Clarington

MEMO

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To: Mayor and Members of Council

From: Ryan Windle, Director of Planning and Development Services

Date: April 11, 2021

File No.: PLN 21.2.7.3

Re: Item 14.1, St. Marys Cement – Bowmanville Site, Environmental Compliance Approval Amendment for the Expanded Use of Alternative Low Carbon Fuels

On April 6, 2021 at the Planning and Development Committee, delegate Wendy Bracken addressed Committee regarding the Environmental Compliance Approval (ECA) Amendment announced by the Environmental Registry of Ontario (ERO) on April 1, 2021 relating to the expanded use of Alternative Low Carbon Fuel (ALCF) at St. Marys Cement's (SMC) Bowmanville Site. Ms. Bracken expressed concern that the ECA amendment does not address the recommendations and concerns that Clarington and residents submitted to the Ministry of Environment, Conservation and Parks (MECP). Ms. Bracken added that the range of material types approved for use as ALCF is significantly broader than what was tested during the demonstration project carried out by SMC in 2019, and therefore she feels the potential air emissions from the use of ALCF have not been adequately assessed. Ms. Bracken requested Committee direct Staff to report back whether the Municipality's comments had been addressed. The delegation was referred by Committee to Staff to report back at the April 12, 2021 Council meeting by Resolution #PD-114-21.

SMC published their Notice of Intention to Apply for expanded ALCF use at their Bowmanville Site in August 2019. ALCF includes non-hazardous, residual wastes left after the separation of recyclables (i.e. paper fibres and plastics derived from industrial and/or consumer sources; plastics not suitable for composting) and certain types of biomass (i.e. woody residuals, not suitable for recycling or composting). This announcement followed the completion of a pilot project to demonstrate the use of ALCF at the SMC Bowmanville Site as a partial substitute for Petroleum Coke ("petcoke") the current fossil fuel being replaced) and assess the potential environmental effects.

SMC's proposal for expanded ALCF use included increasing the daily throughput of ALCFs from 96 tonnes per day to 400 tonnes per day. In March 2020, following the completion of supporting studies and a consultation program, SMC submitted an application to the MECP for the required ECA Amendment. The proposal was posted on the ERO for a 45-day comment period, from July 8 to August 22, 2020. On April 1, 2021, notice of the ECA Amendment being granted was posted on the ERO.

As outlined in the ERO Decision Summary, the ECA Amendment Approval includes the following requirements:

- Annual source testing (including for dioxins and furans);
- Continuous emissions monitoring for the verification of air emissions (SO2, NO2 and Total Particulate Matter) and process conditions;
- Sampling and analysis of the ALCF material used;
- Implementing operational procedures for ALCF use, storage and inspection of facilities;
- Documentation and record-keeping;
- Reporting to the MECP and the public including annual compliance reporting; and
- Complaints response and reporting.

Clarington submitted three comment letters to the MECP responding to SMCs ECA Amendment application. The letters are provided as Attachment 1 – 3, and are summarized as follows:

- Letter dated August 22, 2020 – Municipal comments in response to ERO posting number 019-2055 (Attachment 1);
- Letter dated November 5, 2020 – Additional comments prepared on behalf of the Municipality by Dillon Consulting Limited (Attachment 2); and
- Letter dated February 24, 2021 – Additional community concerns received by the Municipality (Attachment 3).

A summary of the Municipality's comments and concerns is provided in Attachment 4. The summary also includes Staff's interpreted response by the MECP based on a review of the ERO Decision Summary and Amended ECA Approval Number 6729-BYRJEP, issued March 31, 2021. In addition, the summary takes into account correspondence received from Golder Associates Ltd., on behalf of SMC, in response to Clarington's August 22, 2020 letter. A complete copy of the letter received from Golder Associates Ltd., dated December 18, 2020, is provided as Attachment 5.

In her delegation, Ms. Bracken expressed her opinion that the approval granted is not protective of public health and encouraged Council to consider filing an appeal to the decision. Third-party rights to appeal are applicable to the subject ECA Amendment Approval.

The appeal process requires that the appellant first obtain leave to appeal (i.e. get permission) from the Environmental Review Tribunal (ERT). The ERT will consider the following two questions in deciding whether to grant leave to appeal:

1. Is there good reason to believe that no reasonable person, with respect to the relevant law and to any government policies developed to guide decisions of that kind, could have made the decision?

2. Could the decision the appellant wishes to appeal result in significant harm to the environment?

If leave to appeal is granted, the appellant must submit a comprehensive Notice of Appeal to the ERT. A deadline for doing so is specified by the ERT when leave to appeal is granted. If an appeal is granted, the ECA Amendment Approval would be put on hold.

The Municipality retained Dillon Consulting Limited (Dillon) to assist Council and Staff to understand and comment on the technical air quality components, regulatory requirements and cumulative impacts of SMC's ECA Amendment application. The review briefing completed by Dillon, dated October 23, 2020 (Attachment 2), states that "the methods followed [by SMC] appear to be reasonable and in line with provincial guidance and industry standards." The use of ALCF by SMC represents a shift away from burning petcoke to achieve a reduction in greenhouse gas emissions from the cement production process. Based on Dillon's review of the available source testing reports and an additional research review, Dillon recommends "that the conclusions presented with respect to emissions expected from the increased ALCF scenario at SMC are reasonable." No additional studies were recommended at this time to characterize emissions. Dillon further concludes that:

> Studies completed by SMC show that the increase in ALCF throughput would lead to an insignificant increase in emissions and local airshed impacts. The assertion of no significant change in emissions was confirmed through a review of available research.

A determination of whether the ECA Amendment Approval is protective of public health is beyond Staff's area of expertise and is what we rely on the Staff of MECP and the Public Officer of Health to determine.

In response to Council and community concerns relating to cumulative impacts, Council has directed Staff to work with MECP and industry to set up a real-time air quality monitoring network within the Municipality. MECP Staff provided a review of available air quality data for the south Clarington area in July 2018, entitled Overview of Ambient Air Monitoring Programs in Durham Region. Although there are limitations with the data, the findings of this assessment indicated that "analysis shows that air quality in Durham Region is similar to that of other urban settings in southern Ontario and the Greater Toronto Area." As an initial step in considering Council's request, MECP Staff have agreed to update this summary and will be carrying out additional monitoring with TAGA units in Clarington in the summer of 2021. SMC are willing to work with Staff from Clarington and MECP as part of this endeavour. Representatives of the Durham York Energy Centre will be invited to participate as well.

With the ECA Amendment now approved, Council may wish to reaffirm the Municipality's desire for collaboration between SMC and the Region of Durham to achieve the objective of using ALCF and reducing the need for expansion of the Durham York Energy Centre. In addition, requests that Council could make of SMC from a community benefits standpoint may include the following:

- Making ALCF permitting and environmental performance and compliance reporting publicly available on SMCs website, including Source Testing reports, Carbon Dioxide Emission Intensity reports and annual compliance reports;
- Posting of SMCs protocol for receiving and responding to questions and concerns from the public on the company's website; and
- Expanding the monitoring parameters at SMC's ambient air monitoring stations, thus contributing to a more comprehensive data set for the MECPs review of local air quality.

