/de 3
250 WOODLAWN RD W
GUELPH - LCD - ROYAL CITY MAIL

C135969144 - 0001

Delivery Start Date / Premier jour de livraison: **UPON RECEIPT** / **SUR RÉCEPTION**

ZNHB 11003 13596 91448 00002 0000

Date of Deposit / Date de dépôt: **2015/02/12** | Mono/Skid Id / Id mono/palette

No. of Bundles / Nº de liasses	No. of Residue Pieces / Nº d'articles résiduels	Total No. of Pieces / Nº total d'articles
12	0	1,200

Mailed on Behalf of / Expédié au nom de: **8334843 H&G PUBLIC AFFAIRS, LLC**

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19-131 SHELDON DR
CAMBRIDGE ON N1R 6S2

Customer Reference / Référence du client: **HG Public**

Reference 1 / Référence 1:

Reference 2 / Référence 2:

Title of Mail Piece / Titre de l'article de courrier: **Owens Coming**

[X] Transportation / Transport [ ] Version Specific / Version spécifique

Pieces / Bundle / Articles / liasse: **100** | Weight / Piece (g) / Poids / article (g): **11.00** | O/S Pieces [ ] | Articles SURD

[X] Houses / Domiciles [X] Apartments / Appartements [ ] Farms / Fermes [X] Businesses / Commerces

N1E LC 0061 GUE-RYA-CITY-MA
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Container Routing / Dest. du conteneur: **N1H 1B0** 3 of/de 3
250 WOODLAWN RD W
GUELPH - LCD - ROYAL CITY MAIL

C135969144 - 0001

Delivery Start Date / Premier jour de livraison: **UPON RECEIPT** / **SUR RÉCEPTION**

ZNHB 11003 13596 91448 00003 0000

Date of Deposit / Date de dépôt: **2015/02/12** | Mono/Skid Id / Id mono/palette

No. of Bundles / Nº de liasses	No. of Residue Pieces / Nº d'articles résiduels	Total No. of Pieces / Nº total d'articles
7	65	765

Mailed on Behalf of / Expédié au nom de: **8334843 H&G PUBLIC AFFAIRS, LLC**

Mailed by / Expédié par:
7280974 TSTONE MAILING CORP
19-131 SHELDON DR
CAMBRIDGE ON N1R 6S2

Customer Reference / Référence du client: **HG Public**

Reference 1 / Référence 1:

Reference 2 / Référence 2:

Title of Mail Piece / Titre de l'article de courrier: **Owens Coming**

[X] Transportation / Transport [ ] Version Specific / Version spécifique

Pieces / Bundle / Articles / liasse: **100** | Weight / Piece (g) / Poids / article (g): **11.00** | O/S Pieces [ ] | Articles SURD

[X] Houses / Domiciles [X] Apartments / Appartements [ ] Farms / Fermes [X] Businesses / Commerces

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N1E LC 0067 GUE-RYA-CITY-MA
N1E LC 0065 GUE-RYA-CITY-MA
N1E LC 0063 GUE-RYA-CITY-MA
N1H LC 0001 GUE-RYA-CITY-MA

Total No. of Bundles / Nº total de liasses: **31**
Total No. of Pieces / Nº total d'articles: **3,165**

CANADA POST / POSTES CANADA

Unaddressed Admail Distribution Plan
Detailed Report

C135969144

Mailed by: 7280974 TSTONE MAILING CORP
Mailed on Behalf of: 8334843 H&G PUBLIC AFFAIRS, LLC
Customer Reference: HG Public

Deposit Date: 2015/02/12 **Deposit Location:** LONDON RVU

DI Postal Code	Reference #1 or #2	Title of Mail Piece	Delivery Start Date	Containers	Pieces	Version Spec.	Trans. Req.	Target Area	FSA/PC	DM Type and ID	Secondary DI name
N1H1B0		Owens Corning	Upon receipt	3	3,165	No	Yes	H A B	N1E	LC 0061	GUE-RYA-CITY-MA
									N1E	LC 0063	GUE-RYA-CITY-MA
									N1E	LC 0065	GUE-RYA-CITY-MA
									N1E	LC 0067	GUE-RYA-CITY-MA
									N1H	LC 0001	GUE-RYA-CITY-MA
			TOTAL:	**3**	**3,165**						


Hand Delivery required at end of James St, Dormie Lane and University Ave E. Part of route LC0057
Hand delivery required. This is part of route LC0049

STREET #	ADDRESS	POSTAL CODE	CITY
100	COLLEGE AVE E	N1G 1M8	GUELPH
108	COLLEGE AVE E	N1G 1M8	GUELPH
190	COLLEGE AVE E	N1G 1M8	GUELPH
204	COLLEGE AVE E	N1G 3B9	GUELPH
210	COLLEGE AVE E	N1G 3B9	GUELPH
214	COLLEGE AVE E	N1G 3B9	GUELPH
222	COLLEGE AVE E	N1G 3B9	GUELPH
11	DORMIE LANE	N1G 1G7	GUELPH
13	DORMIE LANE	N1G 1G7	GUELPH
15	DORMIE LANE	N1G 1G7	GUELPH
17	DORMIE LANE	N1G 1G7	GUELPH
19	DORMIE LANE	N1G 1G7	GUELPH
21	DORMIE LANE	N1G 1G7	GUELPH
33	DORMIE LANE	N1G 1G7	GUELPH
28	JAMES ST E	N1G 1C9	GUELPH
43	JAMES ST E	N1G 1C9	GUELPH
53	JAMES ST E	N1G 1C9	GUELPH
22	LENNOX LANE	N1G 1M8	GUELPH
42	MACDONALD ST	N1G 1Y1	GUELPH
50	MACDONALD ST	N1G 1Y1	GUELPH
71	MACDONALD ST	N1G 1Y1	GUELPH
74	MACDONALD ST	N1G 1Y1	GUELPH
5	UNIVERSITY AVE E	N1G 1M8	GUELPH
7	UNIVERSITY AVE E	N1G 1M8	GUELPH
9	UNIVERSITY AVE E	N1G 1M8	GUELPH
15	UNIVERSITY AVE E	N1G 1M8	GUELPH
17	UNIVERSITY AVE E	N1G 1M8	GUELPH
22	UNIVERSITY AVE E	N1G 1M8	GUELPH
23	UNIVERSITY AVE E	N1G 1M8	GUELPH
25	UNIVERSITY AVE E	N1G 1M8	GUELPH
27	UNIVERSITY AVE E	N1G 1M8	GUELPH
29	UNIVERSITY AVE E	N1G 1M8	GUELPH
31	UNIVERSITY AVE E	N1G 1M8	GUELPH
66	WATSON LANE	N1G 1M8	GUELPH

UNIVERSITY of GUELPH
STUDENT HOUSING SERVICES

March 2, 2015

Robert Nixon
Operations Leader
Owens Corning Guelph Glass Plant
247 York Road
Guelph, Ontario N1E 3G4

Re: Receipt and distribution of Owens Corning Guelph Glass Plant Public Notice

Dear Mr. Nixon:

This letter is to confirm that on February 17, 2015, Student Housing Services received delivery of Owens Corning's public notice for distribution to residents living in University of Guelph's East Area Residences. The notices have been distributed to our students living in the East Area Residences (Dundas, Lanark, Glengarry Halls and the East Village Townhouses).

Sincerely,

Irene Thompson
Director
Student Housing Services

Eyes on the ball

Goalkeeper Tibby Hare and John F. Ross Royals coach Ben Garnhan keep an eye on the action Friday during a Special Olympics soccer event in Marden. Fifteen teams took part in the Four Corners Soccer provincial qualifier from Guelph, Orangeville and Kitchener-Waterloo. The aim of the event is to let participants "experience the comraderie of being on a school team," said a news release.

TRIBUNE PHOTO

PUBLIC NOTICE

By the Owens Corning Guelph Glass Plant
247 York Road, Guelph, Ontario N1E 3G4

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You also may call 866-639-6557 with your questions or comments. Kate Stanley, our Community Liaison, will be the first to respond to your call.

Great gap in health care, report says

One in three workers lacking benefits

Sara Mojtehedzadeh

One-third of Ontario employees receive no medical and dental benefits through their workplace, with low-income workers and women most likely to be excluded, according to a report released Tuesday.

The study by the Wellesley Institute, a Toronto-based health policy think-tank, shows that the vast majority of those in precarious or low-wage jobs do not have employer-provided health plans. The report notes that those workers are not often eligible for government-funded benefits either, leaving a significant gap in health coverage.

"We know that not having access to those services can have significant health impacts," said Steve Barnes, policy analyst at the Institute and co-author of the report. "The way we operate our benefits systems, with this patchwork of public and private schemes, just means that people who are low earners are missing out."

Overall, the research found that about 35 per cent of workers in the province do not have medical and dental coverage through their employer. The figures were much starker for low earners: about 85 per cent of those earning less than $10,000 receive no workplace health benefits, and about 70 per cent of those earning between $10,000 and $20,000 are not covered.

"If we continue to rely on employers to try and plug the gaps where public schemes don't cover people, then this problem is likely to get larger . . . ," Barnes said.

The research was based on the latest available data from the Statistics Canada 2011 Survey of Labour and Income Dynamics. Its findings also revealed that female employees in Ontario are less likely to have medical and dental benefits through work, with around 58 per cent of women covered, compared to about 67 per cent of men.

Lynn Beamish, a 63-year-old single mother from Scarborough, has spent much of her life in self-employment or precarious jobs. She has never had a medical or dental plan. After years of swallowing the cost herself, she wants change.

"I tip my hat off to (single moms) to try and go out there working, and trying to make ends meet and (not) have all the extra benefits at their workplace ... there should be something in place."

Previous research by the Worker's Action Centre, a labour rights group, found 71 per cent of employees in precarious work had no health benefits. The Wellesley Institute's policy solutions include creating a national PharmaCare program. It argues that Ontario should return to making routine eye checks universally available through OHIP. It also says Ontario should expand public dental coverage to fund care for low-income adults and seniors through the province's public health units.

News services

PUBLIC NOTICE

R0013142073

By the Owens Corning Guelph Glass Plant
247 York Road, Guelph, Ontario N1E 3G4

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Ontario Ministry of the Environment and Climate Change
for a Site-Specific Air Standard under Ontario Regulation 419

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135 Ferguson Street, Guelph

In the event of cancellation due to inclement weather, the information session will be held March 9 at the same time and location.

Owens Corning welcomes public comments and all comments received by Owens Corning through March 9 will be included in our public consultation report. To send comments, contact Rob Nixon, Owens Corning Operations Leader, via email at OCGuelph@owenscorning.com or via mail at Owens Corning, 247 York Road, Guelph, Ontario N1E 3G4.

You also may call 866-639-6557 with your questions or comments.
Kate Stanley, our Community Liaison, will be the first to respond to your call.

POSITIVE CHANGE (ANTI-BULLYING INITIATIVE) SERIAL STORY

Guelph Mercury NiE Newspapers in Education

The Whispering Tree

Written and illustrated by Ontario teacher Chris Francis

CHAPTER 11:

Gladiolus and his gang of warrior friends, refuse to let the Ogre-Beasts travel to Flowera by threatening them with their nut-spears. During the stand-off, the Ogre-Beasts protect the warriors from a sudden lightning strike that sets a series of Whispering Trees on fire. Witnessing the kind gesture, Gladiolus lets the Ogre-Beasts past.

The Ogre-Beasts stepped through the shallow waters and coral reefs between Nut Island and Flowera. Trying to keep my face out of the wind and rain, I curled up beside Camellia. "Are you okay?"

"I'm scared," Camellia said, wrapping the white dress around her legs.

"Me too," I replied. She lifted her head to me, reaching her hand up to my face. Her fingers touched my skin, rubbing them along my cheek and around to my ear. "Are you afraid of me?" I asked finally.

She shook her head and smiled. "I knew you were different when I first laid eyes on you. You're one of a kind, Henry Horkenminder."
Tingles crept through my belly and up to my heart as she nuzzled her head into my armpit.
I hope it didn't smell.
I wanted to tell her how much she meant to me. I wanted her to know that I thought she was totally amazing. But time didn't allow it to happen.
"We're here," grunted the green Ogre.

I looked out through his claws at the dark land of Flowera. Waves crashed up against the rocky shore. Like the boys at Nut Island moments before, hundreds of Flowera natives held their spears up over their heads as they stood along the cliff edge. As we moved in closer to the island, a man stepped up onto the highest ridge along the shoreline. His hands waved wildly as he shouted commands.

"Throw your weapons!" he hollered.
Camellia grabbed my arm again, as countless nut-spears soared up into the night sky.
I held my breath as they bounced off the defenceless Ogre-Beasts.
"And again!" shouted the man.
Another surge of spears plastered the Ogre-Beasts.
My ears heated up as the blood raced through me. I jumped out onto the green Ogre's arm and ran up to his shoulder.
"Stop!" I screamed out to the natives. "You don't know what you're doing!"

As the green Ogre shuffled about the water, the man appeared directly in line with me. The top of the cliff edge reached the height of the Ogre-Beasts mighty shoulders. Through the flickers of light, pulsating around the clouds, I could see the man's face. Purple flowers clung to his woven strands of hair.

"That's Lavender," said Camellia, climbing up to me. "He's the one who brainwashed the people."
She pointed to him and shouted, "Where's my father? What have you done to my father?"
"Your father is fine," Lavender replied. "He's in a safe place. We won't harm him as long as you stay away from us."
A faint rumble sifted through the water as the sky let out its final drops of rain. The light from the moon pushed through the thinning clouds. The blustery winds halted, leaving a still, cool freshness in the air.

For a moment, nobody moved. At the feet of the Ogre-Beasts, the water began stripping away from us, flowing out toward the giant 'nothingness' of ocean. Rocks appeared along the beach as the sea disappeared around the island.
I grabbed Camellia's hand. "It's coming. The trees...your father, they were right. It's coming."
Lavender and the people of Flowera crowded to the cliffs edge. The ocean's floor revealed itself, leaving a daunting silence. Voices bounced around the island, as the people climbed down the edge toward the beach. Lavender continued to watch from above.

"Where did it go?" A little girl with sunflowers tied to her pigtails pounded on the green Ogre's toe. "What have you done with our ocean?" Her tiny feet slopped about in the sand and seaweed. "Give it back, or I'll tell my dad!"
I looked out to Lavender again. His gaze fixed on the horizon.
"You are in danger!" I shouted. "All of you."
Lavender shook his head. The natives continued to scatter about the shoreline, stepping curiously into the waterless ocean.

"I'm not sure what powers you have, but it's not going to work."

I rubbed my chin and frowned. "What are you talking about?"

"You may be able to take away our ocean, but you can't take away our land. Not without a fight." Lavender picked up a rock and threw it at the Ogre-beasts.
"We're not here to fight, we're here to help."
"Help? Help? The only way you can help is by taking those dirty Ogre-beasts far away. Flowera is a land with culture and beauty, not selfishness and filth."

I couldn't take it, I hated how narrow-minded this purple-flowered crazed man was talking to me. I hated how he looked at my friends. Nobody called my friends dirty and selfish.

"You know what?" I shouted back. My voice echoed out into the night. "You remind me of my school back home. I spent weeks being told that I didn't belong there. Week after week they told me I was ugly, fat, and different. I was spit on by little girls and laughed at by the teachers. It took a visit from an Ogre-beast named Biggens to finally let the people of my town see things differently. Everyone was scared of him, but he proved them wrong with his kindness and warmth. Sadly the rest of the country doesn't see things the way we do and he's locked up in a stupid cage along Glarington River. If it wasn't for him, my school wouldn't have seen what's inside me. They can see my differences as unique qualities. You call your island, Flowera, an island of flowers? Sure you might look all pretty on the outside, but I know the truth. You're an ugly island. It's just a matter of time before the rest of the world sees it too."

I took a breath and exhaled. I don't realize it, but the people of Flowera had stopped and listened to my words. Their faces looked up to me. For a moment, I felt like their king.

As they watched me, standing there on the green Ogre's shoulder, a leaf drifted down from the sky.
A tiny voice whispered in my ear. "Yes."

I picked up the leaf and looked out behind me. At the most distant point along the ocean floor, a white glow crept up over the horizon. The glowing object appeared peaceful, as though the heavens were coming to visit. However, as it grew, a deep humming sound broke the eerie silence. In my hand, the leaf fluttered, twisting out of my grasp.

I pinched the green Ogre's ear. "Tell your friends to link arms and stand as close together as they can."

"What are you doing?" Camellia asked.

"I have a plan." I patted the green Ogre on his shoulder. "Do it now. This is it." The giant Ogres lined up beside each other along the stretch of ground in front of Flowera.

"What's happening?" Lavender shouted from the cliff.
"What is that out there?"

"It's a tsunami!" I shouted. "A gigantic wave." I remembered reading about them in science class and watching videos on the news. The water recedes back from the land before returning with incredible power. "Tell your people to run, and run fast!"

This story is for use in classrooms as part of the Newspapers in Education program.
The story will be published every Tuesday and Thursday till February 26th, 2015.
If you would like to order newspapers and a curriculum guide for this story (or future stories), please email nie@guelphmercury.com or visit www.guelphmercury.com/community/education today.