Should Council wish to appeal the MECP's decision on the ECA Amendment Approval, the Municipality is required to submit application to seek leave to appeal before April 16, 2021. The application must specify the portions of the decision being appealed, the reasoning, and the relief being requested. In other words, it must be stated how the decision is unreasonable, what the possibility of significant harm to the environment is based on, and a proposed remedy.

Sincerely,

Ryan Windle
Director, Planning and Development Services

cc: June Gallagher, Municipal Clerk
Andy Allison, CAO
Robert Maciver, Director of Legislative Services

Attachment 1 – Comment letter, dated August 22, 2020
Attachment 2 – Comment letter, dated November 5, 2020
Attachment 3 – Comment letter, dated February 24, 2021
Attachment 4 – Comments and MECP Response Summary
Attachment 5 – Response letter, Golder Associates Ltd., dated December 18, 2020

Clarington

August 22, 2020

Client Services and Permissions Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. West
1st Floor
Toronto, ON M4V 1P5

Email: enviropermissions@ontario.ca

Dear Sir/Madam:

Re: Municipality of Clarington Comments
St. Marys Cement – Bowmanville Site
Application for Amendment to Environmental Compliance Approval No. 0469-9YUNSK (ERO Number 019-2055)

Please accept this letter as the comments of the Municipality of Clarington with respect to the application submitted by St. Marys Cement (SMC), a company of Votorantim Cimentos North America, for an amendment to Environmental Compliance Approval (ECA) Number 0469-9YUNSK to expand their current use of Alternative Low Carbon Fuel (ALCF) as an energy source for their Bowmanville Cement Plant (the Site). The subject application has been prepared under Ontario Regulation 79/15 of the Environmental Protection Act, which sets out the environmental permitting process and requirements for energy-intensive industries, such as cement manufacturers, to use ALCF in place of carbon dioxide emission intensive fossil fuels (i.e. coal and petroleum coke).

SMC currently has an ECA to use woody materials as an ALCF at the Site. In 2018, SMC undertook a pilot project to demonstrate and further assess the potential impacts of the use of other types of ALCF. This proposal builds from the results of the demonstration project and seeks to expand the use of ALCFs at the Site from the current 100 tonnes of ALCFs used per day to 400 tonnes of ALCFs per day (approximately 30% thermal replacement of the conventional fuels used at the Site), as well as the types of ALCFs used. In addition, SMC is seeking to install new equipment and to increase the ALCF storage capacity to accommodate the expansion.

The Municipality of Clarington has reviewed the application and documentation submitted by SMC in support of the application. Posting of the application details for comment has occurred during the Municipality's summer recess of Council. As such, the comments provided herein are those of staff and do not represent the position of Council. As described further in the Air Quality and Cumulative Effects section of this comment letter, the Municipality is in the process of retaining technical expertise in air quality to provide advice and recommendations to Council in relation to this proposal.

We anticipate that the Technical Expert will report to Council in October 2020, after which further comments will be submitted to the Ministry of Environment, Conservation and Parks (MECP).

Greenhouse Gas Emissions Reduction

A key objective of the proposal is to reduce SMC's greenhouse gas emissions. In 2018, the Municipality completed a community greenhouse gas emissions inventory update for the 2015 reporting year to track progress from the baseline year of 2007. This included for the first-time supplemental reporting of the contribution of large industrial emitters in Clarington. The inventory update found that the combustion of coal and petroleum coke by SMC at the Site represented nearly 25 per cent of total 2015 community emissions, while process emissions generated from lime calcination and feed oxidation processed at the Site represented 52 per cent of the total 2015 community emissions.

In March 2020, the Municipality joined over 400 Canadian municipalities and 1300 local governments in 25 countries in declaring a Climate Change Emergency. This declaration confirms and prioritizes the Municipality's commitment to protecting our economy, ecosystems and community from climate change through the reduction of greenhouse gas emissions and building resilience. The greenhouse gas emissions footprint of the community is significantly influenced by SMC. The Municipality supports the objective of greenhouse gas emissions reduction at the Site.

As required by O.Reg. 79/15, SMC has submitted a Carbon Dioxide Emission Intensity Report in support of the application. The results of the analysis showed that the ALCFs tested have significantly lower carbon dioxide emission intensity values than samples of conventional fuels taken from the Site. The Carbon Dioxide Emission Intensity Report does not account for other factors that will change the greenhouse gas emissions profile for the Site. A lifecycle analysis approach should take into consideration the net effect on greenhouse gas emissions generated from the transport of fuel (conventional versus ALCF) to the Site, the emissions released from the consumption of fuel at the Site, and the transportation and disposal of materials removed from the Site as a result of pre-screening.

SMC is required by Ontario Regulation 390/18 to report their greenhouse gas emissions annually and to have third-party verification of their annual emissions report. While the publicly available data reports the amount of greenhouse gases (carbon dioxide equivalent) emitted by SMC from the combustion of biomass, the available data does not provide for an on-going demonstration of the carbon dioxide emissions intensity reduction that is being achieved or the contribution to any established greenhouse gas reduction targets that the facility is trying to achieve.

It is understood that a fuel testing program to regularly monitor the carbon dioxide intensity of the ALCF used at the Site will be implemented. However, we request clarification on the frequency of this analysis and the mechanism for reporting. In addition to regular, publicly available reporting to demonstrate whether the objectives of

the ALCF legislation are being met or exceeded, we request that SMC share with the community the contribution that the use of ALCF has on reducing total annual greenhouse gas emissions from the Site using a baseline established before the practice of using ALCF as a fuel source.

Land Use, Zoning and Site Development

The Site is designated “Aggregate Extraction Area,” “General Industrial Area,” “Environmental Protection Area”, and “Special Policy Area C” in the Clarington Official Plan and zoned “M3-1 (Extractive Industrial Special Exception 1)” and “M3-2 (Extractive Industrial Special Exception 2)” in Comprehensive Zoning By-law 84-63. These documents permit a cement manufacturing facility, quarry, and uses that are ancillary to the manufacturing facility and quarry on the Site. The uses proposed by the subject application are considered ancillary to the cement manufacturing facility and are therefore permitted by the Official Plan and Zoning By-law.

In addition to the adjacent land uses identified in the ECA application submitted by SMC, it is important to note that there are residential and recreational areas in immediate proximity to the SMC Site. The Site is located within the Bowmanville Urban Area of Clarington.

The documentation submitted to the MECP to support the subject application provides minimal details relating the proposed changes to existing on-site buildings and structures. In addition, some inconsistencies in the information related to ALCF buildings and structures were noted and as a result, it is not clear whether the construction of a new, secondary ACLF building is proposed.

SMC has a Site Plan granted under Section 41 of the Planning Act that applies to the existing ALCF building. An expansion to the existing ALCF building and/or the erection of a new building/structures will require amendment of the Site Plan Approval issued for the ALCF building and the issuance of building permits pursuant to the Ontario Building Code.