Brought to you by: STORM

R0013008839

Appendix C – Public Meeting Materials

- Boards from March 5, 2015, Community Information Session
- Economic Feasibility Executive Summary – Draft
- Action Plan Executive Summary – Draft
- Emission Summary and Dispersion Modeling Report Executive Summary - Draft
- Technology Benchmarking Executive Summary - Draft
- Glossary of Terms
- Owens Corning Guelph Glass Plant – Fact Sheet
- Action Plan Summary Fact Sheet
- Request Summary Fact Sheet
- Ontario Ministry of the Environment and Climate Change, Air Standards
- Ontario Ministry of the Environment and Climate Change, Framework for Risk Management
- Ontario Ministry of the Environment and Climate Change, Ontario's Local Air Quality Regulation (O. Reg. 419/05)
- Ontario Ministry of the Environment and Climate Change, Site-Specific Standards

Owens Corning
Guelph Glass Plant

WELCOME

Community Information Session

PLEASE SIGN IN

About Owens Corning

- Owens Corning (NYSE: OC) develops, manufactures and markets insulation, roofing, and fiberglass composites.

- Global in scope and human in scale, the company's market-leading businesses use their deep expertise in materials, manufacturing and building science to develop products and systems that save energy and improve comfort in commercial and residential buildings. Through its glass reinforcements business, the company makes thousands of products lighter, stronger and more durable.

- Based in Toledo, Ohio, U.S.A., Owens Corning employs about 14,000 people in 25 countries. It has been listed as a Fortune 500® company for more than 60 consecutive years.

- Additional information is available at www.owenscorning.com

About the Guelph Glass Plant

- Located at 247 York Road, Guelph, Ontario in the Township of Guelph/Eramosa and Wellington County.
- Opened in 1951; owned and operated by Owens Corning since 1989.
- One of 32 Owens Corning Composites Manufacturing Facilities located around the world.
- Owens Corning's sole composites facility in Ontario and Canada.
- Occupies 377,000 sq. ft. on 21.27 acres of land.
- Pays about $400,000 in city taxes annually.
- Employs 180 people currently.
- Operates continuously 24 hours per day, 365 days per year.
- Processes approximately 22,000 tonnes of glass fiber product per year.

Guelph Glass Plant Products

Owens Corning is a global pioneer and industry leader in the glass fiber reinforcements, nonwovens and specialty composite fabrics industry, with a long history of product innovation and customer focus. Reinforcements, such as glass fiber, are used in composite materials to give physical and mechanical properties that traditional materials such as plastic alone cannot provide.

Owens Corning glass fiber materials are found in more than 70,000 end-use applications in the construction, wind energy, water infrastructure, industrial, transportation, consumer goods, and aerospace/defense sectors.

Chopped Strand Mat (CSM) Applications*

- Marine: pleasure and commercial craft
- Transportation: truck, bus parts
- Corrosion: tanks, ducts, fittings
- Industrial: housings, shroud, enclosures
- Consumer goods: trays, skis

Continuous Filament Mat (CFM) Applications

- Structural Cross sections:
  - Ladder Rail
  - Cooling Tower Structure
- Electrical isolation back planes

Wet Use Chopper Strands (WUCS) Applications

- Flooring carrier layer
- Ceiling tile facia
- Wall covering facia

*CSM manufacturing will relocate from plant in 2016.

Our Commitment to Health and Safety

Owens Corning is committed to the principles of environmental sustainability, product stewardship and to the safety and health of our employees and the community.

To ensure a continuing commitment to these principles, Owens Corning is dedicated to:

- Providing safe working conditions.
- Promoting the health and well-being of our employees.
- Conducting operations in a manner that safeguards the community.
- Providing products that are safe and environmentally sound to make, use, and dispose of; and that perform as claimed.
- Providing useful information on the performance and safe use of our products.

Our Commitment to the Environment

- Owens Corning is committed to shrinking its environmental footprint through continuous reduction of resource use and environmental emissions from its operations.

- Owens Corning established its first set of 10-year footprint reduction goals in 2002. It achieved those goals by the end of 2010.

  Current footprint goals stretch forward to 2020. Energy use, greenhouse gas emissions and water consumption remain priorities.

- The company reduced emissions by 62% from its global operations between 2010-2013.

- Owens Corning has a company-wide target of reducing emissions of hexavalent chromium, as well as other compounds through product formulation, process improvements and advanced technologies.

- This is an ongoing continuous improvement process.

Working Under the Oversight of Regulators

The Ministry of Environment and Climate Change (MOECC) uses a framework for managing risk to local communities from a facility's emissions of a contaminant to air.

Owens Corning operations comply with:

- All applicable environmental, health and safety laws, regulations and legal requirements.
- All other environment, health and safety standards and guidelines to which the Company subscribes.

Ontario Ministry of the Environment and Climate Change (MOECC)

Environment Canada

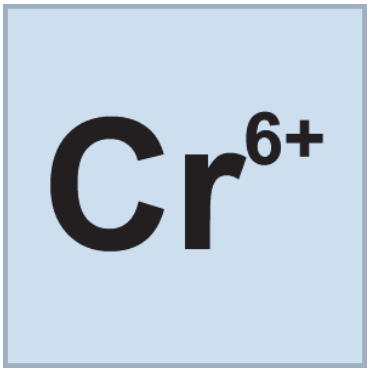
Ontario Ministry of Labour

Workplace Safety & Insurance Board

City of Guelph – Municipal Bylaws

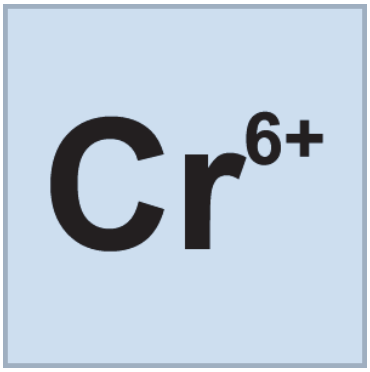
What is Hexavalent Chromium?

- Hexavalent chromium is a form of the metallic element chromium.
- It has no odour.
- Generally produced by industrial processes.
- Used for chrome plating, the manufacture of dyes and pigments, leather and wood preservation, and treatment of cooling tower water.



Exposure to Hexavalent Chromium

Hexavalent chromium exposure can occur from:



- Inhalation,
- Ingestion,
- Direct contact with skin.

It can be found in air, soil, and water.

Hexavalent chromium is a known human carcinogen.

Resources For More Information

Environment Canada
https://www.ec.gc.ca

National Toxicology Program
https://www.niehs.nih.gov/

ATSDR
http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=17

Hexavalent Chromium
Historical and Existing Air Regulations

The Guelph Glass Plant is in compliance with current Ministry regulations for local air quality.

- Ontario provincial air regulations (established by Ontario Regulation 419/05) are based on scientific data and risk assessments.
- In 2005, the 24 hour guideline for total chromium (including hexavalent chromium) was 1.5 micrograms per cubic meter ($\mu g/m^3$).
- A new standard for hexavalent chromium was introduced in 2011 and will become effective in 2016.
- Regulations currently include a 24 hour Upper Risk Threshold concentration of 0.07 $\mu g/m^3$. This came into effect in 2011.

Future Air Standard for Hexavalent Chromium

The future annual standard of 0.00014 micrograms per cubic meter ($\mu g/m^3$) comes into effect on July 1, 2016.

Current Comparator - Upper Risk Threshold
effective as of July 2011
0.07 micrograms per cubic meter
(on a 24 hour average)

Future Standard - 2016 Standard
effective July 1, 2016 and beyond
0.00014 micrograms per cubic meter
(on an annual average)

This is an overall reduction of 99 percent.

Ministry Compliance Measures

As long as a facility works to reduce air concentrations as much as possible with technology-based solutions and best practices, there are allowable approaches to maintain compliance.

3 Approaches for Maintaining Compliance		
Meet the general air standard.	Register and meet the requirements under a sector-based technical standard, if one is available.	Request and meet a site-specific standard.

Need for an Interim Site-Specific Standard

Technical challenges and related economic considerations limit Owens Corning from achieving the future general standard by the July 2016 deadline.

An interim site-specific standard is an allowable approach to maintain compliance while Owens Corning works to meet the general standard.

Allowable Approach Under Regulation	Feasibility Assessment Result
Meet the new standard	**Not a viable approach** With current technology and best practices, the Guelph Glass Plant can reduce air concentrations by more than 85% but needs more time to achieve a 99% reduction.
Meet the requirements under a sector-based technical standard, if one is available	**Approach not available** Owens Corning is the only facility in its sector in Ontario.
Request and meet a site-specific standard	**Approach Owens Corning is pursuing** Used when a facility is working to reduce air concentrations as much as possible with technology-based solutions and best practices.

Requesting An Interim Site-Specific Standard

- ✓ Request must be made 15 months in advance of the regulation taking effect.

- ✓ Request must include:
  - Emission Summary and Dispersion Modeling Report
  - Technical Benchmarking Report
  - Economic Feasibility Study Report
  - Action Plan for achieving the lowest air concentrations possible considering both technical and economic feasibility
  - Public Consultation Report

- ✓ Community must be notified and provided an opportunity to review the request and provide input to the Ministry through:
  - Mailing of a notification letter within a defined distance of the facility
  - Placement of a public notice
  - Holding a public information session
  - Submitting a Public Consultation report

- ✓ Ministry will conduct a technical review of the request
  - Ministry will post a draft decision on the Environment Registry for public comment

Decision expected before the new standard takes effect on July 1, 2016.

How a Site-Specific Standard Is Determined

The MOECC needs to be satisfied that the site-specific standard applies best available technologies to reduce risks to local communities.

- An interim site-specific standard is an air concentration developed using a mathematical model approved by the Ministry and is based on technology considerations.

- It is based on the highest concentration that may occur at any location (regardless of property use) beyond the facility property line. This is referred to as a "Point of Impingement" (POI).

- Factors in the calculation include:
  - site-specific emissions (based on the actions that a facility can take to reduce emissions to air as much as possible considering the technology available),
  - meteorological data,
  - an approved air dispersion model.

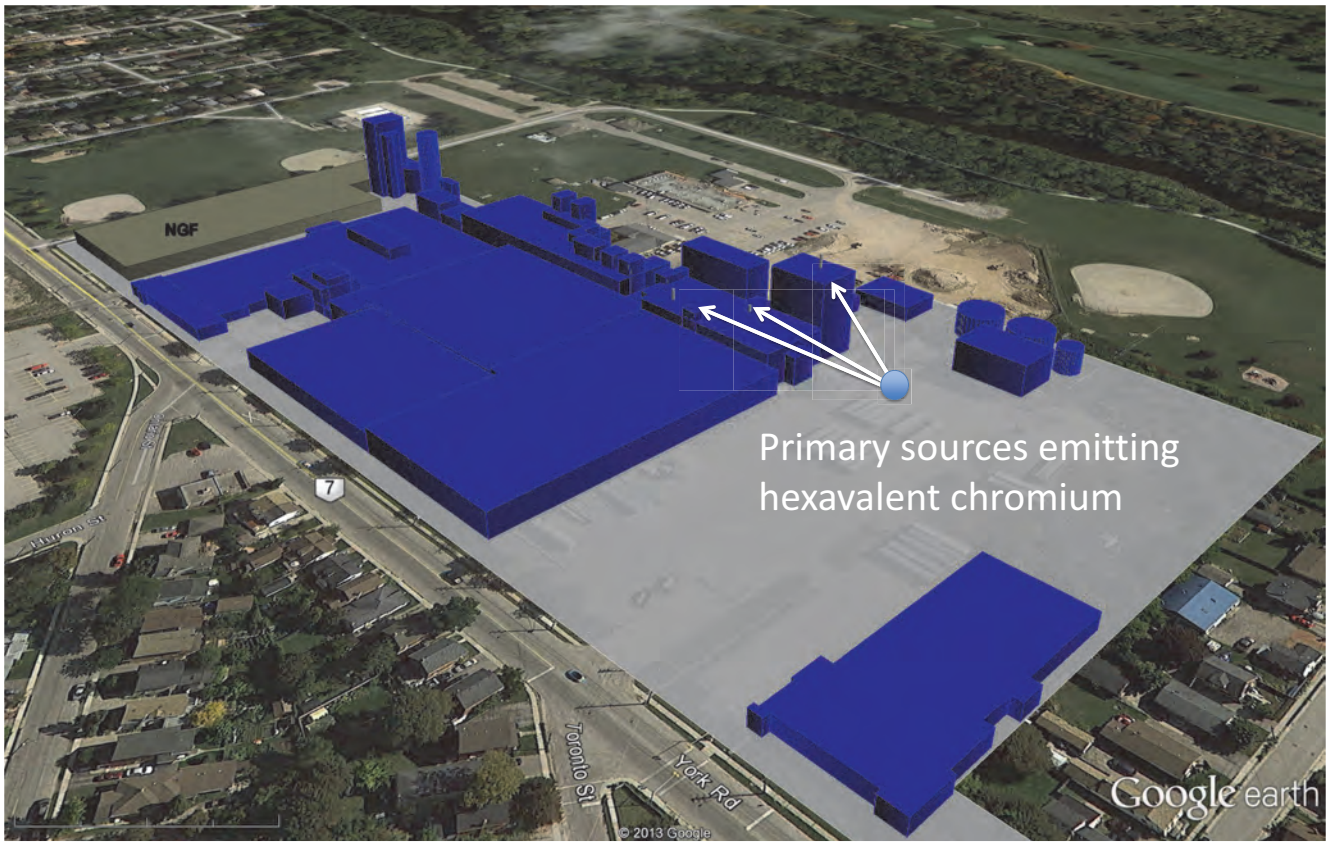
- A site specific standard is an interim standard established for a specific period of time to ensure continued review of available and feasible technologies.
  - Owens Corning is requesting a 10-year term.

Hexavalent Chromium

A Byproduct of Manufacturing

Small levels of hexavalent chromium are created as a byproduct of the manufacturing process.

- Owens Corning does not use or manufacture hexavalent chromium.
- The plant's existing glass melting and molten glass transport structures are made from materials that include chromium oxide. These materials are used because they resist extreme wear conditions in the furnace and forehearths.
- As a result of the high temperatures and other conditions of the process, an extremely small fraction of the chromium oxide is transformed into hexavalent chromium and emitted to the air primarily via 3 stacks.



Action Plan

Reducing Emissions: Actions Already Taken

Owens Corning has been actively pursuing reduction technologies to eliminate Hexavalent Chromium.

- Owens Corning is working to reduce emissions in a systemic and efficient manner to ensure optimal results.
- The company is focused on technologies that prevent the formation of hexavalent chromium.
- Efforts to date have included process evaluations and ongoing research into better understanding the process conditions that affect the creation of hexavalent chromium.
- Multiple stack testing programs have been conducted to measure the emissions from the stacks using the most up to date methodologies.
- In 2012, Owens Corning invested $3 million to install the first manufacturing scale prototype on one trial section of the process. This prototype included the use of new state-of-the-art combustion control systems, improved construction techniques and an alternate refractory material.

Action Plan

Reducing Emissions: Actions Planned

The Ministry will closely oversee progress using a framework for managing risk that was developed in cooperation with public health units in Ontario and other stakeholders.

Early 2016	• Replacement of the existing furnace with a new smaller furnace with improved technology. • Install state of the art combustion controls system and use improved construction techniques on all remaining sections of the process. • Re-engineer 4 stacks to overcome dispersion challenges.
2017 - 2018	Evaluate reductions using source testing.
Ongoing 2017- 2026	Review operational life span of the remaining furnace hall general ventilation exhausters and replace with re-engineered exhausters to improve dispersion.
Ongoing 2015 - 2023	Continue to evaluate, research and implement new technologies to prevent formation of hexavalent chromium at the source and limit emissions including: • research impact of air/gas combustion in the forehearths on formation of hexavalent chromium. • monitor effectiveness of further combustion control improvements/changes. • drive innovation with suppliers of low sublimation chromium (LSC) refractory including quantification of the potential to reduce the formation of hexavalent chromium. • monitor the development/emergence of technologies that decrease formation or improve capture of hexavalent chromium emissions.

After Action Plan Is Implemented

Owens Corning is requesting an Interim Site Specific Standard of 0.0024 µg/m3 for hexavalent chromium.

Action Plan Outcome for Hexavalent Chromium

Location of Point of Impingement (POI)	Emission Rate (g/s)	Maximum Modelled Annual Concentration	Future Annual Standard
	(g/s)	(µg/m^3)	(µg/m^3)
Maximum at any off property location	0.00017	0.0024	0.00014
Maximum at any sensitive receptor	0.00017	0.0006	0.00014

g/s – grams per second
µg/m^3 – micrograms per cubic meter

Modeling was conducted using MOECC approved AERMOD (American Meteorological Society/Environmental Protection Agency Regulatory Model). Version 14134 was used using a 5 year site-specific meteorological data set.

Off Property Location - The property line and all locations off property.

- Regulatory compliance is determined based on the modelled concentration at this location.

Sensitive Receptors – Areas where people live, go to school, attend daycare and hospitals

- Important information for the evaluation of health risk.

Owens Corning is Committed to…

- Protecting public health and safety.
- Meeting our regulatory requirements.
- Sharing information directly and in a timely manner.
- Providing project updates as appropriate to local officials and interested citizens.
- Responding to questions and concerns quickly and with an earnest effort to reach a mutually-acceptable result.
- Safeguarding, sustaining and improving the environment for the benefit of current and future generations.

Providing Input and Staying Informed

Input received by Owens Corning before March 9 will be included in the Public Consultation Report.

Send us your comments

- Fill out Comment Cards at this meeting.
- Email us at **OCGuelph@owenscorning.com**
- Mail Rob Nixon at
  Owens Corning
  247 York Road
  Guelph, Ontario N1E 3G4

Stay Informed

All Boards and Documents at this Public Information Session will be posted to the project website

ocguelph.com

The Ministry will post a draft decision on Owens Corning's request on the Environmental Registry under the Environmental Bill of Rights (EBR) for additional comment.