ALCF Sources and Supporting Regional Waste Management Objectives

The proposal does not indicate the service area from within which ALCF will be sourced. While the Municipality appreciates the potential benefits to SMC of having flexibility in this regard, we do not support Clarington becoming a location of convenience for waste diversion of Ontario’s Industrial, Commercial and Institutional sectors.

Clarington is the host community for the Durham York Energy Centre (DEYC), where all of Durham Region’s residential waste and a portion of waste generated by households in York Region is disposed of. Significant growth rates in Durham Region have contributed to the DYEC reaching capacity sooner than originally estimated. To free-up capacity and postpone the need for expansion of the DYEC, the Region of Durham is pursuing the development of a mixed waste pre-sort and anaerobic digestion facility,

also sited in Clarington. From a community benefits standpoint, the Municipality strongly encourages SMC to identify opportunities to collaborate with the Region of Durham to achieve the objective of using ALCF and reduce the need for expansion of the DYEC.

ALCF Receipt, Processing and Storage

The introduction of O.Reg. 79/15 provided a streamlined approvals process for the use of ALCF for Ontario's cement sector. Changes included the removal of the requirements for proponents to obtain a waste ECA for disposal sites. Information that would typically be clearly described by proponents in a waste ECA application for a site to manage and process waste (e.g. maximum daily or annual receiving limits; maximum storage capacity limits) is not clearly indicated in the subject application or supporting documents. This makes it difficult to fully understand the actual scale of the proposed operations.

The application is seeking approval to increase the daily throughput of ALCF at the Site to 400 tonnes. However, the *Alternative Low Carbon Fuel Handling Procedures and Testing Manual* (St. Marys Cement, March 2020) indicates that the ALCF system will have a feeding system designed with a feed rate of up to 10 tonnes per hour. At this feed rate, the maximum quantity of ALCF throughput that could be achieved over a 24-hour period is 240 tonnes. How will the additional throughput be achieved?

While the application indicates that SMC is seeking approval for new equipment to support the ALCF, few details are provided. The Municipality requests confirmation that all new equipment proposed to support the ALCF expansion has been considered in the assessment of air and noise requirements and potential impacts associated with the proposal. This includes the new conveyance system to the kiln burner, pre-processing rotary cutter and drum or belt magnetic separator that have been referenced in the supporting documents to the application.

The *Emission Summary and Dispersion Modelling Report* (BCX Environmental Consulting, March 2020) indicates that unloading of ALCF will be a completely enclosed process. How is ALCF feedstock inspection occurring to remove undesirable materials or reject undesirable loads if there is direct feed to the conveyor?

Clarification on proposed ALCF storage at the Site is requested in order to provide fulsome comments. A maximum six-month storage duration for any one load is proposed; however, the maximum quantity of ALCF to be stored at any one time is not known. The *Alternative Low Carbon Fuel Handling Procedures and Testing Manual* (St. Marys Cement, March 2020) indicates that there may be outdoor storage. The proposed location for this is not clearly indicated in any of the supporting documents. Outdoor storage raises questions about how ALCF moisture levels, run off, and potential nuisance impacts, such as litter and odour, would be managed. The Municipality does not support the outdoor, unclosed storage of ACLF. Further, Darlington Creek, which crosses the Site, is in close proximity to the existing ALCF

building and portions of the Site are within the regulatory limits of the Conservation Authority. Consultation with CLOCA should be undertaken.

Traffic Impacts

The application has considered the potential impacts of the additional traffic to/from the Site relating to the delivery of ALCF. As noted in the *Traffic Impact Study* (AECOM, January 2020), the increased number of trucks will have a negative impact on the adjacent intersections. These intersections are already at capacity, so any additional traffic will make the condition worse.

The intersections that are studied are all under the jurisdiction of the Ministry of Transportation (MTO). SMC should consult with MTO regarding the operation of these intersections.

The Municipality will be undertaking rehabilitation of the Bowmanville Avenue bridge over the Canadian National Railway line in the fall of 2020 and spring/summer 2021. We have been in consultation with SMC through the design. There will be temporary traffic signals to control traffic through the construction zone and the intersection of Bowmanville Avenue and Energy Drive. This will cause disruption of traffic to SMC during construction.

The work will include permanent widening of the sidewalk on the west side of Bowmanville Avenue and removal of the northbound left turn lane at the intersection of Bowmanville Avenue and Energy Drive. There will be only a northbound through-left lane. The southbound lanes will be permanently changed to include a southbound through lane and a southbound right turn taper.

The increased heavy truck traffic will impact the lifespan of the infrastructure on Bowmanville Avenue and will increase the lifecycle cost of maintaining the road and bridge in good condition.

MTO is currently doing design work for the rehabilitation of Bowmanville Avenue over Highway 401 with construction to take place in the next couple of years. This will result in significant traffic disruption during construction. MTO is considering options for permanent operational improvements at the Bowmanville Avenue interchange, which may include signals at the intersections of Bowmanville Avenue at Energy Drive and Energy Drive at the Highway 401 ramps. They are also considering extending the Highway 401 eastbound off ramp.

The *Traffic Impact Study* (AECOM, January 2020) is based on an anticipated increase in two-way trips of up to 35 per day. This is based on the assumption that 7 days of material will be delivered over 4 days and that the deliveries will be spaced out through the day similar to existing traffic patterns. SMC should confirm that this assumption is correct since any spike in traffic would have additional impact on the affected intersections and should be part of the discussions with MTO.

Air Quality and Cumulative Effects

The Municipality appreciates the work undertaken by SMC to complete the additional supporting *Air Quality Study and Cumulative Effects Assessment* (BCX Environmental Consulting, January 2020). We request that air quality and the cumulative effects of the proposal on the community be a key consideration as part of a thorough and comprehensive assessment by the MECP. Is the advancement of greenhouse gas reduction being achieved at the cost of impacted air quality or community health?

This proposal is only one of two environmental permitting processes that are now underway within Clarington involving the thermal treatment of municipal solid waste. The Site is located approximately 4 km east of the DYEC, which is undergoing a concurrent Environmental Screening Process to increase processing capacity from 140,000 to 160,000 tonnes per year. Council and residents have concerns with the potential cumulative effects of these projects within what is perceived to be an already burdened airshed. Questions have also been raised about specific contaminants of concern, including fine particulate matter (PM2.5), dioxins and furans, nitrogen oxides (NOX), sulphur dioxide (SO2), and Benzo(a)pyrene. Further, the allowance for the industry to use emissions trading for sulphur dioxide and nitrogen oxides has seen the Site benefit from other locales in Ontario.

Given the technical complexity of the air quality aspects of the subject application and the on-going Environmental Screening Process for the DYEC, it is difficult for Council members and staff to understand the inter-relationships between the project requirements, their potential cumulative effects, and the adequacy of their respective monitoring programs and overall ambient air quality monitoring for the area. As such, in accordance with Council direction, staff are in the process of seeking independent, technical expertise to provide advice and assist with interpretation and commenting. We anticipate that the Technical Expert will report to Council in October 2020, after which further comments will be submitted to the MECP on the subject application.

While we understand that a key objective of the use of ALCF in the cement sector is the reduction of greenhouse gas emissions rather than providing a waste management solution, we cannot discount the fact that this proposal would result in a substantial amount of waste being brought to the Municipality for final disposal by means of a thermal treatment process. Accordingly, the Municipality expects SMC will ensure the facility incorporates and utilizes modern, state of the art, emissions control technologies that meet or exceed provincial standards for the protection of human health and the environment. The Site should be required to meet the most current and stringent air emissions levels, and not be grandfathered as “existing.”

Details on how the air emissions from the facility will be monitored and reviewed is important to community understanding of the proposal. The application does not include details about the frequency and scope of continuous emissions monitoring, on-going source testing or ambient emissions monitoring proposed for the Site. These details are requested, including information on the application of *Ontario’s Guideline A-7: Air Pollution Control, Design and Operation Guidelines for Municipal Waste Thermal*

Treatment, to the project, as well as a comparison of the proposed air quality monitoring program for the Site to the requirements of the DYEC. The Municipality requests the opportunity to review and seek clarification on the air quality monitoring program and related requested information prior to MECP making a decision on the ECA amendment application.

In addition to SMC's existing ambient air quality monitors, a network of air monitoring stations is present in the vicinity of the property, including ambient air monitoring equipment for the DYEC and a long-term ambient air monitoring station at the Durham College Oshawa Campus. Data is also available for temporary ambient air monitoring stations installed as part of the Highway 407/418 construction. These monitoring stations contributed to the completion of a review of local air quality undertaken by the MECP in 2018. MECP's *Technical Memorandum: Overview of Ambient Air Monitoring Programs in Durham Region* summarizes the analysis of air quality data in the Region for years 2013 to 2016. The Municipality requests MECP undertake an updating of this report to include data to 2020, with regular updating thereafter.

Other, more specific, preliminary comments based on the initial review of air quality reports submitted in support of the subject application are as follows:

- The *Emission Summary and Dispersion Modelling Report* (BCX Environmental Consulting, March 2020), completed a portion of the analysis using a designation of the site as being in a rural setting. The Municipality is concerned with this determination. As indicated, the Site is located with the Bowmanville Urban Area of Clarington. A residential neighbourhood comprised of approximately 100 households is located directly east of the property along the Lake Ontario shoreline, and extensive residential neighbourhoods exist immediately north of the Site, on the north side of Highway 401. In addition, commercial and mixed-use areas, a designated Major Transit System Area, and both the East Bowmanville and South Bowmanville Industrial Parks are located within a 3 km radius of the property boundary (see enclosed map).
- The generation of PM2.5 by SMC and the DYEC has been an on-going concern of Council. While previous presentations by SMC to Council have indicated that the contribution of PM2.5 to the community by the Site is low, the *Emission Summary and Dispersion Modelling Report* (BCX Environmental Consulting, March 2020) identifies PM2.5 as a primary emission from the facility. As stated, the Municipality requests that ambient air monitoring for the Site be consistent with that of the DYEC, including PM2.5.
- The *Air Quality Impact Study and Cumulative Effects Assessment* (BCX Environmental Consulting, January 2020) uses the current sulphur dioxide Ambient Air Quality Criteria value of 690 ug/m^3. Air standards for sulphur dioxide were updated in 2018. While a phase in period is currently underway, the new standards will take effect is less than three years. To align with the conservative approach that has been taken with the analysis completed by SMC, to address community concerns, and recognizing the new standard will come into effect in

sequence with or very soon after the potential start-up of expanded operations, the Municipality requests that the most current standards be used.

- The following discrepancies in data amongst the supporting documents have been identified:
    - Differing clinker production rates of 1.8 million tonnes per year [*Carbon Dioxide Emission Intensity Report* (Golder Associates, January 2020) and the *Air Quality Study and Cumulative Effects Assessment* (BCX Environmental Consulting, January 2020)] and 2.4 million tonnes per year [Alternative Low Carbon Fuels Handling Procedures and Testing Manual (St.Marys Cement, March 2020)].
    - Differing maximum production rates of 5500 tonnes per day [*Air Quality Study and Cumulative Effects Assessment* (BCX Environmental Consulting, January 2020)] and 5800 tonnes per day [*Carbon Dioxide Emission Intensity Report* (Golder Associates, January 2020)].

Consultation and Complaints Management

An extensive consultation program was carried out by SMC as part of preparing the ALCF permit application. Timing of the release of the final supporting documents for the proposal, which coincided with the onset of the COVID-19 pandemic, effected our ability to complete our review and submit comments to the MECP and SMC prior to the Environmental Registry deadline and influenced in part the hiring of air quality technical expertise. As previously mentioned, we anticipate submitting additional comments to the MECP.

As SMC continues through the permitting process, we would like to see on-going active engagement and education of the community about ALCF including, potential benefits of ALCF use, potential environmental and nuisance impacts mitigation, monitoring and measuring that will occur, and how questions and concerns can be communicated and addressed. Continuation and regular updating of the project website, along with on-going engagement of the St. Marys Cement Community Relations Committee are ideal forms for this to occur.

Further, the Municipality requests that a complaints management and resolution protocol be documented and made publicly available. This has been a requirement of many significant undertakings in the community and helps to clearly and openly communicate to the public a company's commitment to open dialogue with the community and to hearing and addressing concerns.

More specifically with respect to nuisance odour complaints management, the Municipality encourages SMC become involved in the odours management stakeholders group being led by the Region of Durham in collaboration with other waste management and large industrial operators in the South Courtice / South Bowmanville area of Clarington, including Covanta, Miller Waste Systems, Ontario Power Generation and Waste Management (of Canada). While the purpose of using ALCFs at the Site is not waste disposal, the quantities of waste that will be managed are comparable and

possibly greater than other nearby facilities. We anticipate public perception of nuisance impacts, including odour, may arise in the community as a result of the project.

In closing

Thank you for the opportunity to provide comments on the application by St. Marys Cement under Alternative Low Carbon Fuels Regulation O.Reg. 79/15 relating to their cement manufacturing operations in Clarington. Additional comments from the Municipality will be submitted to MECP and SMC once our consultant has had time to review and provide advice and recommendations to Council. We request to continue to be advised about the project and opportunities to comment and provide input and will continue to track its progress.

Should you have any questions on the contents of this letter or require any further information from us, please contact Amy Burke, Acting Manager – Special Projects Branch at 905-623-3379 Ext. 2423 or aburke@clarington.net.