Environmental Bill of Rights

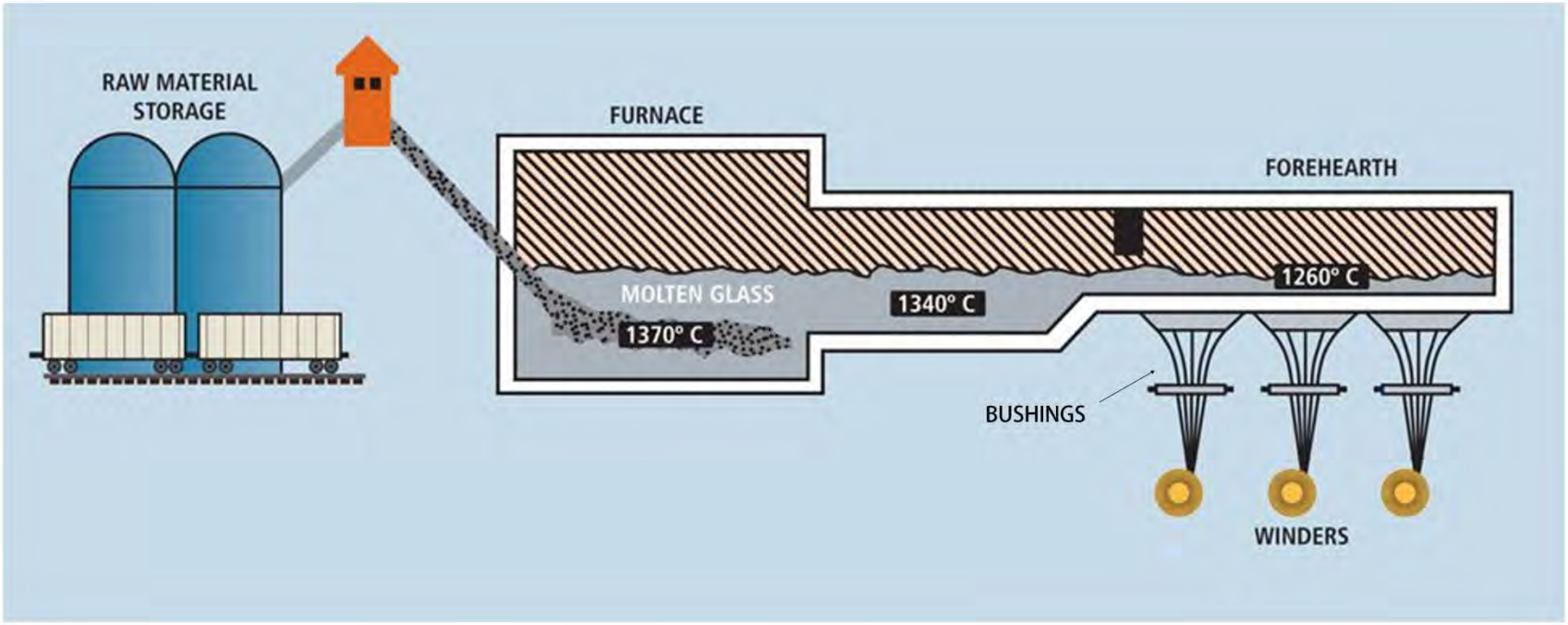
The request for an interim site-specific specific standard allows for comment directly to Owens Corning and to the Ministry through the Environmental Registry.

The Ministry will post a draft decision on Owens Corning's request on the Environmental Registry under the Environmental Bill of Rights (EBR) for additional comment

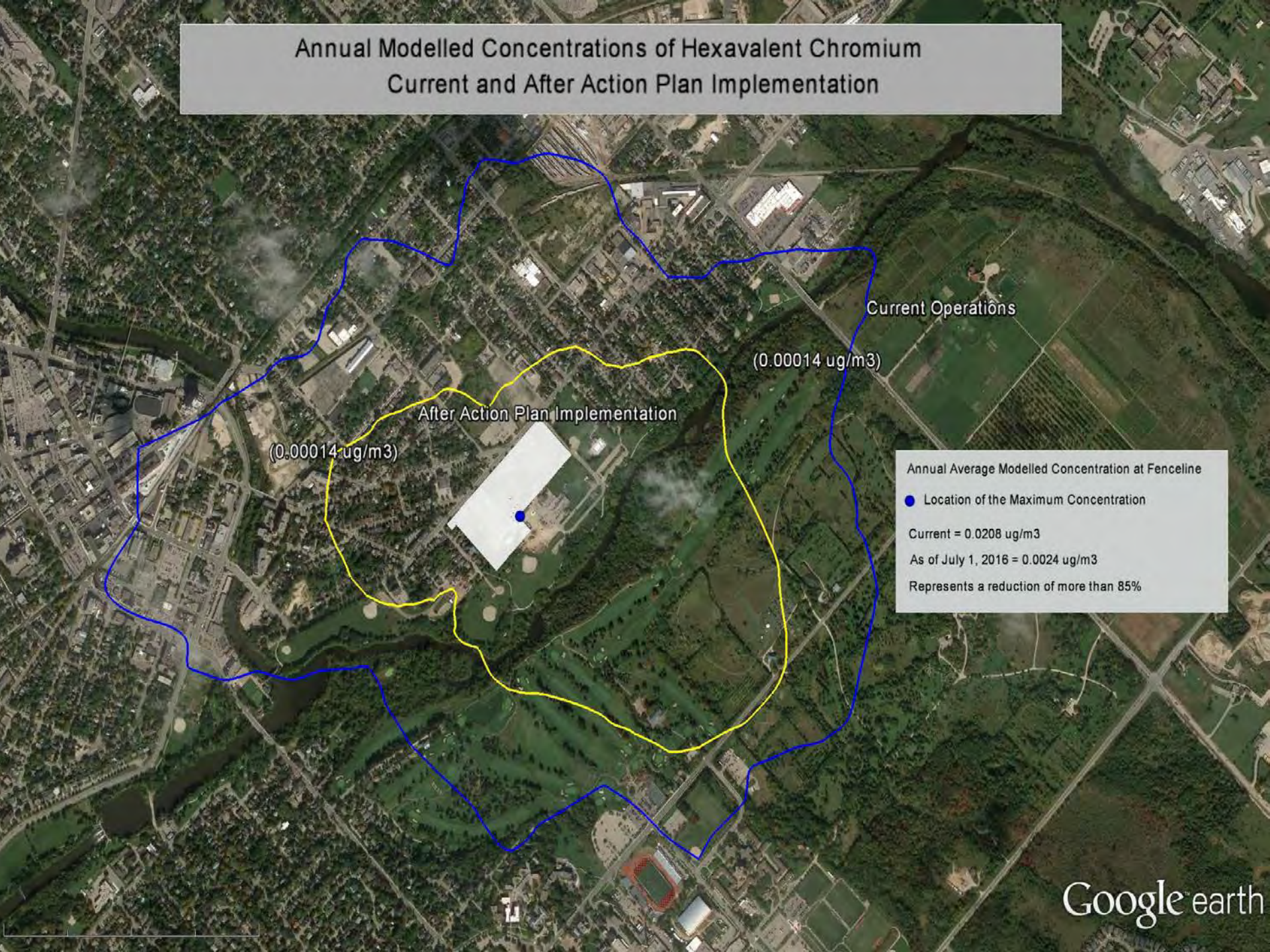
www.ebr.gov.on.ca

How Glass Fiber Is Made

OWENS CORNING®
INNOVATIONS FOR LIVING®



Glass fibers are produced by melting raw materials in a gas fired furnace and transporting the molten glass through special heated channels called forehearths to "bushings" where it is mechanically pulled to form the fibers. The fibers are used to make glass yarns, mat and reinforcements. (source of graphic: http://www.compositesworld.com/articles/the-making-of-glass-fiber)


Annual Modelled Concentrations of Hexavalent Chromium
Current and After Action Plan Implementation
Current Operations
(0.00014 ug/m3)
After Action Plan Implementation
(0.00014 ug/m3)
Annual Average Modelled Concentration at Fenceline
Location of the Maximum Concentration
Current = 0.0208 ug/m3
As of July 1, 2016 = 0.0024 ug/m3
Represents a reduction of more than 85%
Google earth

Economic Feasibility Executive Summary – DRAFT

This Economic Feasibility Report has been prepared to support the Owens Corning Guelph Glass request for a site specific annual standard for hexavalent chromium under Section 32 of Ontario Regulation 419/05: Air Pollution – Local Air Quality (O. Reg. 419/05). This report is an optional element of the request for the site specific standard and has been prepared in accordance with the Ministry of the Environment and Climate Change (MOECC) publications "*Guide to Requesting an Alternative Air Standard*" (GRAAS), December, 2007, and the "*Guideline for the Implementation of Air Standards in Ontario*" (GIASO), March 2009.

The Owens Corning facility is located at 247 York Road in Guelph Ontario. The facility produces textile glass yarn and fiberglass for reinforcements for commercial and industrial markets worldwide. This facility is the sole producer of fiberglass for reinforcements in Ontario and Canada and has been operating in Guelph since 1951. Due to the nature of the process, the facility operates continuously 24 hours per day, 365 days per year. Detailed process descriptions and documentation of emission estimates are located in the Emission Summary and Dispersion Modeling (ESDM) Report.

This is one of the companion documents to the ESDM Report where modeling indicates that the facility would not meet the future hexavalent chromium standard and that a site specific standard is necessary. The other primary companion document is the Technical Benchmarking Report which provides an assessment of the available technologies to reduce point of impingement (POI) concentrations of hexavalent chromium using the top down approach prescribed by Appendix A of the MOECC GRAAS guidance document.

This economic analysis is an important component for further evaluation of technically feasible pollution control strategies. The Technical Benchmarking Report and the Economic Feasibility Report are the primary documents for developing the Action Plan for reducing point of impingement concentrations. The economic assessment methodology employed derives a dimensionless value that provides an indicator of Total Resource Effectiveness (TRE) for the POI reduction strategy being evaluated. For each strategy, the TRE calculation considers the potential POI reduction that could be achieved, contrasted with the costs required to obtain, install and operate it.

Owens Corning has followed the general guidelines below as provided by the MOECC as part of the economic feasibility assessment. The TRE values provide an indication of the relative effectiveness of potential POI reduction methods, and is useful to assess the relative effectiveness of one option versus another. It is not intended to be a bright-line test.

- TRE values less than 1 generally indicates a reasonably effective use of resources to achieve the POI improvement

- TRE values between 1 and up to about 10 may suggest further consideration is appropriate and/or refinement of assumptions are required

- TRE values over 10 generally indicate the potential POI reduction technique is not a good use of resources and perhaps other options should be considered

The following table presents the technically feasible pollution control strategies along with the strategy ranking in terms of POI reduction achieved and the total resource effectiveness.

Summary of the Economic Feasibility Assessment of Technically Feasible Pollution Control Strategies

Pollution Control Strategy Description	Rank	TRE Value(s)	Consideration for Implementation
Control Strategies that include an Electrostatic Precipitator (DEP/WEP) or Dust Collector on furnace and forehearth stacks with various other technologies.	1 - 5	65 - 89	Not selected - economic assessment indicates these technologies are not a good use of resources
Installation of state of the art combustion controls systems and use of improved construction techniques on all remaining sections of the process (forehearths). Additional re-engineering of 4 stacks to overcome dispersion challenges.	6	11	**Incorporate into the Action Plan** even though the economic feasibility assessment indicates it may not be a good use of resources
Converting the forehearth to air/gas combustion and installation of a scrubber on the forehearth stack.	7	102	Not selected - economic assessment indicates these technologies are not a good use of resources
Converting the forehearth to air/gas combustion.	8	25	Not selected - economic assessment indicates this technology is not a good use of resources
Five additional technically feasible pollution control strategies were evaluated.	9 -13	7 - 122	Not selected - economic assessment indicates this technology is not a good use of resources

Economic feasibility decisions were based upon the TRE values as the accepted methodology by the MOECC. Owens Corning has selected to implement the pollution control strategy that includes installation of state of the art combustion controls systems and use of improved construction techniques on all remaining sections of the process (forehearths). Additionally, 4 exhaust stacks will be re-engineered to overcome dispersion challenges.

This pollution control strategy (Action Plan) has a TRE value greater than 10 (which may not be considered a good use of resources) however, this strategy achieves significant reductions in the POI concentration.

Action Plan Executive Summary – DRAFT

This Action Plan Report has been prepared to support the Owens Corning Guelph Glass request for a site-specific annual standard for hexavalent chromium under Section 32 of Ontario Regulation 419/05: Air Pollution – Local Air Quality (O. Reg. 419/05). The report has been prepared in accordance with the methodology provided by the MOECC in the document "*Guide to Requesting an Alternative Air Standard*" (GRAAS), December, 2007, to meet the requirement of Section 33(4) sub paragraph 4. The Action Plan identifies and provides the timing for the planned steps that will be implemented to reduce point of impingement (POI concentrations) of hexavalent chromium.

The Owens Corning facility is located at 247 York Road in Guelph Ontario. The facility produces textile glass yarn and fiberglass for reinforcements for commercial and industrial markets worldwide. This facility is the sole producer of fiberglass for reinforcements in Ontario and Canada and has been operating in Guelph since 1951. Due to the nature of the process, the facility operates continuously 24 hours per day, 365 days per year. Detailed process descriptions and documentation of emission estimates are located in the Emission Summary and Dispersion Modeling (ESDM) Report.

This is one of the companion documents to the ESDM Report where modeling indicates that the facility would not meet the future hexavalent chromium standard and that a site-specific standard is necessary. The facility has completed the required elements of a Technology Benchmarking Report (TBR) identifying all commercially available and technically feasible emission control technologies (and combinations of technologies) to reduce the concentrations of hexavalent chromium. The resulting pollution control strategies that can reduce the maximum predicted POI concentration were then assessed using an Economic Analysis methodology acceptable to the MOECC. Several of the technically feasible pollution control strategies that are predicted to achieve significant reductions in predicted POI concentrations were excluded from further consideration due to the outcome of the economic feasibility assessment. However, Owens Corning is committed to reducing POI concentrations of hexavalent chromium, and has selected a combination of options for implementation that are expected to reduce the predicted off-site POI concentration more than 85% by 2016. These options have been incorporated into the Action Plan outlined in the following table.

The facility has a production 're-build' scheduled for early 2016 to shut-down the continuous glass making process and install the technologies indicated below. Owens Corning is requesting a site specific standard for a 10 year time span to reflect the investment and operation cycle of the furnace which dictates that 2026 will be the next available opportunity to install new reduction technologies.

Action Plan Summary for Reducing POI Concentrations of Hexavalent Chromium

Timeline	Actions
Early 2016	Replace the existing furnace with a new smaller furnace with improved technology. Install state of the art combustion controls system and use improved construction techniques on all remaining sections of the process (forehearths). Re-engineer the following stacks to overcome site specific dispersion challenges: • furnace stacks • remaining forehearth stack • general ventilation exhauster for the new furnace
2017 - 2018	Evaluate reductions using source testing.
Ongoing 2017- 2026	Review operational life span of the remaining furnace hall general ventilation exhausters and replace with re-engineered exhausters to improve dispersion.
Ongoing 2015 - 2023	Continue to evaluate, research and implement new technologies to prevent formation of hexavalent chromium at the source and limit emissions including: • research impact of air/gas combustion in the forehearths on formation of hexavalent chromium • monitor effectiveness of further combustion control improvements/changes • drive innovation with suppliers of low sublimation chromium (LSC) refractory including quantification of the potential to reduce the formation of hexavalent chromium • monitor the development/emergence of technologies that decrease formation or improve capture of hexavalent chromium emissions

Emission Summary and Dispersion Modeling Report

Executive Summary - DRAFT

The Owens Corning Guelph Glass facility is requesting a site specific annual standard for hexavalent chromium under Section 32 of Ontario Regulation 419/05: Air Pollution – Local Air Quality (O. Reg. 419/05). The facility is located at 247 York Road, Guelph, Ontario in the Township of Guelph/Eramosa and Wellington County. This Emission Summary and Dispersion Modeling Report (EDSMR) is a required element of Owens Corning's request.

The facility produces textile glass yarn and fiberglass for reinforcements for commercial and industrial markets worldwide. This facility is the sole producer of fiberglass for reinforcements in Ontario and Canada and has been operating in Guelph since 1951. Due to the nature of the process, the facility operates continuously 24 hours per day, 365 days per year. The facility currently processes approximately 22,000 tonnes of molten glass per year.

Glass fibers are produced by melting raw materials in gas fired furnaces and transporting the molten glass through forehearth channels to "bushings" where it is mechanically pulled to form the fibers. Subsequently, the fibers are used to make glass yarns, mat and reinforcements. The raw materials used to manufacture these high-tech glass fibers consist of dry solids, in powder and granular form, including clay, sand, limestone, dolomite and nepheline syenite (a naturally occurring igneous rock). The glass melting and molten glass transport structures utilize chromic oxide refractory of which an extremely small fraction is transformed into hexavalent chromium and emitted to atmosphere.

Ontario provincial air standards (established by O.Reg. 419/05) are based on scientific data and risk assessments. On July 1, 2016, a new hexavalent chromium air standard will come into effect. The future standard has been set at 0.00014 micrograms per cubic meter ($\mu g/m^3$) on an annual average basis. The standard is protective of human health. This new air standard represents a 99% reduction from the current standard for hexavalent chromium.