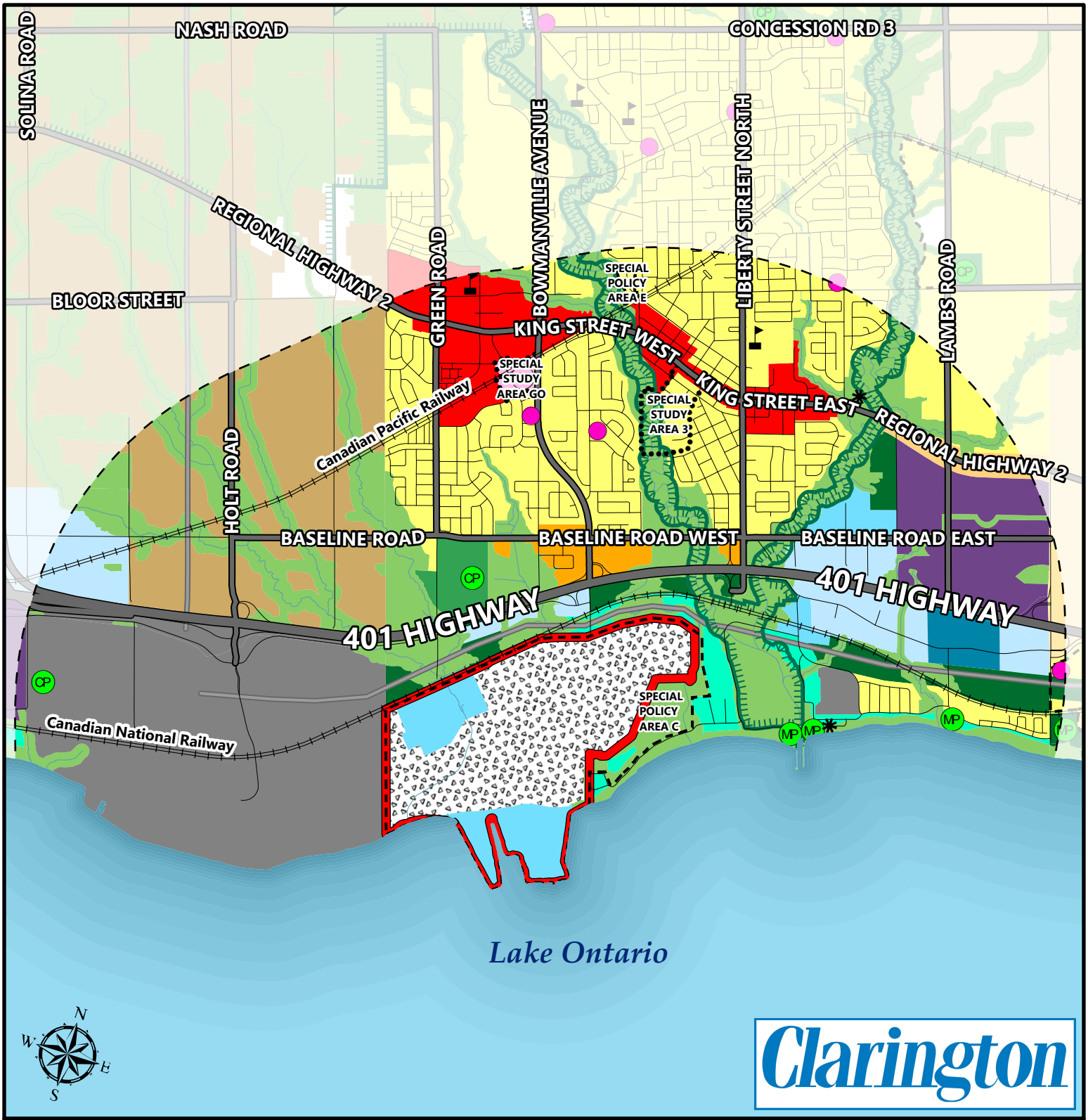
Sincerely,

Faye Langmaid

Faye Langmaid, RPP, FCSLA
Acting Director of Planning and Development Services
Municipality of Clarington

Cc: Mayor and Members of Council
CAO and Director of Public Works
Ruben Plaza, Environmental Manager – Canada, St. Marys Cement
Sarah Schmied, Project Manager, Golder Associates Ltd.
Celeste Dugas, MECP, York-Durham District Office
Philip Dunn, MECP, York-Durham District Office
Kim Lendvay, MECP, York-Durham District Office
Susan Siopis, Commissioner of Works, Regional Municipality of Durham

Enclosure



Official Plan Land Use within 3Km of St. Marys Cement

- St. Marys Cement
- 3km From St. Marys
- Tourism Node
- GO Station
- Neighbourhood Centre
- Community Park
- Municipal Wide Park
- Secondary School
- Special Policy Area
- Special Study Area
- Special Study GO Area
- Aggregate Extraction Area
- Greenbelt Boundary
- Aggregate Extraction
- Business Park
- Community Park
- Environmental Protection
- Gateway Commercial
- General Industrial
- Light Industrial
- Green Space
- Prestige Employment
- Prime Agriculture
- Regional Corridor
- Rural
- Transportation Hub
- Urban Centre
- Urban Residential
- Utility
- Waterfront Greenway

Clarington

November 5, 2020

Sushant Agarwal, Senior Air Review Engineer
Environmental Permissions Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. West, 1st Floor
Toronto, ON M4V 1P5

Email: Sushant.Agarwal@ontario.ca

Dear Mr. Agarwal:

Re: Municipality of Clarington Comments
St. Marys Cement – Bowmanville Site
Application for Amendment to Environmental Compliance Approval No. 0469-9YUNSK (ERO No. 019-2055; Ministry Ref. No. 0051-BN9Q3S)
Our File: PLN 21.2.7.3

In our letter dated August 22, 2020, the Municipality of Clarington submitted comments and questions to the Ministry of Environment, Conservation and Parks (MECP) relating to the proposed expanded on-going use of Alternative Low Carbon Fuels (ALCF) at the St. Marys Cement (SMC) – Bowmanville Plant. Within our letter it was indicated that the Municipality was in the process of retaining a consultant to assist Council and staff to understand and comment on the technical air quality components, inter-relationships, regulatory requirements, and cumulative impacts of the proposal, and that supplementary comments would be forthcoming. We appreciate the opportunity provided by the MECP to submit the enclosed additional comments on SMC's proposal, prepared on behalf of the Municipality by Dillion Consulting Limited (Dillion).

Dillion's scope of work included a review of relevant supporting studies and documents, a review of key areas of concern for the Municipality and the community, and to augment the Municipality's role on commenting to the MECP. Their scope did not comprise a detailed peer review of the air quality and cumulative emissions aspects of SMC's proposal. A detailed technical review of all aspects of SMCs proposal is the responsibility of the MECP as a component of their consideration of SMC's Environmental Compliance Approval Amendment application.

In summary, the findings of Dillion's review indicate that the approach and analysis of studies completed by SMC for the proposed expanded use of ALCF appear to be reasonable and aligned with provincial guidance and best practices, and that the studies completed demonstrate "an insignificant increase in emissions and local airshed impacts." Further, Dillion concurs with the Municipality's air quality-related comments and recommendations previously submitted to the MECP.

In addition to the requests made in our August 22, 2020 letter, Dillion has recommended that the Municipality pursue collaboration between the MECP and local industry to establish a local real-time air quality monitoring network. This recommendation was endorsed by Clarington Council on November 2, 2020. We would like to initiate discussion with the MECP about this undertaking and kindly request confirmation of the appropriate Ministry contact to engage.