The MOECC recognizes that some facilities will not meet the standards on the July 1, 2016 effective date because of unique technical challenges and related economic limitations. To address this problem, the regulation allows facilities to establish an **interim site specific standard**. The MOECC approves the site specific standard and closely oversees the facility's progress using a risk management framework. The Guideline for the Implementation of Air Standards in Ontario (GIASO) and the Guide to Requesting an Alternative Air Standard are the primary Ministry documents that describe the risk-based process for setting a site specific air standard.

An interim site-specific standard is a modeled air concentration at a selected "Point of Impingement" (POI) developed and approved using site-specific emissions, meteorological data, and an approved air dispersion model, combined with a site-specific Action Plan. This compliance approach focuses on actions the facility can take to reduce hexavalent chromium concentrations to the extent possible, taking into consideration available technology, best practices and economic feasibility. A site specific standard is an interim standard established for a specific period of time to ensure continued review of available and feasible technologies.

Several documents are provided as part of the request for a site specific standard. These documents include the:

- Emission Summary and Dispersion Modeling Report (ESDMR)
- Technical Benchmarking Report,
- Economic Feasibility Study, and
- Action Plan for achieving the lowest air concentrations possible considering both technical and economic feasibility.

For the Owens Corning Guelph facility, emission estimates for hexavalent chromium are based on validated source testing conducted in 2014 on all sources of hexavalent chromium including the glass melting furnace, forehearths and furnace hall general ventilation. These emission estimates were then modeled using the AERMOD air dispersion model version 14134 and a 5 year site specific meteorological data set processed by the MOECC in accordance with Section 7 and Section 13 approvals. The results of this modeling indicated that the facility would not meet the future hexavalent chromium standard.

For the purpose of requesting a site specific standard for hexavalent chromium, Section 20 and schedule 3 of Regulation 419/05 are considered to apply for this contaminant.

The Action Plan for the Owens Corning Guelph Glass Plant incorporates a significant re-configuration of the glass melting process in 2016 to address global marketplace requirements. This re-configuration opens a window of opportunity for the expansion of recently prototyped technologies for the forehearths which will result in a reduction of the generation of hexavalent chromium in the process. Additionally as part of the facility reconfiguration process, several process exhausts will undergo re-engineering in order to optimize dispersion. These improvements will be implemented prior to July 1, 2016.

The following table summarizes the current facility emissions and POI concentrations as well as the post-Action Plan concentrations.

Emission Summary Table – Owens Corning Guelph Glass Plant - DRAFT

Contaminant	Location of Point of Impingement (POI) [1]	Avg. Time	Air Dispersion Model	Emission Rate	Max. Modelled Conc.	MOE POI Criteria	Limiting Effect	Regulation Schedule No.	% of Criteria
				(g/s)	(ug/m^3)	(ug/m^3)			
Hexavalent Chromium (Current)	Off property [2]	24-hr	AERMOD	0.00024	0.0815	0.07	Health	Schedule 6	> URT [3]
	Sensitive receptor	24-hr	AERMOD	0.00024	0.0133	0.07	Health	Schedule 6	< URT
	Off property	Annual	AERMOD	0.00024	0.0208	--	--	--	--
	Sensitive receptor	Annual	AERMOD	0.00024	0.0016	--	--	--	--
Hexavalent Chromium [4] (After Action Plan)	Off property	Annual	AERMOD	0.00017	0.0024	--	--	--	--
	Sensitive receptor	Annual	AERMOD	0.00017	0.0006	--	--	--	--
PM - PARTICULATE MATTER	Off property	1/2 hr	Reg 346	0.8302	68.053	100	visibility	Schedule 2	68%
NITROGEN OXIDES	Off property	1/2 hr	Reg 346	3.7775	341.8	500	health	Schedule 2	68%
SULPHUR DIOXIDE	Off property	1/2 hr	Reg 346	1.6800	157.6	830	health	Schedule 2	19%
CARBON MONOXIDE	Off property	1/2 hr	Reg 346	0.0580	5.439	6000	health	Schedule 2	0.1%
ZINC OXIDE	Off property	1/2 hr	Reg 346	0.1002	9.398	100	particulate	Schedule 2	9%
HYDROGEN FLUORIDE [6]	Off property	1/2 hr	Reg 346	0.0173	1.625	4.3	vegetation	Schedule 2	38%
HYDROGEN CHLORIDE	Off property	1/2 hr	Reg 346	0.0104	0.975	60	health	Schedule 2	2%
METHANOL (METHYL ALCOHOL)	Off property	1/2 hr	Reg 346	0.5396	50.61	12000	health	Schedule 2	0.4%
ETHANOL (ETHYL ALCOHOL)	Off property	1/2 hr	Reg 346	0.4978	46.68	19000	odour	1/2 hr Guideline	0.2%
TOLUENE	Off property	1/2 hr	Reg 346	0.0215	2.017	2000	odour	Schedule 2	0.1%
ACETIC ACID	Off property	1/2 hr	Reg 346	0.5339	50.06	2500	odour	Schedule 2	2%
Dibromoacetonitrile	Off property	1/2 hr	Reg 346	0.0008	0.072	39.6		Half hour JSL	0.2%
SILICA-RESPIRABLE (<10um)	Off property	1/2 hr	Reg 347	0.0363	0.877	15	health	1/2 hr Guideline	6%
Chromium (Di-,Tri-,metallic)	Off property	1/2 hr	Reg 348	0.0007	0.064	1.5	health	Schedule 2 [5]	4%

[1] The maximum concentration for all off property locations occurs on the facility property line.

[2] The maximum POI location is on the property line. Only 2 receptors (on the property line) are above the 24 hr criteria.

[3] URT refers to the upper risk threshold which is not a standard

[4] Owens Corning is applying for a site specific standard for hexavalent chromium

[5] Future (July 1, 2016) standard (more stringent than the current standard)

[6] assessed against the most stingent criteria for Gaseous Growing Season

Technology Benchmarking Executive Summary - DRAFT

This Technology Benchmarking Report (TBR) has been prepared to support the Owens Corning Guelph Glass request for a site specific annual standard for hexavalent chromium under Section 32 of Ontario Regulation 419/05: Air Pollution – Local Air Quality (O. Reg. 419/05). This report (TBR) is a required element of the request for the site specific standard and has been prepared in accordance with the Ministry of the Environment and Climate Change (MOECC) publications "*Guide to Requesting an Alternative Air Standard*" (GRAAS), December, 2007, and the "*Guideline for the Implementation of Air Standards in Ontario*" (GIASO), March 2009.

The Owens Corning facility is located at 247 York Road in Guelph Ontario. The facility produces textile glass yarn and fiberglass for reinforcements for commercial and industrial markets worldwide. This facility is the sole producer of fiberglass for reinforcements in Ontario and Canada and has been operating in Guelph since 1951. Due to the nature of the process, the facility operates continuously 24 hours per day, 365 days per year. Detailed process descriptions and documentation of emission estimates are located in the Emission Summary and Dispersion Modeling (ESDM) Report.

This is a companion document to the ESDM Report where modeling indicates that the facility would not meet the future hexavalent chromium standard and that a site specific standard is necessary. This report provides an assessment of the available technologies to reduce point of impingement (POI) concentrations of hexavalent chromium using the top down approach prescribed by Appendix A of the MOECC GRAAS guidance document.

This Technical Benchmarking Report:

- Identifies all available technologies to reduce the POI concentration of hexavalent chromium;
- Assesses the commercial availability of each of the technologies identified and screens out those options which are not commercially available;
- Assesses the technical feasibility of each of the identified technologies and screens out options that are not feasible; and
- Ranks the technically feasible pollution mitigation options, and combinations of options (pollution control strategies) based on reductions in POI concentrations.

Fifteen (15) individual technologies in the following categories were assessed:

- Material Substitutions (2 options);

- Process Changes (4 options); and
- Add-On Controls (9 options)

An additional category of "Other" was added for re-engineering of exhaust points to overcome site specific dispersion challenges. While this is not a required option for consideration, it is another method for the facility to reduce the predicted POI concentrations in the surrounding community.

The technically feasible individual technologies and combinations of options were modelled and ranked based on their potential to reduce the predicted POI concentrations. The following table summarizes the assessment of these pollution control strategies.

Assessment Result Summary of Technically Feasible Pollution Control Strategies

Pollution Control Strategy Description	Ranking	Overall % Decrease in POI
Electrostatic Precipitator (DEP/WEP) or Dust Collector (DC) on furnace and forehearth stacks combined with various material substitution and process changes.	1 - 5	91% - 95%
Install state of the art combustion controls system and use improved construction techniques on all remaining sections of the process (forehearths). Re-engineer several stacks to overcome site specific dispersion challenges.	6	88.5%
Scrubber installation on the forehearth stack combined with conversion of the forehearth conversion to air/gas combustion.	7	75%
Forehearth conversion to air/gas combustion	8	73%
All other pollution control strategy options have been assessed and modelled and achieve lower decreases in the overall % POI.	9 – 13	Below 50%

The above strategies include the planned reconfiguration of the facility as well as the control strategies listed. Additional details related to all of these control options are located in the Technology Benchmarking report. These pollution control strategies are further assessed in the Economic Feasibility Assessment Report (companion document) prior to the development of the Action Plan required for the Site Specific Standard Application.

GLOSSARY OF TERMS

AERMOD	An acronym for the American Meteorological Society/Environmental Protection Agency Regulatory Model. An advanced atmospheric (air) dispersion model approved for use in Ontario.
MOECC	An acronym for the Ontario Ministry of the Environment and Climate Change.
ATSDR	An acronym for the Unites States Agency for Toxic Substances and Disease Registry.
National Toxicology Program	A United States government agency providing information on potentially hazardous substances.
Chromium	Chromium is an odorless and tasteless metallic element. Chromium is found naturally in rocks, plants, soil and volcanic dust, humans and animals. The most common forms of chromium in the environment are trivalent chromium (chromium-3), and hexavalent chromium (chromium-6). Hexavalent chromium can occur in the environment from the erosion of natural chromium deposits but it can also be produced by industrial processes.
Prototype	A first, typical or preliminary model of something from which other forms are developed or copied.
Refractory	A refractory material is one that retains its strength at high temperatures. The plant's existing glass melting and molten glass transport structures (e.g., forehearths) are made from refractory materials because they resist extreme wear conditions.
Bushings	Boxes made from platinum alloys and having a large number of small nozzles or tips on their underside. Bushings are heated to enable the glass to retain its molten state and flow slowly through the tips under the influence of gravity to produce glass fibers.
Forehearth	A special heated channel (trough) for transporting molten glass from the furnace to the bushings.
Stacks	A chimney used to release exhaust, smoke, heat or other emissions into the air.
Emissions	Technically, all solid, liquid, or gaseous discharges from a facility, but most commonly used to refer to discharges of a material to the atmosphere whether in solid, liquid, or gaseous form.
Concentration	The amount of a particular substance in a given amount of another substance. An example of concentration is the amount of salt to water in a saltwater solution. Owens Corning is working to reduce the concentration of hexavalent chromium in its air emissions.

General Standard	The Ministry uses scientific studies to understand how contaminants may cause adverse effects and, based on these studies, calculates a concentration in air that presents negligible risk. For most contaminants, air standards are set at concentrations well below those where effects are observed with adjustments made for uncertainty in the data and variation in sensitivities of the population. For cancer causing contaminants—carcinogens—Ministry sets air standards at a concentration equivalent to a cancer risk level of one in a million. So, if a person is continuously exposed to this concentration over a lifetime, the additional cancer risk from this exposure would be one in a million.
Site-specific standard	A site-specific standard is an air concentration approved by a director of the Ministry for an individual facility that is challenged in meeting the air standard.
Upper Risk Threshold (URT)	A concentration of a contaminant in air, set above the general air standard. URTs are used by the Ministry to manage risks both during and after the phase-in period of an air standard and also during the evaluation of requests for site-specific standards. For carcinogens, the Ministry of the Environment and Climate Change generally sets URTs at a concentration equivalent to a cancer risk level of one in ten thousand. For carcinogens, URTs are generally set at 100 times the air standard.
Point of Impingement (POI)	With respect to the discharge of a contaminant; does not include any point that is located on the same property as the source of contaminant.
Off-property location	Any location on the property line or beyond. Compliance is determined based on the maximum concentration at the off-property location.
Sensitive receptors	Any receptor (location) beyond the property line that fits in the category of: dwellings (houses, apartments), educational facilities, child care facilities, health care facilities, and senior citizens' residences or long-term care facilities.
Grams per second (g/s)	A measurement unit used to measure the mass discharge rate of emissions.
Microgram (µg)	A unit of measure for mass. 1 µg is a million times smaller than a gram (g).
Micrograms per cubic meter (µg/m³)	A concentration reported in terms of weight or mass in micrograms in a cubic meter (volume) of air.

Owens Corning Guelph Glass Plant

247 York Road
Guelph, Ontario N1E 3G4

Fact Sheet – February 2015

The Owens Corning Guelph Glass Plant is one of 32 Composites Manufacturing Facilities located around the world. The Composite Solutions Business (CSB) of Owens Corning is a global pioneer and industry leader in the glass fiber reinforcements, nonwovens and specialty composite fabrics industry, with a long history of product innovation and customer focus. Reinforcements, such as glass fiber, are used in composite materials to give physical and mechanical properties that traditional materials such as plastic alone cannot provide.

Owens Corning is committed to conducting its operations in a manner that protects the public's health and safety, and the environment. **For more information, please contact us at 1 (866) 639-6557.**

Fast Facts – Guelph Glass Plant

- A member of the Guelph Community since 1951; owned by Owens Corning since 1989
- Owens Corning's sole composites facility in Ontario as well as Canada
- Committed to making a $10 million investment in the plant in 2016 through the installation of a state-of-the-art furnace
- Occupies 377,000 sq. ft. on 21.27 acres of land
- Pays $406,400 in city taxes annually

We Value Our Neighbours

- Supporter of United Way Campaign – about $10,000 for 2015.
- Supports Habitat for Humanity with workers and $5,000 from Owens Corning Foundation
- Volunteers support the local Sacred Heart Catholic School in many ways, including interview coaching, job fairs, entertainment and tickets to local junior hockey team, Guelph Storm
- Corporate sponsor of Guelph Storm

Our Products

Owens Corning glass fiber materials are found in more than 70,000 end-use applications in the construction, wind energy, water infrastructure, industrial, transportation, consumer goods, and aerospace/defense sectors.

Chopped Strand Mat (CSM) Applications*

- Marine: pleasure and commercial craft
- Transportation: truck, bus parts
- Corrosion: tanks, ducts, fittings
- Industrial: housings, shroud, enclosures
- Consumer goods: trays, skis

Continuous Filament Mat (CFM) Applications

- Structural Cross sections:
  - Ladder Rail
  - Cooling Tower Structure
- Electrical isolation back planes

Cooling tower part – photo © Strongwell

Wet Use Chopper Strands (WUCS) Applications

- Flooring carrier layer
- Ceiling tile facia
- Wall covering facia

*CSM manufacturing will relocate from plant in 2016.

Owens Corning Guelph Glass Plant

247 York Road Guelph, Ontario N1E 3G4

Action Plan Summary Fact Sheet – March 2015

Owens Corning is requesting from the Ministry of the Environment and Climate Change (Ministry) an interim site-specific annual standard for hexavalent chromium under Section 32 of Ontario Regulation 419/05: Air Pollution – Local Air Quality. This fact sheet summarizes the Plant's proposed Action Plan.

Actions Already Taken

A new standard for hexavalent chromium was introduced in 2011 and will become effective in 2016. Owens Corning strives to meet the future standard and has been actively pursuing reduction technologies to eliminate hexavalent chromium as a byproduct of its manufacturing and reduce emissions.

Owens Corning strives to meet the future standard and is currently implementing an Action Plan predicted to reduce concentrations by more than 85 percent by July 2016.

Comprehensive Evaluation of the Manufacturing Operation

Owens Corning is working to reduce emissions in a systemic and efficient manner to ensure optimal results. LEHDER Environmental Services Limited (LEHDER), an independent environmental consulting firm, performed a comprehensive assessment of the plant to identify all existing and potential areas of the process where hexavalent chromium is generated and emitted.

Technology Benchmarking

LEHDER worked with Owens Corning to conduct a Technology Benchmarking study to identify all possible control technologies. These options were evaluated further based on commercial availability and technical feasibility. The remaining emission control technologies (and combinations of technologies) to reduce the concentrations of hexavalent chromium were assessed and ranked based on their ability to reduce the off-site air concentrations.

Technologies and combinations of technologies in the following categories were assessed:

- Material Substitutions,
- Process Changes,
- Add-On Controls, and
- Re-engineering of exhaust points to overcome site-specific dispersion challenges.

Several specific technologies evaluated include:

- Electrostatic Precipitator or Dust Collector on furnace and forehearth stacks;
- State of the art combustion control system and improved construction techniques;
- Scrubber installation on the forehearth stack;
- Forehearth conversion to air/gas combustion; and
- Low sublimation chromium refractory.

The Technology Benchmarking Report includes a list of all options considered.

Economic Feasibility Assessment

The resulting pollution control strategies were then assessed using an Economic Analysis methodology acceptable to the Ministry. Some of the technically feasible pollution control strategies were excluded from further consideration due to the outcome of the economic feasibility assessment.

No combination or individual technology was predicted to achieve the new air emission standard for hexavalent chromium. However, Owens Corning is committed to reducing Point of Impingement (POI) concentrations of hexavalent chromium, and has selected a combination of options for implementation that are expected to reduce the predicted off-site POI concentration by more than 85 percent.

Actions Planned

The glass making process is a continuous one, which is why the process must run 24 hours a day, 365 days a year. Based on the operation cycle and investment of the furnace, the process is shut down every 10 years to enable technology upgrades. This 10 year cycle is the operational basis for the plant's request of an interim site-specific standard for a 10-year time span.

The next planned shut-down is to occur in early 2016 and opens a window of opportunity for planned improvements to be implemented prior to the new standards taking effect on July 1, 2016.

Work will not stop there. This is an ongoing continuous improvement process. Owens Corning will continue to pursue technologies toward meeting the general standard and anticipates installing additional reduction technologies in 2026, with the next planned shut-down.

Timeline	Actions
Early 2016	Replace the existing furnace with a new smaller furnace with improved technology. Install state of the art combustion controls system and use improved construction techniques on all remaining sections of the process (forehearths). Re-engineer the following stacks to overcome site-specific dispersion challenges: • furnace stacks, • remaining forehearth stack, • general ventilation exhauster for the new furnace.
2017 - 2018	Evaluate reductions using source testing.
Ongoing 2017- 2026	Review operational life span of the remaining furnace hall general ventilation exhausters and replace with re-engineered exhausters to improve dispersion.
Ongoing 2015 - 2023	Continue to evaluate, research and implement new technologies to prevent formation of hexavalent chromium at the source and limit emissions including: • research impact of air/gas combustion in the forehearths on formation of hexavalent chromium, • monitor effectiveness of further combustion control improvements/changes, • drive innovation with suppliers of low sublimation chromium (LSC) refractory including quantification of the potential to reduce the formation of hexavalent chromium, • monitor the development/emergence of technologies that decrease formation or improve capture of hexavalent chromium emissions.

Owens Corning Guelph Glass Plant

247 York Road Guelph, Ontario N1E 3G4

Request Summary Fact Sheet – March 2015

What We're Requesting	The Owens Corning Guelph Glass Plant (Owens Corning) is requesting from the Ministry of the Environment and Climate Change (Ministry) an interim site-specific annual standard for hexavalent chromium under Section 32 of Ontario Regulation 419/05: Air Pollution – Local Air Quality.
About the Glass Manufacturing Process	The facility produces fiberglass reinforcements for commercial and industrial markets worldwide. This facility has been operating in Guelph since 1951 and owned by Owens Corning since 1989. It is the sole producer of fiberglass for reinforcements in Ontario and Canada. The process is a continuous one, which is why the process runs 24 hours a day, 365 days a year for a period of 10 years. The facility currently processes approximately 22,000 tonnes of glass fiber product per year.
Hexavalent Chromium is a Byproduct of the Manufacturing Process	Glass fibers are produced by melting raw materials in a gas fired furnace and transporting the molten glass through special heated channels called forehearths to "bushings" where it is mechanically pulled to form the fibers. The glass melting and molten glass transport structures are made from materials which include chromium oxide. These materials are used because they resist extreme wear conditions in the furnace and forehearths. As a result of the high temperatures and other conditions of the process, an extremely small fraction of the chromium oxide is transformed into hexavalent chromium and emitted to the air, primarily via 3 stacks.
In Compliance with Current Air Regulations	The Ministry uses a framework for managing risk to local communities from a facility's emissions of a contaminant to air. The Guelph Glass Plant is in compliance with current Ministry regulations for local air quality.
About the Future Standard	On July 1, 2016, a new hexavalent chromium air standard will come into effect. The future standard has been set at 0.00014 micrograms per cubic meter ($\mu g/m^3$) on an annual average basis. The standard is protective of human health. This new air standard represents a 99% reduction from the current regulation's comparator for hexavalent chromium.
An Interim Site-Specific Standard Is an Allowable Approach	An interim site-specific standard is an approach developed by the Ministry to enable a facility to maintain compliance as long as the Ministry is satisfied that the facility is reducing emissions as much as possible with technology based solutions and best practices. The Ministry recognizes that technical challenges and related economics will limit some facilities from achieving the future general standard by the July 1, 2016 date.
The Basis of Owens Corning's Interim Site-Specific Standard	The basis for Owens Corning's interim site-specific request is a mathematical calculation using a Ministry approved air dispersion model (AERMOD). Factors in the calculation include 5 years of local meteorological data and site-specific emissions for hexavalent chromium, based on: (1) validated testing conducted in 2014 on all sources of hexavalent chromium including the glass melting furnace, forehearths and furnace hall general ventilation; and (2) on the actions the facility can take to reduce emissions to air as much as possible considering the technology available (*see Action Plan Summary Fact Sheet*). The result is the prediction of the highest annual concentration that may occur at any location along the property line or beyond (referred to as a Point of Impingement or POI).
Our Request	**As a result of modeling, the Owens Corning Guelph Glass Plant is requesting an interim site-specific standard of 0.0024 $\mu g/m^3$ on an annual average basis, for a term of 10 years.**

About the Process for Requesting an Interim Site-Specific Standard

The request must be made 15 months in advance of the regulation taking effect.

Owens Corning will submit its request by March 31, 2015.

The request must include:

- ✓ Emission summary and dispersion modeling report
- ✓ Technical benchmarking report
- ✓ Economic feasibility study report
- ✓ Action plan for achieve the lowest air concentrations possible considering both technical and economic feasibility
- ✓ Public consultation report

We Encourage Your Questions and Input

Fill out comments cards at the Community Information Session

Email Owens Corning at OCGuelph@owenscorning.com

Send a letter to:

Rob Nixon
Owens Corning
247 York Road
Guelph, Ontario N1E 3G4

The community must be notified and provided an opportunity to review the request and provide input to the Ministry through:

- ✓ Mailing of a notification letter within a defined distance of the facility
  – more than 4,000 letters were issued on February 14, 2015

- ✓ Placement of a public notice
  – notice was published in the Guelph Mercury and Guelph Tribune on February 17, 2015

- ✓ Holding a public information session
  – two sessions are being held on March 5, 2015, from 3 p.m.-5 p.m. and from 7 p.m.-9 p.m.

- ✓ Submitting a Public Consultation Report
  – a summary of the questions asked and comments made by persons who attended the public meeting and the responses given by Owens Corning will be included as part of the request submission and also posted on www.ocguelph.com

In addition, Owens Corning will make available the draft Executive Summaries of the main components of the application and a complete written copy of a draft of the proposed request, including all the materials provided at the Public Meeting, via its website **www.ocguelph.com** and in print (within 30 days of the public meeting) to all who request it.

The Ministry will then conduct a technical review of the request.

- ✓ The request for an interim site-specific specific standard allows for comment directly to Owens Corning and to the MOECC through the Environmental Registry. The Ministry will post a draft decision on the Environment Registry for public comment at www.ebr.gov.on.ca

Air Standards

Ontario protects air quality through a comprehensive air management framework that includes regulations, targeted programs and partnerships with other jurisdictions to address sources of air pollution. This framework addresses emissions from the electricity sector (including coal-fired generation stations), vehicles, cross-border sources, as well as commercial and industrial facilities.

Ontario's local air quality regulation (O. Reg. 419/05: Air Pollution – Local Air Quality) works within the province's air management framework by regulating air contaminants released into communities by various sources, including local industrial and commercial facilities. The regulation aims to limit exposure to substances released into air that can affect human health and the environment, while allowing industry to operate responsibly under a set of rules that are publicly transparent.

The regulation includes three compliance approaches for industry to demonstrate environmental performance and make improvements when required. Industry can:

- meet the general air standard
- request and meet a site-specific standard or
- register and meet the requirements under a sector-based technical standard (if available).

All three approaches are allowable under the regulation.

What are General Air Standards?

Air standards are legal limits for contaminants in air. They are set at concentrations that are protective against adverse effects. Ontario develops air standards by reviewing scientific information about the effects of contaminants on health and the environment, as well as approaches taken in setting air quality criteria by leading organizations such as the US Environmental Protection Agency, World Health Organization, Health Canada, and various European agencies.

Air standards may also be set based on nuisance effects such as odour and dust. More than one air standard may exist for a contaminant depending on the scientific information related to its one or more effects (e.g., total reduced sulphur).

Significant progress has been made in recent years to update or set new air standards. Since 2005, 68 new and/or updated air standards have been introduced into the regulation.

How are Air Standards used in the Regulation?

Air standards are used to assess the contributions of a contaminant to the local air by a regulated facility. If a facility can demonstrate that the maximum concentration of the contaminant emitted by the facility does not exceed the air standard, no additional requirements are triggered under the regulation. Most facilities in Ontario meet the general air standards.

While a measured exceedence of a standard may result in further action being taken, compliance with air standards is primarily assessed using air dispersion models. More advanced dispersion models are being phased in by sector (see below). Regulated facilities use Emission Summary and Dispersion Modelling (ESDM) reports to compile air dispersion modelling information and estimate the resulting concentration of a contaminant in the local air. The executive summary of an ESDM may be requested by the public.

Monitoring may also be used in combination with modelling to assess a facility's performance against the air standard.

In situations where the air standard is or may be exceeded, facilities are required to collect more detailed information about exposure to the contaminant being modelled or measured. This information may be used to confirm that the air standard is met or identify the need for another compliance approach.

Because general air standards are set based on science, they may not be achievable by a facility or a sector due to unique technical or economic limitations. Instead of making the air standard less stringent, the regulation allows facilities or sectors to exceed the air standard as long as they are working to reduce their air emissions as much as possible with technology-based solutions and best practices. The Ministry of the Environment closely oversees their progress using a framework for managing risk that was developed in cooperation with public health units in Ontario and other stakeholders.

Some facilities may never meet the general air standard and instead are regulated under either a site-specific standard or sector-based technical standards.

Key Phase-In Dates for Compliance

The Ministry of the Environment continues to develop general air standards to regulate air contaminants.

All facilities operating under the air standards compliance approach are required to comply with the air standards. New/updated standards are typically phased in over a period of time so that industry can take actions needed to comply with the regulation.

Air Standards Phase-In Dates

February 1, 2010 – 33 new or updated standards came into effect.

February 1, 2013 –18 new or more stringent standards came into effect.

July 1, 2016 – 9 new or more stringent air standards come into effect.

Air Dispersion Model Phase-In Dates

February 1, 2010 – Facilities in the following sectors were required to use the more advanced approved air dispersion models.

- Metal ore mining
- Fossil fuel electric power generation
- Petroleum refineries
- Basic chemical manufacturing
- Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing
- Iron and steel mills and ferro-alloy manufacturing
- Non-ferrous metal (except aluminum) smelting and refining

These facilities must also prepare and annually update an ESDM report.

February 1, 2013 – Facilities in the following sectors are required to use the more advanced approved air dispersion models:

- Pulp, paper and paperboard mills
- Other petroleum and coal products manufacturing
- Chemical manufacturing
- Urethane and other foam product (except polystyrene) manufacturing
- Other non-metallic mineral product manufacturing
- Primary metal manufacturing
- Coating, engraving, heat treating and allied activities
- All other miscellaneous fabricated product manufacturing
- Transportation equipment manufacturing
- Waste treatment and disposal[1]

These facilities must also prepare and annually update an ESDM report.

February 1, 2020 – All other facilities are required to use the more advanced approved air dispersion models.

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[1] In accordance with the regulation, certain industrial operations are exempt from this class. Please refer to the regulation for specific exemptions.

Notification Requirements for Facilities

The Local Air Quality Regulation requires facilities to notify the Ministry of the Environment if air standards may be exceeded. An abatement plan must be submitted within 30 days of notification.

For more information on notification requirements under the regulation, please go to Notification of Exceedence – Regulation 419/05.

Where can I get more information?

For a comprehensive list of air standards, please refer to the Ministry of the Environment document entitled: Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution – Local Air Quality, (April 2012) (as amended). The document is available in two formats, sorted by chemical name and by Chemical Abstract System (CAS) Number.

For further information about Ontario's Local Air Quality Regulation and air standards, please visit the Ministry of the Environment's web site at www.ontario.ca/ministry-environment or contact:

Public Information Centre
Ministry of the Environment
Tel: (416) 325-4000 or 1-800-565-4923
TTY Line (for persons who are deaf or hard of hearing):
416-326-9236 or 1-800-515-2759
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PIBS 9319e

January 2015

Framework for Managing Risk

Ontario protects air quality through a comprehensive air management framework that includes regulations, targeted programs and partnerships with other jurisdictions to address sources of air pollution. This framework addresses emissions from the electricity sector (including coal-fired generation stations), vehicles, cross-border sources, as well as commercial and industrial facilities.

Ontario's local air quality regulation (O. Reg. 419/05: Air Pollution – Local Air Quality) works within the province's air management framework by regulating air contaminants released into communities by various sources, including local industrial and commercial facilities. The regulation aims to limit exposure to substances released into air that can affect human health and the environment, while allowing industry to operate responsibly under a set of rules that are publicly transparent.

Under the regulation, industry can implement one of three compliance approaches, each designed to manage the risks associated with a facility's air emissions:

- Meet the general air standard
- Request and meet a site-specific standard or
- Register and meet the requirements under a technical standard (if available).

These compliance approaches are described in detail in separate fact sheets. This fact sheet describes how risk is managed under the various compliance approaches.

What is risk?

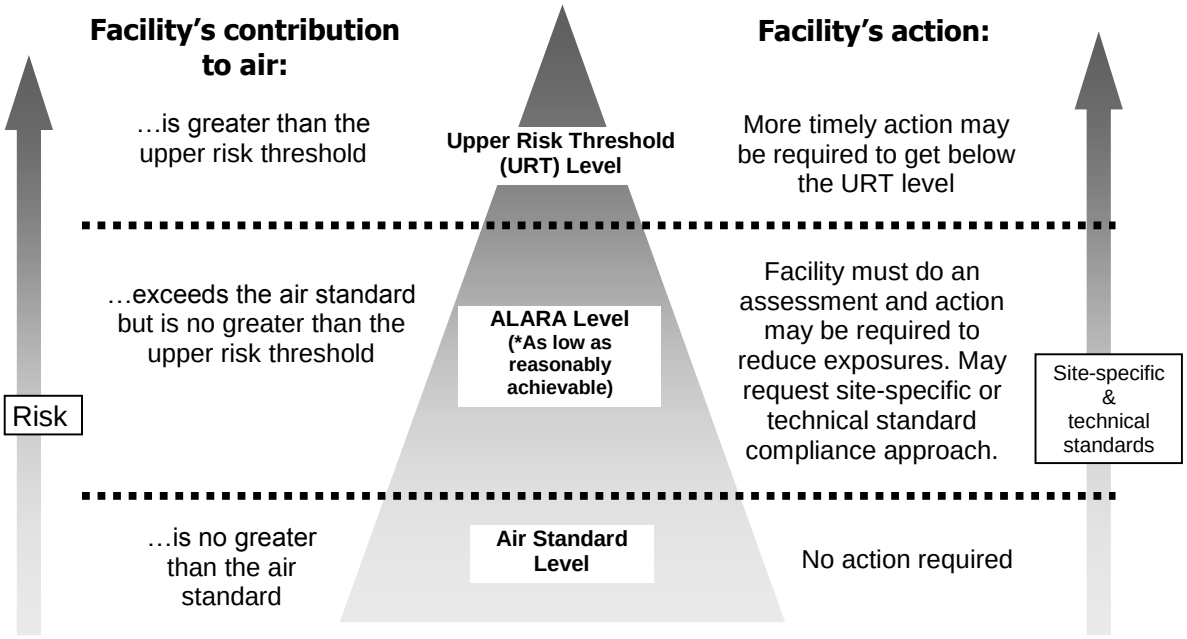
Risk is the possibility that an undesirable event will occur. In the context of health and environmental risks, the undesirable event may be a harmful effect from exposure to a contaminant. Risk is estimated by addressing the following questions:

- What adverse effect is associated with the contaminant?
- What type of exposure to the contaminant may cause the adverse effect?
- How likely is this exposure to occur?

Framework for managing risk

The framework helps manage risks to local communities from a facility's emissions of a contaminant to air. The maximum level of a contaminant around a facility as a result of its emissions is defined within three ranges listed below. More timely actions to reduce exposures are required to be taken as contributions increase.

- Air Standard Level
- As Low As Reasonably Achievable (ALARA) Level
- Upper Risk Threshold Level



Air Standard Level

Air standards are set for contaminants at concentrations that are protective against an adverse effect. These general air standards are used to evaluate the contributions of a contaminant from a regulated facility. If the general air standard is met by a regulated facility, its contribution of this contaminant to air represents negligible risk.

The Ministry of the Environment uses scientific studies to understand how contaminants may cause adverse effects and, based on these studies, calculates a concentration in air that presents negligible risk. For most contaminants, air standards are set at concentrations well below those where effects are observed with adjustments made for uncertainty in the data and variation in sensitivities of the population. For cancer causing contaminants—carcinogens—we set air standards at a concentration equivalent to a cancer risk level of one in a million. So, if a person is continuously exposed to this concentration over a lifetime, the additional cancer risk from this exposure would be one in a million.

Action Required: No further assessment of risk or regulatory action is required if the air standard is met.

As Low As Reasonably Achievable (ALARA) Level

If a regulated facility's contribution of a contaminant to air exceeds the general air standard, it may present more than a negligible risk. In this situation, a facility will have to act to reduce the exposure to meet the provincial air standard or as low as reasonably achievable by operating under a site-specific or technical standard.

Action Required: The ALARA principle is imbedded in the site-specific and technical standards compliance approaches.

When the Ministry of the Environment reviews a site-specific standard request, it requires the facility to submit information about the potential exposures. This includes a more detailed assessment at specific locations where human exposure is likely, such as schools, daycare facilities, hospitals and residences and includes consideration of the frequency, magnitude and duration of exposures above the air standard. This allows the ministry to evaluate the potential effects that may result from the facility's emissions.