Thank you for the opportunity to provide comments on the application submitted by SMC for an amendment to Environmental Compliance Approval Number 0469-9YUNSK to expand their current use of ALCF as an energy source for their cement manufacturing operations in Clarington. Please be advised that we have requested a written response from SMC to our August 22, 2020 comment letter and appreciate their concurrence to do so. We request to continue to be advised about the project and opportunities to comment and provide input, and will continue to track the project's progress.

Should you have any questions on the contents of this letter, or require any further information from us, please contact me at 905-623-3379 Ext. 2423 or aburke@clarington.net.

Sincerely,

Amy Burke
Acting Manager – Special Projects Branch
Planning and Development Services
Municipality of Clarington

Cc: Mayor and Members of Council
CAO and Director of Public Works
Ruben Plaza, Environmental Manager – Canada, St. Marys Cement
Sarah Schmied, Project Manager, Golder Associates Ltd.
Celeste Dugas, MECP, York-Durham District Office
Philip Dunn, MECP, York-Durham District Office
Kim Lendvay, MECP, York-Durham District Office
Susan Siopis, Commissioner of Works, Regional Municipality of Durham
Hamish Corbett-Hains, Associate, Senior Air Quality Engineer, Dillion Consulting

Enclosure

Memo

To:	Amy Burke, Senior Planner, Municipality of Clarington
From:	Hamish Corbett-Hains, Associate, Senior Air Quality Engineer, Dillon Consulting Limited
cc:	Ravi Mahabir, Partner, Dillon Consulting Limited
Date:	October 23, 2020
Subject:	Briefing on St. Marys Cement's proposal to increase its throughput of Alternative Low Carbon Fuel (ALCF)
Our File:	20-3534

Background

Dillon Consulting Limited (Dillon) was retained by the Municipality of Clarington (the Municipality) to provide support in commenting on the proposal by St. Marys Cement Bowmanville (SMC) to increase the site's throughput of Alternative Low Carbon Fuel (ALCF).

Dillon's scope included a review of select SMC documents to understand the background on the proposed project, a review of key areas of concern identified by the Municipality, and development of this briefing note that documents key findings and responses to key concerns.

This briefing note is not a detailed peer review of the documents referenced to assess accuracy, rather it is a review of the general approach and findings of the air quality studies presented to guide the Municipality in responding to the SMC proposal. In conducting this review, Dillon therefore relied on the information provided by other consultants.

Review of the Studies

Dillon reviewed air emissions studies that were completed by SMC and submitted to the Ministry of the Environment, Conservation and Parks (MECP). These studies included: source testing reports, an Emissions Summary and Dispersion Modeling Report (ESDM Report), and an Air Quality Cumulative Effects Study, collectively referred to in this brief as "the Studies".

Dillon did not perform a peer review of the Studies, which would involve independently confirming key technical aspects such as air dispersion modelling input parameters. However, in reviewing the Studies Dillon notes that the methods followed appear to be reasonable and in line with provincial guidance and industry standards. Specifically, the following were noted:

- The Studies characterized the change in emissions through source testing, which is considered the most accurate approach to quantifying emissions.
- The Studies include air dispersion modelling of the Facility which appears to meet the standards of the MECP's regulatory approval process.
- The Studies include a cumulative effects analysis of SMC, with consideration of background air quality in the Municipality as well as the Durham York Energy Centre (DYEC). Cumulative effects

analysis is not a requirement in Ontario; the inclusion of this analysis is warranted considering the complexity of the proposal and provides additional context.

- The Studies have compared the proposed changes at SMC against the appropriate criteria for both the industrial regulatory assessment and the cumulative effects study.

Key findings from the review are described in greater detail below:

- The Studies found no significant difference between emissions in the baseline scenario (current operations) and the increased ALCF scenario.
  - The source testing reports concluded that there was no statistically significant change in emissions between SMC operating on conventional fuels versus ALCF.
  - It is noted that statistical significance can be difficult to accurately characterize when a small number of data points are used, as was the case in the source testing report (i.e.; 3 tests for each parameter).
  - Based on the findings of the source testing as well as the discussion in the "Literature Review" section of this brief, Dillon recommends that the conclusions presented with respect to emissions expected from the increased ALCF scenario at SMC are reasonable. Dillon does not recommend that any additional studies are required at this time to characterize emissions as a result of the proposed changes at SMC.
- The Studies predict compliance with MECP air quality criteria.
  - The ESDM Report for the site characterizes emissions in accordance with industry practices, including source testing and engineering calculations.
  - The ESDM Report documents that the proposed change will comply with the MECP's O.Reg.419/05 air quality standards and associated point of impingement criteria.
  - The ESDM application is subject to a detailed technical review by the MECP's air quality engineers. Provided that the MECP accepts the findings presented in the ESDM, Dillon does not recommend that further studies are required to demonstrate compliance with the provincial requirements for industrial air quality.
- The Studies include a Cumulative Effects Study which found that there is predicted to be no significant impact on local air quality.
  - The Cumulative Effects Study is not a requirement under Ontario's regulatory framework but is an appropriate analysis in light of the concerns being raised.
  - The Cumulative Effects Study generally follows industry practices.
  - The Cumulative Effects Study predicts that cumulative air quality would meet MECP air quality criteria.
  - The air quality benchmarks used within this study were the MECP's Ambient Air Quality Criteria (AAQCs), the Canadian Ambient Air Quality Standards (CAAQS) and, in the absence of these, the MECP's point of impingement criteria. These are appropriate benchmarks for a cumulative effects study.
  - The study found that there is no predicted change in cumulative air quality associated with the use of additional ALCF (as proposed by SMC).
  - The study considered the potential future impacts of an increase in throughput at DYEC.
  - It is noted that to characterize baseline conditions for volatile organic compounds (VOCs) this study relied on a series of single day, ambient air quality monitoring events that were conducted on individual days in September and December 2018. This provides a limited ambient air quality data set which may under-predict ambient concentrations of VOCs. As discussed in the

"Literature Review" section of this brief, there is no evidence to suggest that the ALCF proposal at SMC would result in increased VOC emissions. Therefore, the potential to under-predict ambient concentrations of VOCs is unlikely to impact the findings of the Studies.
    - Dillon does not recommend that further studies are required to characterize the cumulative impacts to air quality as a result of the SMC ALCF proposal.

Literature Review

In addition to reviewing the referenced documents, Dillon drew upon the findings of research conducted by Richards, G et. al. (Air emission from the co-combustion of alternative derived fuels within cement plants: Gaseous pollutants, January 2015) in formulating recommendations. This research reviewed emissions of key indicator compounds (Carbon Monoxide (CO), Carbon Dioxide (CO_2), Nitrogen Oxides (NO_2), Sulphur Oxides (SO_x), Hydrogen Fluoride (HF), Hydrogen Chloride (HCl) and Total VOCs (TVOCs)) associated with varying types of Alternative Derived Fuels (ADF). Dillon's review focused on ADF samples that were similar to the ALCF types proposed by SMC (i.e.; included biomass, cellulosic, and plastic materials).