The site-specific and the technical standard compliance approaches identify key sources contributing most to exposures in the community. This information, along with a review of best available techniques to reduce exposures from those key sources, help determine when and how appropriate risk management actions should be taken.

These actions are communicated to the local community through postings on the Environmental Registry and other activities such as public meetings or community liaison groups. Ongoing improvement through best available technology is also a fundamental principle of the site-specific and technical standards compliance approaches.

Upper Risk Threshold Level

The Upper Risk Threshold (URT) is a concentration of a contaminant in air, set above the general air standard. URTs are used by the ministry to manage risks both during and after the phase-in period of an air standard and also during the evaluation of requests for site-specific standards. For carcinogens, the Ministry of the Environment generally sets URTs at a concentration equivalent to a cancer risk level of one in ten thousand. For non-carcinogens, URTs are generally set at 10 times the air standard.

Action Required: The Ministry of the Environment's framework for managing risk aims to minimize exposures above the URT and identify facilities where more timely action is required.

If a facility's contributions of a contaminant to air exceed the URT of the air standard, the facility must notify the Ministry of the Environment immediately and assess the frequency, magnitude and duration of exposures in a more detailed report that must be submitted within 90 days. The assessment considers the same information as described above under the ALARA. Once risk levels are confirmed, more timely actions may be required to reduce risks below the URT.

Does the framework eliminate risk?

The framework for managing risk is designed to reduce—as much as possible—the risks associated with a regulated facility's air emissions.

Because provincial air standards are set based on science, they may not be achievable by a facility or a sector due to unique technical or economic limitations. In these situations, the site-specific and the technical standard compliance approaches are available.

The Ministry of the Environment also recognizes that there are other sources that contribute to exposures within local communities. The local air quality regulation is used with other tools to manage air quality in Ontario.

The framework allows the Ministry of the Environment to work with facilities to reduce exposures in local communities. It also establishes an open and transparent process to keep communities informed about the actions facilities are taking to achieve compliance and give opportunities to provide input.

Where can I get more information?

For a comprehensive list of MOE standards, guidelines and URTs, please refer to the Ministry of the Environment document entitled: Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution – Local Air Quality, April 2012 *(as amended).* The document is available in two formats, sorted by chemical name and by Chemical Abstract System (CAS) Number.

For further information about Ontario's Local Air Quality Regulation, please visit the Ministry of the Environment's web site at www.ontario.ca/ministry-environment or contact:

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PIBS 9320e

January 2015

Ontario's Local Air Quality Regulation (O. Reg. 419/05)

Ontario protects air quality through a comprehensive air management framework that includes regulations, targeted programs and partnerships with other jurisdictions to address sources of air pollution. This framework addresses emissions from the electricity sector (including coal-fired generation stations), vehicles, cross-border sources, as well as commercial and industrial facilities.

Ontario's local air quality regulation (O. Reg. 419/05: Air Pollution – Local Air Quality) works within the province's air management framework by regulating air contaminants released into communities by various sources, including local industrial and commercial facilities. The regulation aims to limit exposure to substances released into air that can affect human health and the environment, while allowing industry to operate responsibly under a set of rules that are publicly transparent.

The regulation includes three compliance approaches for industry to demonstrate environmental performance and make improvements when required. Industry can:

- meet the general air standard
- request and meet a site-specific standard or
- register and meet the requirements under a sector-based technical standard (if available).

All three approaches are allowable under the regulation.

Provincial air standards are used to assess a facility's individual contribution of a contaminant to air. They are set based on science and may not be achievable by a facility or a sector due to unique technical or economic limitations. In these cases, industries or sectors look to technology and best practices to improve their environmental performance and comply with the regulation.

The regulation is based on five principles:

- **Protection**
- **Science and Technology**
- **Continuous Improvement**
- **Transparency**
- **Flexibility**

Protection

Ontario's local air quality regulation works within the province's air management framework by regulating air contaminants released by industrial and commercial facilities.

The regulation, along with the Environmental Protection Act, provides Ministry of the Environment staff with a range of tools that can be used to ensure facilities are operating responsibly and meeting their regulatory obligations.

The ministry works with industry to ensure that facilities are doing their best to manage air emissions and that industry applies the best available technology or best practices when they need to reduce emissions.

Science and Technology

Ontario uses science and technology as the foundation for building environmental policy under the regulation.

Ontario develops air standards by reviewing scientific information about the effects of contaminants on health and the environment, as well as approaches taken in setting air quality criteria by leading organizations such as the United States Environmental Protection Agency, World Health Organization, Health Canada, and various European agencies.

Ontario's general air standards are set based solely on science and therefore may not be achievable by a facility or a sector due to unique technical or economic limitations. Instead of making the air standard less stringent, the regulation allows facilities or sectors to exceed the air standard as long as they are working to reduce their air emissions as much as possible with technology-based solutions and best practices.

The Ministry of the Environment closely oversees their progress using a framework for managing risk that was developed in cooperation with public health units in Ontario and other stakeholders.

Continuous Improvement

Most facilities operate under the general air standards compliance approach. Some facilities or sectors may not be able to meet an air standard because of technical or economic limitations. Some facilities may never be able to meet the air standard. In these cases, industries or sectors need to reduce specific contaminants in their air emissions as much as possible by finding technology-based solutions. This is achieved by the site-specific and technical standards compliance approaches.

Science and technology continue to evolve with time. Ontario's local air quality

regulation recognizes that significant investments may be needed to keep pace with these new or updated requirements.

The site-specific standard and technical standards compliance approaches allow facilities the time needed to develop and implement an action plan and to work towards improving their environmental performance when necessary. Site-specific standards are periodically reviewed, and technical standards may also be updated based on the availability of new technologies or updated science on a contaminant that suggests more controls are needed.

Emissions are reduced when industrial and commercial facilities invest in new technology solutions and implement best practices.

Although facilities operating under a site-specific standard or technical standard may not meet the general air standard, the focus is on reducing risks to local communities by managing the emissions that contribute most to local exposures.

Transparency

Transparency and public consultation are key requirements built into Ontario's local air quality regulation to ensure communities are informed about the actions facilities are taking to achieve compliance.

The regulatory framework takes into consideration the concerns of the public, businesses, public health and environmental non-government organizations and First Nations and Métis communities.

Through public meetings, consultations and the Environmental Registry, communities are informed about which compliance approach a facility is using and given the opportunity to provide input.

Ontario will continue to consult on how we propose to manage the release of contaminants to air, including decisions made about specific facilities and proposed new requirements for the regulation.

Our goal is to protect the environment and to allow industry to operate both competitively and responsibly under a set of rules that are publicly transparent.

Flexibility

There are three acceptable compliance approaches that facilities can take to meet the provincial requirements for each contaminant emitted. Each approach has potentially different outcomes for the community but each is structured to demonstrate environmental performance or improve performance, as needed, over time.

The regulation allows industries or sectors to exceed the air standards so long as they reduce specific contaminants in their air emissions as much as possible by implementing technology-based solutions and best practices.

The approach taken by the United States has similar elements but relies more heavily on prescribed technology requirements for all regulated facilities. Ontario's approach allows us to focus on those facilities that need to take action, rather than prescribing technology requirements for all regulated facilities.

1. **Meet a general air standard by the date specified in the regulation.** Ontario develops air standards by reviewing scientific information about the effects of contaminants on health and the environment.

   A facility that meets Ontario's air standards by the specified phase-in date is in compliance with the regulation. No additional technology or action is needed.

   For more information on Ontario's Air Standards, please refer to Fact sheet: Air Standards Compliance Approach.

2. **Request and meet a site-specific standard for an individual facility.** When a facility can not meet an air standard, it may be eligible to request a site-specific standard. Facilities eligible to request a site-specific standard are those facing technical or economic challenges in meeting a provincial air standard.

   A site-specific standard is an approved air concentration based on technology considerations.

   It is approved by a director of the Ministry of the Environment for an individual facility.

   This approach focuses on actions to reduce emissions to air as much as possible considering the technology that is available and best operational practices. Economic factors may also be considered.

   A facility that meets its site-specific standard is in compliance with the regulation.

   Site-specific standards can be approved for a period of five years to 10 years, upon which a facility may make a subsequent request.

   For more information on site-specific standards, please refer to Fact Sheet: Site-Specific Standards.

3. **Register and meet the requirements under a sector-based technical standard, if available.**
   Sometimes, two or more facilities in a sector may not be able to meet an air standard due to technical or economic issues. In this case, the regulation allows for sector-based technical standards to be developed.

   Sector-based technical standards set out technical and operational requirements for major sources of air emissions identified in a sector.

   A technical standard can be an **industry standard** applied to multiple facilities within one sector, or an **equipment standard** that addresses a source of contaminant in one or more industry sectors.

   A facility that meets its obligations under a technical standard is in compliance with the regulation.

   Technical standards do not expire, but can be updated based on the availability of newer technologies, updated science on a contaminant that suggests more controls are needed, or at the request of industry or community stakeholders.

   For more information on technical standards, please refer to Fact Sheet: Technical Standards.

Where can I get more information?

For further information about Ontario's Local Air Quality Regulation, please visit the Ministry of the Environment's web site at www.ontario.ca/ministry-environment or contact:

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Ministry of the Environment
Tel: (416) 325-4000 or 1-800-565-4923
TTY Line (for persons who are deaf or hard of hearing):
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PIBS 7984e01

January 2015

Site-Specific Standards

Ontario protects air quality through a comprehensive air management framework that includes regulations, targeted programs and partnerships with other jurisdictions to address sources of air pollution. This framework addresses emissions from the electricity sector (including coal-fired generation stations), vehicles, cross-border sources, as well as commercial and industrial facilities.

Ontario's local air quality regulation (O. Reg. 419/05: Air Pollution – Local Air Quality) works within the province's air management framework by regulating air contaminants released into communities by various sources, including local industrial and commercial facilities. The regulation aims to limit exposure to substances released into air that can affect human health and the environment, while allowing industry to operate responsibly under a set of rules that are publicly transparent.

The regulation includes three compliance approaches for industry to demonstrate environmental performance and make improvements when required. Industry can:

- meet the general air standard
- request and meet a site-specific standard or
- register and meet the requirements under a sector-based technical standard (if available).

All three approaches are allowable under the regulation.

Provincial air standards are set based on science, and therefore, may not be achievable by a facility or a sector due to unique technical or economic limitations. Instead of making the air standard less stringent, the regulation allows facilities or sectors to exceed the general air standard as long as they are working to reduce their air emissions as much as possible with technology-based solutions and best practices. The Ministry of the Environment closely oversees their progress using a framework for managing risk that was developed in cooperation with public health units in Ontario and other stakeholders.

Some facilities may never meet the general air standard and instead will be regulated under one of the other compliance approaches.

What is a Site-Specific Standard?

A site-specific standard is an air concentration approved by a director of the Ministry of the Environment for an individual facility that is challenged in meeting the air standard. This compliance approach focuses on actions an individual facility can take to reduce emissions to air as much as possible, considering the

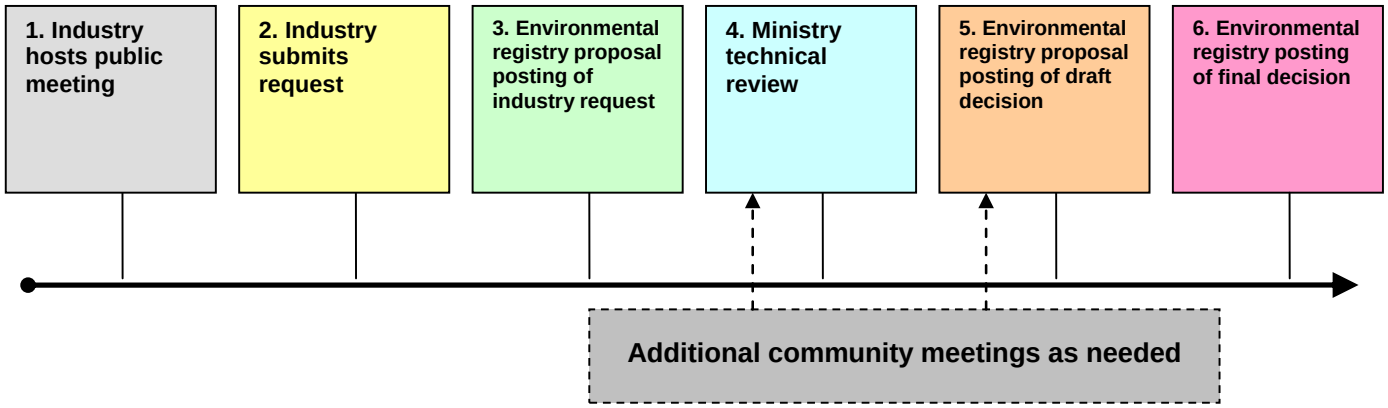
technology that is available and best operational practices. Economic factors may also be considered.

Under this compliance approach, the individual facility would continue to assess compliance using modelling and/or a combination of modelling and measurement against a site-specific concentration for a particular contaminant.

The site-specific standard approval process follows the ministry's framework for managing risk, which was developed in consultation with Ontario public health agencies and other stakeholders. The process sets out the need for timely action to be taken to reduce emissions, where necessary, from key sources of a contaminant, thereby reducing risks to local communities.

Sometimes significant investments may be needed to keep pace with new or updated regulatory requirements. If so, the site-specific standard approved by the Ministry of the Environment allows a facility the time needed to assess and implement technology or operational adjustments to improve their environmental performance within an approved timeframe.

Site-Specific Standard Process



How Is a Request for a Site-Specific Standard Approved?

Before submitting a request, a facility must take specific steps to assess emissions, develop an action plan and inform local communities of their compliance proposal by hosting a public meeting. Then they are required to submit a proposed plan to the ministry for review.

The proposed site-specific standard request includes a comparison of technologies by similar facilities around the world to determine whether or not the same can be achieved by their own facilities. The resulting plan sets out actions to reduce emissions to air as much as possible considering the technology that is

available and best operational practices. Economic factors may also be considered.

The request includes detailed information about the frequency, magnitude, and duration of exposures above the air standard. This information is used to consider the potential for effects in order to determine appropriate actions to manage risk.

Upon receiving the request, the Ministry of the Environment will post the company's request on Ontario's Environmental Registry for public comment. The Ministry of the Environment will conduct a technical review of the request and consider whether or not appropriate measures are being proposed to minimize exposures in the local community. This may involve additional meetings with the company. Depending on the level of public interest, additional community meetings may be coordinated to help explain the request and receive input from local stakeholders.

A draft decision will be posted on the Environmental Registry for public comment. Comments received from the public are considered in the development and finalization of the decision.

The company will be given an opportunity to review the final documents before a decision is made and a final decision notice is posted on the Environmental Registry.

A site-specific standard request can be approved for a period of five years to 10 years, upon which a facility may make a subsequent request. Subsequent requests (with no significant changes) may not require industry to host a public meeting. However, if there is public interest, a public meeting will be considered.

Operating Under a Site-Specific Standard

Once a site-specific standard has been approved, a facility must implement its action plan. The decision on a site-specific standard could involve significant investments in best available pollution control technologies and implementation of operational improvements.

Facilities operating under a site-specific standard approval may be required to submit reports to the Ministry of the Environment in order to determine progress.

Monitoring and reporting requirements can also be included in the site-specific standard decision so facilities can demonstrate that continuous improvements are being made.

Once approved, the site-specific standard becomes the compliance point for a facility. A facility is obliged to meet and maintain compliance with the site-specific

standard within a defined timeframe or risk being prosecuted. If any conditions are part of the approval but are not followed, the site-specific standard ceases to exist and the air standard in the regulation would apply instead.

Community Consultation

Public transparency is an important element of the local air quality regulation. Site-specific standards are developed with requirements for a facility to consult with its local community before a request is made, as well as for the Ministry of the Environment to engage the public to ensure information about a facility's request is accessible and community comments are considered in the ministry's decisions. Members of the community may request a copy of the request for a site-specific standard for their review. Companies are also required to provide a summary of what is being requested at the public meeting.

All requests for site-specific standards are posted on the Environmental Registry for public comment.

The decision to approve a site-specific standard for some facilities may require the facility and the Ministry of the Environment to consult if there is a potential to adversely impact an existing or asserted Aboriginal or treaty rights of First Nation or Métis communities. In such cases, the Ministry of the Environment will work with facilities and potentially affected First Nation or Métis communities.

What is the outcome for this compliance approach?

Emissions are reduced when industrial and commercial facilities invest in new technology solutions and implement best practices.

Although facilities operating under a site-specific standard may not meet the general air standard, the reduction in emissions reduces risks to local communities according to the framework for managing risk under the regulation.

Requests for renewed site-specific standards also require periodic review of technologies and best practices, which ensure continuous improvement over time.

Where can I get more information?

For further information about Ontario's Local Air Quality Regulation and site-specific standards, please visit the Ministry of the Environment's web site at www.ontario.ca/ministry-environment or contact:

Public Information Centre
Ministry of the Environment
Tel: (416) 325-4000 or 1-800-565-4923
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PIBS 6034e01

January 2015

CONFIDENTIAL

Appendix D – Public Meeting Attendees

March 5, 2015

- Attendee List

Appendix E - Email and Telephone Input

(Confidential Information Redacted)

Email Correspondence
For privacy, email addresses, signature lines and other identifying characteristics have been removed.

Sent: Wednesday, March 18, 2015 9:44 AM
To: OCGuelph,
Subject: hexavalent chromium

I do NOT support your application to the Ontario Ministry of the Environment for a site-specific standard in order to only reduce emissions of hexavalent chromium to 85% instead of meeting the new standard of 99% reduction.

Sent: Friday, March 13, 2015 10:22 AM
To: OCGuelph,
Subject: Opposing application to MOE

I'm a resident of the city of Guelph and would like to express my strong opposition to your application to the MOE to reduce your emissions of hexavalent chromium to only 85% rather than meeting the new 99% reduction standard.

I have significant concerns re: the carcinogenic effects of your emissions not only for myself but for my family as well. Walking my dog along the path by the river just down from your plant, I frequently smell the pungent emissions and am now considerably fearful for my health and the health of our city residents.

Please meet the MOE's 99% emission standards for the sake of the health of our current and future generations.

I understand that all feedback is to be submitted to the MOE. I trust this email will be included.

Sent: Thursday, March 12, 2015 11:05 AM
To: OCGuelph,
Subject: Owens Corning

I am writing you to express my concern over the request by Owens Corning to reduce its emissions of hexavlent chromium by 85% instead of meeting the new standard of a 99% reduction.

This plant is located right in the middle of residential neighborhoods - not way out in the industrial area's and therefore has a direct effect on a great number of people including children and seniors.

It is my hope that their request will be denied and that Owens Corning will be required to meet the new standards set out by the Ontario Ministry of the Environment.

Date: March 11, 2015 at 5:34:41 PM EDT
To: "ocguelph@owenscorning.com" <ocguelph@owenscorning.com>
Subject: Hexavalent Chromium Emission Standard

Hi,
I would like to express my concerns about the Owens Corning fiberglass plant's wish to reduce it's hexavalent chromium to only 85%. I am absolutely befuddled as to why anyone would feel the urge to use hexavalent chromium. There are clearly many, many more disadvantages than benefits to using the chemical. Anyone who thinks otherwise needs to do more research or watch the movie Erin Brockovich. I can not even imagine any good reason to use the chemical if it has been proven to directly impact the health of people living in its vicinity. When given the option to protect health or produce goods the clear choice should be to preserve health should it not? In conclusion, I am strongly against lowering standards for the reduction of hexavalent chromium.

Sent: Wednesday, March 11, 2015 3:46 PM
To: OCGuelph,
Subject: Emission Standards

Hello,

I am writing to express my concern about the application to the Ontario Ministry of the Environment for a site-specific standard to reduce emissions of hexavalent chromium to only 85%, instead of meeting the new standard of 99% reduction from the Owens Corning Plant on York Road in Guelph. As a frequent user of the river path with my children and a member of the Unitarian Congregation nearby, I am very concerned about the possible release of carcinogens into the air in such a densely populated and used area. Please reconsider this application.

Date: March 10, 2015 at 8:28:44 PM EDT
To: <ocguelph@owenscorning.com>
Subject: Nearly zero emissions now!

To whom it may concern,

As a resident of Guelph an a neighbor in close proximity to the Owens Corning factory I am concerned and dismayed at their proposal to avoid the 99% reduction for hexavalent chromium. The World Health Organization states that ANY exposure to hexavalent chromium is too much. It is worth noting that neighbors surrounding me on three sides have cancer of one form or another, including lung cancer. The risks to the health of my children and myself are far too significant for me to ignore this issue. I must insist that the proposal for a site-specific standard be denied. We are here! We are here! We are here!

Date: March 7, 2015 at 8:45:34 AM EST
To: "ocguelph@owenscorning.com" <ocguelph@owenscorning.com>
Subject: no

owen's corning should be held responsible for the 99 percent elimination of hazardous emmissions. this is the 21st century, and business's must be held accoutable for ther environmental impact. it would be a huge plus for o.c. to enter the 'green zone' of business by gaining amazing public image with a forward, mordern and progressive plan for the future.
take the plunge o.c.
it will pay for itself in the long run.

Date: March 3, 2015 at 11:42:19 PM EST
To: <ocguelph@owenscorning.com>
Subject: Owens Corning's request for a site-specific air standard for hexavalent chromium

To Whom It May Concern,
Our household is strongly opposed to Owens Corning receiving a site-specific standard for hexavalent chromium by the Ministry.
While it is likely a costly and involved process to meet the new standards it is absolutely vital that Owens Corning comply with and meet these new standards fully and completely in order to proceed with their business.
There should be no grandfathering, or newly created site-specific standard created for Owens Corning in order that they may either prolong or forgo complying with the new standards.
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We all remember what happened in the United States with regards to hexavalent chromium in Hinkley, California, in large part because of the feature film 'Erin Brockovich', but there are numerous other locations that have suffered due to improperly manager hexavalent chromium including: Midland, Texas; Belmont Massachusetts; Davenport, California; Chicago, Illinois; Milwaukee, Wisconsin; Cameron, Missouri, and other parts of the world including Australia and Greece.
Comprehensive studies indicate that hexavalent chromium has serious, negative impact on people:
Chronic inhalation exposure to chromium (VI) in humans results in effects on the respiratory tract, with perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, asthma, and nasal itching and soreness reported.
Chronic human exposure to high levels of chromium (VI) by inhalation or oral exposure may produce effects on the liver, kidney, gastrointestinal and immune systems, and possibly the blood.
Dermal exposure to chromium (VI) may cause contact dermatitis, sensitivity, and ulceration of the skin.
To grant Owens Corning a site-specific standard for hexavalent chromium is irresponsible and has the potential to endanger the residents of Guelph for generations.
We, in no way, support Owens Corning receiving a site-specific standard for hexavalent chromium.
As an alternative to Hexavalent Chromium, has Nickol-Tungsten Alloy been considered?

Date: March 1, 2015 at 8:35:57 PM EST
To: <OCGuelph@owenscorning.com>
Subject: an opportunity to comment

I do not like the idea of releasing more things in them atmosphere which meat government limits .
Personally I wish your plant would just go away.
You are noisy there was only piece and quite in the area when we had the power outage.
It would be nice if companies would exceed government limits not just meat them.

Date: March 1, 2015 at 7:59:26 PM EST
To: "OCGuelph@owenscorning.com" <OCGuelph@owenscorning.com>
Subject: Community Information Session another question

One more question:
4) if the hexavalent chromium disperses as a particulate, what research is done into it's dispersal range & distribution pattern? if the particulates fall to the ground, are they absorbed into the groundwater?

On Sunday, March 1, 2015 4:35 PM, wrote:

Hello, I'm a resident in the neighbourhood of the Guelph Owens Corning plant. I am unable to attend the March 5th community information sessions. As suggested, I'm emailing my questions/concerns for inclusion in the public consultation report OC will prepare for the MOE.

1. How does Owens Corning currently contribute to research into & monitoring of the adverse respiratory system and carcinogenic effects of the Guelph plant's emissions of hexavalent chromium?

2. How is the health of residents' monitored for the potential respiratory system & carcinogenic effects?

2. What are the consequences to the Guelph plant's viability if Owens Corning is forced to comply by 2016 with MOE's new emissions standards for hexavalent chromium?

3. If the air quality standard for the community is 0.00007 $\mu g/m^3$ (or 0.00000007 mg/m^3), why is the standard for workers inside the plant 100,000 times higher (i.e. 0.01-0.05 mg/m^3 for Cr^{VI}).

Date: March 1, 2015 at 6:45:29 PM EST
To: <ocguelph@owenscorning.com>
Subject: Owens Corning's request for a site-specific air standard for hexavalent chromium

ATTN: Rob Nixon, Owens Corning Operations Leader (ocguelph@owenscorning.com)

Comments re: Owens Corning's request for a site-specific air standard for hexavalent chromium

Our household is strongly opposed to Owens Corning receiving a site-specific standard for hexavalent chromium by the Ministry.

While it is likely a costly and involved process to meet the new standards it is absolutely vital that Owens Corning comply with and meet these new standards fully and completely in order to proceed with their business.

There should be no grandfathering, or newly created site-specific standard created for Owens Corning in order that they may either prolong or forgo complying with the new standards.

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We all remember what happened in the United States with regards to hexavalent chromium in Hinkley, California, in large part because of the feature film 'Erin Brockovich', but there are numerous other locations that have suffered due to improperly manager hexavalent chromium including: Midland, Texas; Belmont Massachusetts; Davenport, California; Chicago, Illinois; Milwaukee, Wisconsin; Cameron, Missouri, and other parts of the world including Australia and Greece.

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Dermal exposure to chromium (VI) may cause contact dermatitis, sensitivity, and ulceration of the skin.

To grant Owens Corning a site-specific standard for hexavalent chromium is irresponsible and has the potential to endanger the residents of Guelph for generations.

We, in no way, support Owens Corning receiving a site-specific standard for hexavalent chromium.

Date: Friday, February 27, 2015 11:59 AM
Subject: Re: Owens Corning

Sorry I forgot to confirm that I received a copy of the letter, been busy. Thanks for the information with regards to the current concentration of hexavalent chromium. It appears to be quite high to what is being recomended by the Ministry. I have always been concerned with emmssions coming from the plant and believe that the sooner Ownes meets the new regulations the better. This is a very high dense residential area there are not many large factories such as this in the middle of a city. I believe this makes area residents at more of a risk just because of our proximity to your plant.

Has Owen's Corning planned any mitigations steps to help deal with their site specific request to the ministry?

Thanks again for your time,

Date: February 26, 2015 at 11:04:52 PM EST
To: "ocguelph@owenscorning.com" <ocguelph@owenscorning.com>
Subject: comment on application for site-specific standard

ATTN: Rob Nixon, Owens Corning Operations Leader (ocguelph@owenscorning.com)

Our household is strongly opposed to Owens Corning receiving a site-specific standard for hexavalent chromium by the Ministry.

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To grant Owens Corning a site-specific standard for hexavalent chromium is irresponsible and has the potential to endanger the residents of Guelph for generations.

We, in no way, support Owens Corning receiving a site-specific standard for hexavalent chromium.

Date: February 26, 2015 at 2:19:21 PM EST
To: <ocguelph@owenscorning.com>
Subject: Owens Corning's request for a site-specific air standard for hexavalent chromium.

Attn: Rob Nixon

I am a resident of Guelph and am completely opposed to the site-specific standard for this operation. OC should be held to the provincial standard - continuous improvement is subjective and UNACCEPTABLE without a detailed plan that will be approved and monitored by a party outside Owens Corning organization.

What are you going to do about this?

Date: February 23, 2015 at 9:56:18 AM EST
To: "OCGuelph@owenscorning.com" <ocguelph@owenscorning.com>
Subject: air quality

Dear Mr. Nixon

As A resident of Saint Patricks ward who lives in direct sight of the Owens Corning facility,
I have health concerns for my family and am curious about the emissions and odours produced .
Please send me the current air pollution and air quality levels as well as the ministry's acceptable levels of hexavalent chromium.
Could you please inform me as to how hexavalent chromium is produced as a by product of your processes on York road &
an explanation of what substances are present in the odiferous emissions created.
Thank you in advance for your cooperation with this health concern for our children and ourselves.

Date: Friday, February 20, 2015 12:17 PM
Subject: Re: Owens Corning

Some of my questions are as follows:

Why can't Ownen's Corning comply in the required time and therefore needs a site specific condition.?

How will this effect the emissions off site and what are the emmisions currently adn what will the new regs require?

What about smell and noise will this be affected by this site specific condition?

I have had a number of concern's over the years including fibre in my backyard, noise and smells and even though Ownen's has at times dealt with these issues, they have been sporadic and inconstitent, therefore I have real concerns about an extension for Owen's Corning to comply with the ministry's regulations that kick in in 2016.

I also am very concerned about the Chromium emmisons as I understand they are carcinogenic.

Is Owen's Corning required to send circulation notices to properties surrounding their site?

Sent: Friday, February 20, 2015 5:22 PM
Subject: Re: From Owens Corning

thanks very much for forwarding this on, I appreciate the in-depth answers. I am very happy to hear that that smell should be gone in 12-18 months. I have one more question, and that is, what is that smell related to?

Q. Why is Owens Corning unable to comply with the general standards in OR 419? Is it a matter of technology or economics?

Q. The latest available NPRI data for your plant says that you released 0.006 tonnes of hexavalent chromium in 2013. Is it possible for you to convert this to micrograms/meter cubed? I ask this because the provincial standards are in the latter units (allowing an annual average of 0.00014 micrograms/meter cubed), and I would like to know how your emissions compare.

Q. What is the timeline we can expect the plant will come into compliance with the general standards? In other words, how long are you going to emit more than the general standards?

Q. Where do you dispose of your waste? Your NPRI data says that in 2013 there were 0.3761 tonnes disposed off-site.

Q. Nearly every time I take my child to the playground downwind of the plant I smell a nasty smell kind of like burning plastic. Is that the hexavalent chromium, or is that something else you emit, like NO2 or sulphur dioxide? These emissions concern me given that chromium 6 is a known carcinogen.

Date: February 22, 2015 at 10:39:47 AM EST
To: <ocguelph@owenscorning.com>
Subject: Comments re: Recent Public Notice - Air Standards
ATTN: Rob Nixon, Owens Corning Operations Leader

Comments re: Owens Corning's request for a site-specific air standard for hexavalent chromium

Our household is strongly opposed to Owens Corning receiving a site-specific standard for hexavalent chromium by the Ministry.

While it is likely a costly and involved process to meet the new standards it is absolutely vital that Owens Corning comply with and meet these new standards fully and completely in order to proceed with their business.

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To grant Owens Corning a site-specific standard for hexavalent chromium is irresponsible and has the potential to endanger the residents of Guelph for generations.

We, in no way, support Owens Corning receiving a site-specific standard for hexavalent chromium.

Phone Input
For privacy, identifying characteristics have been removed.

Phone Call Summary
February 19, 2015

[NAME DELETED] called the community information line at 5pm on Feb 19 and I returned her call at 5:30pm.

In her message, she indicated she has "grave concerns" about our request. She stated she had previous exchanges with the plant regarding fiber and odors, and she questions whether this request is in the best interest of the neighborhood. She's interested in more information about hexavalent chromium and wants to know if the noise issues will be slowed due to this request. She summed it up by saying noise and odors are her primary concerns.

[NAME DELETED] answered when I called. She thanked me for returning her call but said she would prefer to exchange questions and answers in writing, via email. She asked that I send her an email so we could begin the exchange.

I have emailed her. Questions to follow.

Phone Call Summary
February 19, 2015

[NAME DELETED] called the community information line at approximately 2:40 pm on February 19, 2015. I returned his call shortly before 3pm.

[NAME DELETED] asked if the plant was planning an expansion of its operations, and if that was the reason for the request for a site-specific standard. I explained that an upcoming change in the provincial standard effective in July 2016 is the reason for our request, and it was not a result of any changes to or expansion of our operations.

He stated he was pleased to hear that. He said, "so this is basically an emitter allowance" until Owens Corning can meet the new standard.

He asked when the plant will be able to meet the new standard. I said I could not provide him with that estimate but that the actions already underway will result in a significant reduction in emissions by the time the new standard is effective and that we will continue to work to achieve the new standard.

He was pleased to hear an effort was already underway and then asked what our term limit was.

Phone Call Summary
March 2, 2015

I spoke with [NAME DELETED].

He asked:

Is the plant was changing, or just the air standards. Will the average person notice any difference in 2016 from now? Will there be more fumes or smells? More noise?

What is the role of the average neighbourhood dweller in this process? If someone can't make it to the information session on Thursday, can they still have their comments reflected in the request to the Ministry?

We had a good conversation, very cordial.

Appendix F – Media Coverage

Feb 23, 2015

Guelph Mercury

Owens Corning facing new air quality guidelines at Guelph plant

http://www.guelphmercury.com/news-story/5444545-owens-corning-facing-new-air-quality-guidelines-at-guelph-plant/

By Chris Seto

GUELPH— Owens Corning is seeking some relief from the province in operating its Guelph plant with regards to pending new air quality standards.

Currently, the local glass plant is operating within the air quality regulations set out by the Ministry of Environment and Climate Change, but those standards will be tightening up next year. When the provincial regulations finally change over on July 1, 2016, Owens Corning will not be able to meet the new benchmarks with its current emissions output.

The company will be requesting what amounts to a sort of temporary exemption from the future standards, specifically around the regulation of hexavalent chromium. This material is a form of the metallic element chromium and is produced as a byproduct of the manufacturing at Owens Corning. The particulate is odourless and has been identified on Environment Canada's toxic substances list.

If the company's request is granted this will allow them to meet the new provincial standards when they take affect.

Amanda Meehan is a spokesperson for the company. In an email Monday she said the new regulations for hexavalent chromium will ensure the levels of this air contaminant are reduced by 99 per cent.

The province first proposed this change in 2009 and has given companies years to alter their practices to meet the future standards. For those companies unable to meet the deadline, the ministry will allow them to apply for what is called an interim site-specific standard – a temporary exemption.

The company is investing millions of dollars to pursue technologies to eliminate the creation of hexavalent chromium as a byproduct, Meehan said. They're also putting $10-million into refurbishing a furnace next year, which is expected to reduce emissions by 85 per cent from current levels.

Meehan was unable to say if this reduction would allow them to meet the future ministry standards.

Ward 1 Coun. Bob Bell said even after the new furnace is installed and the emissions levels have dropped, the company still won't be at the level it needs to be to meet ministry standards.

Bell said he met with representatives from the company soon after Owen Corning put forward its application to the ministry earlier this month. Since then, he's received several messages from concerned constituents about the issue. He hasn't been able to bring these concerns to council because he said the issue is out of the city's jurisdiction. The city, however, will be providing comment to the ministry, he said.