The findings of the review of this research were that:

- SO_x emissions increased but not due to ADF use.
    - There was potential for increase in SO_x emissions with increased ADF throughout.
    - A regression analysis showed correlation between this increase and process related parameters (e.g. precalciner firing rate, average meal feed rate, average clinker produced, excess air).
    - Therefore increases in SO_x emissions were not linked to ADF throughput, but other process related parameters.
- HCl emissions increased but not due to ADF use.
    - Similar to SO_x emissions, there was a measured increase in HCl emissions with increased ADF throughput.
    - Analysis of the overall process attributed these changes to changes in process parameters (e.g. average meal feed and clinker produced, kiln flame and gas temperature).
- The study found that the use of ADF (or ALCF in the context of SMC) "...within different cement kilns were shown to have minimal influence when compared to baseline emission rates, or significantly reduced the unit mass emission factor of gaseous pollutants".

The overall findings of Dillon's review of the Studies and literature are:

- The Studies completed by SMC provide a reasonable level of characterization of the potential for the proposal to comply with the MECP's air quality criteria, and demonstrate an insignificant change in cumulative air quality.
- Testing conducted on other cement kilns, using similar ALCF types, shows no significant change from baseline emissions and also a potential for a reduction in emissions of specific compounds.
- Dillon does not recommend that further studies are needed to assess the proposed change to SMC's operations. Dillon recommends that efforts on managing air quality within the Region should focus on the development of a real-time air monitoring network, as described in the following section.

Review of Key Concerns Raised

The Municipality has put forward key considerations for review. Each key consideration is identified below, followed by a response to each.

- Provincial Sulphur Dioxide (SO_2) emissions trading across large industrial facilities means that the SMC Bowmanville facility may be compromising air quality in the local airshed and benefiting from emissions trading with other sites.

  Response:

  The SMC Bowmanville facility complies with the SO_2 air quality criteria and the Cumulative Effects study shows that cumulative air quality is predicted to be within relevant air quality criteria. The MECP's air quality criteria are developed to be protective of human health impacts.

  There are other Ontario jurisdictions with regional air quality concerns who have implemented local air quality monitoring networks to provide reliable high-quality data for regional-level analysis. Two notable examples include the industry-funded HAMN network in Hamilton and the industry-funded CASA network in Sarnia. The collection and public posting of regional data provides a greater level of transparency to the community and can be beneficial in identifying and evaluating long-term issues.

  As the public becomes increasingly aware and concerned about air quality matters, local data that provides a feedback loop to industry and also provides ongoing management of the airshed is emerging as a key tool to enhancing industry-community relations. From Dillon's experience, many of the successful deployment of community ambient air quality networks are industry funded.

  It is recommended that the Municipality could work with the MECP and industry (e.g. SMC, DYEC) to set up a real-time air quality monitoring network within the Municipality. This monitoring network would measure and report on a range of key air quality indicators including SO_2.

- Particulate matter with aerodynamic diameter less than 2.5µm ($PM_{2.5}$) should be assessed and is of concern.

  Response:

  The Cumulative Effects Study completed by SMC predicts that the proposed project will not have a significant impact on $PM_{2.5}$ levels within the local airshed.

  This finding was confirmed by data within one SMC presentation that showed that $PM_{2.5}$ concentrations locally are driven by regional air quality events, and not local sources of emissions.

  It is recommended that the Municipality work with the MECP and industry (e.g. SMC, DYEC) to set up a real-time air quality monitoring network within the Municipality. This

monitoring network would measure and report on a range of key air quality indicators including $PM_{2.5}$.

- Dioxin and Furan emissions are of concern and should be addressed.

  Response

  The Cumulative Effects Study completed by SMC assessed the impacts on Dioxins and Furans from SMC on the local airshed, drawing upon emissions testing from demonstration tests at SMC. The results showed an insignificant change in Dioxins and Furans emissions as a result of the project and no significant impact on the local airshed.

  Additionally, the limited potential for increases in dioxins and furans, and possible decreases in these emissions, when using select types of ALCF has been documented in research by Richards G, et. al. (Dioxin-like pcb emissions from cement kilns during the use *of alternative fuels, October 2016*).

- The proposed changes at SMC (increased throughput of ALCF) and the proposed changes at DYEC (increased throughput of waste) will both compound the stress on the local airshed.

  Response

  SMC's proposal for increased throughput of ALCF in their cement kilns differs from DYEC's proposal for increased waste throughput. Unlike the DYEC proposal, the SMC proposal does not include an overall increase in the quantity of fuel consumed.

  It has been noted earlier in this review that emissions testing and modeling conducted in support of SMC's proposal has shown that there is not likely to be an impact on local air quality.

  This is based on SMC using "biomass, cellulosic and plastic materials derived from industrial and/or post-consumer sources, which cannot be recycled, are not considered hazardous and are not derived from animals or the processing and preparations of food". This material stream is distinctly different from general (non-hazardous) municipal solid waste that is processed at DYEC, which is likely to lead to differences in emissions potentials from the two sites.

  Further, DYEC and SMC have different processes (cement kilns, versus thermal treatment of waste) that could add to differences in key emissions from the two sites.

  These differences in emissions potential and key air quality indicators from the two proposals are important to consider in the review of information and studies from both sites.

  Regardless of the proposal for expansion at DYEC, the studies completed for SMC predict ongoing compliance with provincial criteria and demonstrate an insignificant change in cumulative air quality.

Conclusions

Dillon was retained by the Municipality to provide support in commenting on the proposal by SMC to increase the site's throughput of ALCF. Dillon's scope included a review of select SMC documents to understand the background on the proposed project, a review of key areas of concern identified by the Municipality and development of a briefing that documents key findings and responses to key concerns.

The findings of the review are as follows:

- Studies completed by SMC show that the increase in ALCF throughput would lead to an insignificant increase in emissions and local airshed impacts. The assertion of no significant change in emissions was confirmed through a review of available research.
- It is recommended that the Municipality work with the MECP and industry (e.g. SMC, DYEC) to set up a real-time air quality monitoring network within the Municipality.

Clarington

February 24, 2021

Sushant Agarwal, Senior Air Review Engineer
Environmental Permissions Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. West, 1st Floor
Toronto, ON M4V 1P5

Email: Sushant.Agarwal@ontario.ca

Dear Mr. Agarwal:

Re: St. Marys Cement – Bowmanville Site
Application for Amendment to Environmental Compliance Approval No. 0469-9YUNSK (ERO no. 019-2055; Ministry Ref. No. 0051-BN9Q3S)
Our File: PLN 21.2.7.3

Since submission of our comment letter dated November 5, 2020, on the subject Application, Clarington Council and Staff have continued to hear concerns from the community relating to the air quality assessment aspects of St. Marys Cement's Alternative Low Carbon Fuel (ALCF) proposal. As the Ministry of the Environment, Conservation and Parks (MECP) proceeds through their detailed technical review of the application, we submit the following key concerns raised for your review and consideration.