"There's very few of these glass plants left," Bell said. "Most glass is produced offshore now, where the standards are much more lax."

Bell said he would like the city to request a statistical analysis from the ministry to see if there has been a greater frequency of illness caused by hexavalent chromium in the air for those residents living near the plant on York Road.

"The fact that they're spending $10-million and keeping the plant running, in my mind, has no bearing on whether or not they should have the site-specific (request granted)," he said, but added that's for the ministry to decide.

If the company isn't granted the interim exemption from the future standards, Bell said he doesn't know how the plant will be able to continue operations.

In an email response, Ministry of Environment and Climate Change spokesperson Lindsay Davidson said once the company applies, the request could take up to 15 months to be processed.

"Requests must include an action plan with dates on how exposures will be reduced as much as possible," he said.

Owens Corning is expected to submit its request to the ministry late next month.

In accordance with the ministry's regulations, the company will be hosting a community information session to discuss the issue with nearby residents. There will be two sessions held at the Italian Canadian Club on Ferguson Street on March 5: the afternoon session runs from 3 to 5 p.m. and the evening session runs from 7 to 9 p.m. Both Ward 1 councillors Bob Bell and Dan Gibson said they would attend.

Feb 23, 2015

Waterloo Region Record

Owens Corning facing new air quality guidelines at Guelph plant

http://www.northbaynipissing.com/news-story/5444552-owens-corning-facing-new-air-quality-guidelines-at-guelph-plant/

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Feb 23, 2015

Our Windsor

Owens Corning facing new air quality guidelines at Guelph plant

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Mar 04, 2015

Guelph Mercury - Editorial

Owens Corning application will challenge the province

http://www.guelphmercury.com/opinion-story/5459689-owens-corning-application-will-challenge-the-province/#

Guelph Mercury
By Editorial

The Ontario Ministry of the Environment is engaged in a quite sensitive file in connection with Owens Corning's request to soon operate its Guelph manufacturing under unique terms related to its air emissions standards.

The ministry is being asked to consider a proposal to permit the firm to operate the Guelph plant while releasing hexavalent chromium emissions at a concentration above incoming, and more stringent, provincial limits coming into force next year.

The company has gone to lengths to make the case for accepting such an arrangement. It offers a compelling argument.

Owens Corning begins its narrative with the relevant fact that it now operates the Guelph plant in compliance with current standards related to the toxic byproduct soon to be the issue of tighter regulations. It further asserts that a $10-million capital upgrade scheduled for next year will help it bring down its current discharge level of this material by at least 85 per cent.

To operate in compliance with the incoming regulations would require the firm to reduce current hexavalent chromium emissions by 99 per cent, and it asserts that is not technologically possible — though it would work toward achieving that goal.

The ministry is charged with a huge set of responsibilities in stewarding this application.

It should work to publicly confirm important aspects of the Owens Corning case — such as the statement that this industrial process can't function and meet the pending new standards for hexavalent chromium discharges.

Further, it should richly educate the public about the health risks it would associate with Owens Corning operating at the emissions standards it's seeking to via this application.

Owens Corning officials suggest they'll have to evaluate the operational viability of the Guelph plant if the arrangement being sought with the ministry fails to come about. However, they insist, they're confident of persuading the ministry of its ability to operate in an environmentally sustainable and continuously improving manner.

This is a significant local employer. It is also part of an international corporation that could serve its customers through other centres of production — though it contends it makes business sense to keep doing so from Guelph.

The ministry science team and its political leaders face a challenge in managing this file. Doing so as transparently as possible will best serve all interested stakeholders as the ministry processes this application.

Mar 04, 2015

Inside Brockville - Editorial

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Mar 04, 2015

Guelph Mercury

Owens Corning seeks to stay in Guelph though unable to meet future provincial emission standards

http://www.guelphmercury.com/news-story/5459856-owens-corning-seeks-to-stay-in-guelph-though-unable-to-meet-future-provincial-emission-standards/

By Chris Seto

GUELPH— Owens Corning will be unable to cut its emissions enough at its local plant to be in line with new provincial discharge limits when they come into effect next year.

Operations at the fiberglass manufacturer on York Road are meeting current standards set out by the Ministry of Environment and Climate Change, but the province's regulations are becoming more stringent on July 1, 2016. The changes, specifically around the amount of hexavalent chromium allowed into the air, have moved Owens Corning to request a site-specific operating standard, or what amounts to be a temporary pardon from the province regarding the allowable rate of discharge of the byproduct at its Guelph facility.

Hexavalent chromium is a metallic particulate, produced in the manufacturing process.

On Wednesday, company executives spoke about the firm's request before the ministry at a meeting with the Guelph Mercury Editorial Board. They also addressed questions about the company's future in the city.

Penny McInnis is an engineer with Lehder Environmental Services who has been working with the company to help it with the application to the ministry. She said the company has spent years looking at new technologies to help reduce the amount of hexavalent chromium it produces through its manufacturing. But even with the best technology available for purchase, the company would be unable to meet the pending new emissions targets.

"There are technical challenges to achieving those kinds of concentrations," she said.

The company creates glass fibers by melting down raw materials in a gas-fired furnace. Some of the bricks used to contain the molten glass are made from materials containing chromium oxide. During the process, a small fraction of the chromium oxide is transformed into hexavalent chromium and then released into the air. This material is odourless and has been identified on Environment Canada's toxic substances list.

"We're talking extremely tiny quantities in the air," McInnis said.

In the second quarter of 2016, the company will invest $10-million to upgrade one of its furnaces at the Guelph plant. With the refurbished furnace, the company believes it can cut its emissions of hexavalent chromium by 85 per cent from the volume it is currently discharging.

The ministry's new standard demands the contaminant be reduced by 99 per cent, the officials said.

Owens Corning plans to apply for a site-specific standard from the ministry later this month. If approved, the request would give the company 10-years to continue operations without needing to achieve the new emissions standard. Rob Nixon, maintenance and engineering leader at the Guelph plant, said during this 10 year period, the company hopes to find ways of reaching that 99 per cent reduction target.

If the application is denied by the province, there is no backup plan.

Charles White, the Guelph plant leader, said the company "will reevaluate" next steps based on the ministry's decision.

"We're absolutely committed to staying here in Guelph, and we're committed to meeting the process the ministry wants us to follow," he said.

Brian McPeak, the company's vice president of external affairs, said the company decided to invest in the Guelph plant knowing even with the planned upgrades it would be unable to meet the more stringent pending emissions standards. He said there was enough confidence in the approval of the site-specific application to justify the cost of investing into the Guelph plant.

We're not out looking for another jurisdiction that has a less-stringent standard that we could move the business to and solve the issue, he said.

In October last year, the company announced it would be moving a significant part of its production to Mexico, cutting two-thirds of its workforce. Currently, the plant produces two main fiberglass products: chopped strand mat and continuous filament mat. Production of the former material will be moved to Tlaxcala, Mexico.

When the furnace is upgraded next year, the staff of 169 employees will be reduced to around 60 or 70. White said the specific details of severance packages and what employees might get when they exit will be hammered out next year.

In accordance with the ministry's regulations, the company will host community information sessions to discuss its application to the ministry with local residents. Two meetings will be held at the Italian Canadian Club on Ferguson Street on Thursday. One session will run between 3 and 5 p.m. and another will be held from 7 to 9 p.m.

Mar 04, 2015

Our Windsor

Owens Corning seeks to stay in Guelph though unable to meet future provincial emission standards

http://www.ourwindsor.ca/news-story/5459856-owens-corning-seeks-to-stay-in-guelph-though-unable-to-meet-future-provincial-emission-standards/

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Mar 04, 2015

Inside Belleville

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http://www.insidebelleville.com/news-story/5459856-owens-corning-seeks-to-stay-in-guelph-though-unable-to-meet-future-provincial-emission-standards/

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Mar 06, 2015

Guelph Mercury

Owens Corning presents to the public proposed pollution control plans for Guelph plant

http://www.guelphmercury.com/news-story/5462648-owens-corning-presents-to-the-public-proposed-pollution-control-plans-for-guelph-plant/

By Rob O'Flanagan

GUELPH—The Ontario Ministry of the Environment and Climate Change could approve a request to allow a Guelph fiberglass plant to emit more of a type of air pollution than will be allowed by new provincial standards coming into force next year.

At an open house staged Thursday, in connection with Owens Corning's request, Bruce Gillies, an air pollution control engineer with the ministry, said the ministry will be open to granting a less stringent, "site specific," discharge standard for the Guelph plant's operations. But he said much assessment of the company's proposal is to come before that matter is resolved.

Gillies said the ministry will carefully scrutinize any proposal the company puts forward and assess whether its proposed emission levels are within an acceptable range.

At issue is a new standard coming into effect next year for the discharge of hexavalent chromium. The particulate is released as a byproduct in the process Owens Corning uses to make its products. The company's level of discharge of the carcinogen now falls within provincial regulations regarding such discharges for its Guelph plant. But the rate of allowable hexavalent chromium in industrial effluent is changing in 2016.

Owens Corning officials assert they will make changes to reduce its current hexavalent chromium discharge levels by about 85 per cent at the plant. But the new standard will require reductions in the range of about 99 per cent and it won't be able to reach that rate – at least by next year. So, it's applying for a 10-year permit from the province to operate with discharge rates at the Guelph plant that are different than the incoming limits.

Gillies said this is an option open to the company.

What is to follow, Gillies said, is a thorough analysis to determine if Owens Corning has done all it can to reduce its hexavalent chromium emissions.

"What we'll be looking for when we get the application is, are they going to be doing the best that they can be doing," Gillies added. "Out of all the things that they can do in order to do the best that they can, we'll come up with a site specific air standard concentration."

That number will most likely not meet the new standard. But the ministry will nevertheless evaluate whether it is within a range of acceptable risk, Gillies added.

"The air standard is set right at the bottom of that risk, to be a negligible risk," he said. "But there is still an acceptable risk for above that air standard, and it's within that range that we allow site specific standards. As long as they are doing the best they can do to reduce, and if they are within this acceptable risk range, then it is allowable."

The process involved in the site specific request is an extensive one, involving a benchmarking report that looks at all available technologies, rates them on the basis of feasibility and availability, and evaluates their effectiveness.

The company also has the option to examine the economic feasibility of the technology, which it has done.

"They are doing that 15 months before the new air standard comes in place," Gillies said. "That gives the ministry time to assess their application."

The firm has engaged in public education and input-seeking efforts as part of its application process as well. The open house session Thursday at the Italian Canadian Club was connected to this process.

Brian McPeak is an Owens Corning vice president, out of the company's Toledo, Ohio headquarters. He was pleased to see a strong turnout by the public at the session on Thursday afternoon. More than 20 people attended the afternoon function.

"It's not surprising given that we sent notifications to almost 4,000 property owners in proximity to the facility, as part of the ministry's outreach protocol," McPeak said. "We wanted them to come so that we could talk to them about what we're doing, how it's being done, and give them a chance to both get their questions answered here and make comments to the ministry."

Fairly detailed information on the plant's operations, its emissions, and its efforts to reduce those emissions was presented at a series of tables in the Italian Canadian Club meeting hall, with many company and ministry personnel on hand. A steady number of people entered the session.

"For us it's a very transparent process," said Charles White, the plant manager in Guelph. "We're proud of what we do. We're an important part of the community, and we want the community to feel that."

White said the company is committed to working with the ministry to achieve a sustainable site specific standard for the plant and he believes the outcome of this process will be good for the community.

Gillies said ministry personnel at the session were hearing many questions from the public.

"The ministry will consider all the comments that are made, both today and in the future as we assess the site specific standard request," he said, adding that, in time, a proposed decision will be posted on the Environmental Bill of Rights Registry for further public comment.

Guelph resident Mike Dougherty was among the members of the public on hand for the information session.

"I heard about the reduction and the exposure level, and I came out for general information," he said. "Basically our water plant is behind the Owens Corning plant and I just wanted to see if there was any potential exposure."

Dougherty said after making the rounds at the session and asking questions at every table, he is "not worried at all."

Mar 09, 2015

Guelph Mercury, Letter to the Editor

Hexavalent chromium a dangerous chemical

http://www.guelphmercury.com/opinion-story/5462753-hexavalent-chromium-a-dangerous-chemical/

In your March 5 lead front page article and editorial, you discuss in detail the issues faced by Owens Corning in meeting next year's incoming regulations from the province limiting the emissions of hexavalent chromium, or Cr (VI).

Yet nowhere in your cover story or subsequent editorial do you address why hexavalent chromium is considered so dangerous. Shame on you for such one-sided coverage.

Hexavalent chromium was the groundwater contaminant that Erin Brockovich brought to public attention in the town of Hinkley, Calif., successfully suing Pacific Gas and Electric for $333 million US.

In both its airborne and water-borne state, it is a widely recognized carcinogen, and the Ontario government is not alone in tightening its regulations based on current toxicological research.

It is an organ-specific respiratory carcinogen but also has noncancerous effects including: "respiratory irritation and atrophy, altered lung function and systemic effects (e.g. renal and liver toxicity, immune system effects)" (according to the 2009 provincial notice proposing the regulations).

I understand that employment for the workers at the Guelph plant is a critical issue for them and their families and I am sympathetic.

But as someone who recently lost a family member to lung cancer (a non-smoker and lifelong Guelph resident), I feel strongly that we also need to take the province's regulations seriously and stop taking risks with the well-being of our community.

I, for one, will no longer be walking my dog downwind from the plant.

Richard Hamilton

Guelph

Mar 10, 2015

Guelph Mercury, Letter to the Editor

Owens Corning proposal doesn't meet air standard

http://www.guelphmercury.com/opinion-story/5466693-owens-corning-proposal-doesn-t-meet-air-standard/

The Owens Corning Fiberglas plant on York Road in Guelph has applied to the Ontario Ministry of the Environment for a site-specific standard in order for them to only reduce its emissions of hexavalent chromium by 85 per cent instead of meeting the new standard of a 99 per cent reduction.

There are some important facts worth noting:

•The World Health Organization states online that any exposure to hexavalent chromium is too much because it is so carcinogenic.

•Health Canada states that there is a definitive connection between hexavalent chromium and lung cancer as well as a host of other serious medical conditions.

•At an Owens Corning open house session on March 5, Ontario Ministry of the Environment officials reported using a benchmark for risk of one case of cancer per million population and said Guelph is already at one case of cancer per 100,000 population.

•The Environment Ministry is imposing a new air standard of a 99 per cent reduction — nearly zero emissions — for hexavalent chromium.

Under these circumstances, the 85 per cent reduction in emissions proposed by Owens Corning is clearly unacceptable. History has repeatedly demonstrated how people underestimate the environmental and long-term health consequences of our actions. Owens Corning should not be allowed to proceed with its proposal, which in no way meets the air standard.

Please write to ocguelph@owenscorning.com before the end of March to express your concerns. All feedback will be included with their submission to the ministry.

Aphra Zimmerman-Holy

March, 10, 2015

Guelph Tribune, Letter to the Editor

Emission standards must be met

http://www.guelphtribune.ca/opinion/emission-standards-must-be-met/

The Owens Corning fibreglass plant on York Road in Guelph has applied to the Ontario Ministry of the Environment for a site-specific standard to reduce its emissions of hexavalent chromium to only 85%, instead of meeting the new standard of 99% reduction.

There are some important facts worth noting:

- The World Health Organization states that any exposure to hexavalent chromium is too much because it is so carcinogenic.
- Health Canada states that there is a definitive connection between hexavalent chromium and lung cancer as well as a host of other serious medical conditions.
- Human toxicologists at the Ontario Ministry of the Environment use a benchmark for risk of one case of cancer per million population. Guelph is already at 1 case of cancer per 100,000 population – 10 times worse than the benchmark!
- The Ministry of the Environment is imposing a new air standard of a 99% reduction – nearly zero emissions – for hexavalent chromium.

Under these circumstances, the 85% reduction in emissions proposed by Owens Corning is clearly unacceptable.

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Aphra Zimmerman-Holy

March, 17, 2015

Guelph Tribune, Letter to the Editor

Owens Corning will keep residents posted

http://www.guelphtribune.ca/opinion/owens-corning-will-keep-residents-posted/

Owens Corning thanks all who came out to our March 5 community information sessions, including our employees, neighbours, local officials, and Ministry of the Environment and climate change representatives.

Later this month, the Guelph Glass Plant will submit a request to the ministry for an interim site-specific air standard for hexavalent chromium, which is created as a byproduct of our process. We held the community sessions to provide detailed information on improvements we are making to reduce emissions, and why we are pursuing the ministry's option for a site-specific standard while we continue to drive improvement.

Ministry representatives explained the allowable approaches for compliance. The meetings allowed the community to ask unlimited questions and provide their input.

I encourage those who are interested to visit project website at ocguelph.com, where all the materials from the sessions are posted. We will post our request to the ministry on the website in early April, after it is submitted. The ministry will publish its draft decision on the Environmental Registry, www.ebr.gov.on.ca, under the Environmental Bill of Rights and provide an opportunity for additional public comment.

Owens Corning is committed to keeping our community in Guelph informed throughout this process.

Charles White
Plant Manager
Owens Corning Guelph Glass Plant

March 23, 2015

Guelph Mercury, Letter to the Editor

Owens Corning will post request in early April

http://www.guelphmercury.com/opinion-story/5516896-owens-corning-will-post-request-in-early-april/

Re: Fibreglass plant goes public with pollution proposals — March 6
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Appendix G – Comment Sheet Responses

March 5, 2015

- Written Questions and Statements from Public Meeting