- The types of ALCFs being sought for permanent approval appears to be much broader than the ALCF types tested during the demonstration project. How is this variability and any potential differences in the resulting air emissions taken into account?
- A full consideration of "worst-case scenario" emissions should involve modelling using the kiln stack emission limits set out in Environmental Compliance Approval 0469-9YUNSK. Of particular concern is the absence of modelling using the kiln stack emission limit for dioxins and furans of 80 pg/Rm^3 as ITEQ.
- While the Cumulative Effects Assessment considered the Region of Durham's proposal to increase the annual processing capacity at the near-by Durham York Energy Centre (DYEC) from 140,000 to 160,000 tonnes per year, the Region is currently updating this information in consultation with the MECP as they complete their Environmental Screening Process for the project. Concern was raised that the Technical Memorandum data was drawn from had not undergone a technical review by the MECP. Will the results of the updated air quality impact assessment for the 160,000 tonnes per year scenario be taken into account by

St. Marys Cement and/or the MECP and any potential changes to the results of the Cumulative Effects Assessment be considered?

- Stack emission limits, continuous emissions monitoring parameters and ambient air monitoring requirements should be as stringent for the proposed undertaking as required for the DYEC.

As indicated in our previous correspondence on November 2, 2020, Clarington Council passed Resolution #C-449-20 respecting comments from Dillon Consulting Limited on St. Marys Cement's proposal, which included the following direction:

> *That Municipal Staff be requested to work with MECP and industry (e.g. SMC, DYEC) to set up a real-time air quality monitoring network within the Municipality.*

Consistency in ambient air quality monitoring between the two sites would support this undertaking and we encourage its consideration by St. Marys Cement and the MECP. We understand the MECP is currently reviewing our request and look forward to discussing this potential initiative with the MECP and local stakeholders.

Should you have any questions or require any future information, please contact me at 905-623-3379 ext. 2423 or aburke@clarington.net.

Sincerely,

Amy Burke
Acting Manager – Special Projects Branch
Planning & Development Services
*av

Cc: Mayor and Members of Council
Director of Planning & Development Services
CAO and Director of Public Works
Ruben Plaza, Environmental Manager – Canada, St. Marys Cement
Sean Capstick, Principal, Golder Associates Ltd.
Celeste Dugas, MECP, York-Durham District Office
Ravi Mahabir, Partner, Dillon Consulting Limited

Attachment 4 - Comments and Response Summary
St. Marys Cement - Bowmanville Site, Environmental Compliance Approval Amendment
for the Expanded Use of Alternative Low Carbon Fuels

	Clarington Comments (supplemented by Air Quality Advisor, Dillon Consulting)	Response (MECP ECA Amendment Approval and SMC's Consultant, Golder Associates)
Greenhouse Gas Emissions Reduction		
1a	The Municipality supports the objective of greenhouse gas emissions reduction at the Site.	SMC indicates the O.Reg. 79/15: Alternative Low Carbon Fuels and the intended use of ALCFs at the site seeks to reduce greenhouse gas emissions.
1b	Carbon dixoide emission intensity reporting should use a lifecycle analysis approach, also taking into consideration the transportation impacts associated with the use of ALCF.	The ERO Decision Summary states that SMC demonstrated meeting the requirements set out in O.Reg. 79/15: Alternative Low Carbon Fuels. ECA conditions 12.1 - 12.2 stipulate carbon dioxide emission intensity reporting annually, using a representative sample of ALCF and traditional fuel at the time that source testing is being undertaken. Reporting is to be done in accordance with the requirements set out in O.Reg. 79/15.
1c	Request clarification on the frequency of fuel testing / carbon dixoide emissions reporting.	ECA condition 12.1 - 12.3 sets out requirements for carbon dixide emission intensity. The frequency corresponds with the frequency of source testing. Source testing is required annually (ECA condition 11.3).
1d	Request that SMC share with the community the contribution that the use of ALCF has on reducing total annual greenhouse gas emissions from the Site using a baseline established before the practice of using ALCF.	ECA condition 12.3 requires SMC to submit the carbon dixoide emission intensity report, prepared annually, to the MECP York-Durham District Manager. SMC indicates that greenhouse gas reporting will be discussed with SMCs Community Relations Committee.
Land Use, Zoning and Site Development		
2a	The uses proposed are permitted by the Official Plan and Zoning By-law.	Acknowledged by SMC
2b	An expansion to the existing ALCF building and/or the erection of a new building/structures will require amendment of the Site Plan Approval issued for the ALCF building and the issuance of building permits pursuant to the Ontario Building Code.	SMC has concurred that they will address all municipal approval requiremets.
ALCF Sources and Supporting Regional Waste Management Objectives		
3a	Request clarification on the service area from within which ALCF will be sourced from.	The ECA does not define a service area. SMC indicates that the ALCFs will primarily be sourced locally.
3b	The Municipality encourages SMC to identify opportunities to collaborate with the Region of Durham to achieve the objective of using ALCF and reduce the need for expansion of the DYEC.	SMC indicates that discussions with the Region of Durham have been initiated.
ALCF Receipt, Processing and Storage		
4a	Request clarification on the throughput for the Site, noting a variance between the daily ALCF throughput of 400 tonnes per day and the feeding system feed rate.	ECA condition 7.3 sets out a maximum daily processing rate for ALCF of 400 tonnes per day. With respect to the feed rate, SMC indicates that feed system feed rate will be increased over time to achieve the maximum approved daily processing rate. ECA condition 8.4 requires SMC to prepare within three months of the ECA being issued procedures for the handling, processing and combustion of ALCFs.

	Clarington Comments (supplemented by Air Quality Advisor, Dillon Consulting)	Response (MECP ECA Amendment Approval and SMC's Consultant, Golder Associates)
4b	Request confirmation that all new equipment proposed to support the ALCF expansion has been considered in the assessment of air and noise requirements and potential impacts associated with the proposal.	The stated scope of the application of the ECA includes ALCF processing, storage and handling, including the equipment and other ancilliary processes and activities. SMC has indicated that all new equipment required for ALCF use will be enclosed. ECA condition 8 requires SMC to prepare within three months of the ECA being issued procedures to prevent or minimize a range of potential impacts including air, odour, and noise emissions.
4c	Request clarificaton of the process for inspecting ALCF prior to use.	ECA condition 9 sets out requirements for ALCF analysis and criteria for acceptance from vendors. The conditions include a requirement to update the Site's most current Emission Summary and Dispersion Modelling Report if the anlysis indicates the potential for higher contaminant emission rates from the cement kiln than was considered by the ESDM. The ECA does not include conditions for for ALCF inspection that has met the criteria for acceptance. SMC confirmed that inspection will occur upon the receipt of waste, but clarification as to how with an enclosed system in place was not given.
4d	Request clarification on the location, quantity and duration of storage. The Municipality does not support the outdoor, unenclosed storage of ALCF.	ECA condition 8.8 requires that ALCF be securely stored indoors or in enclosed containers. ALCFs may only be stored for the purposes of use in the cement kiln. Maximum quantity and duration limits for ALCF storage are prescribed in O.Reg. 79/15, which SMC is required to comply with.
Traffic Impacts		
5a	SMC should consult with the MTO regarding the increase in truck traffic as it relates to adjacent intersections, which are under MTOs jurisdiction and are already at capacity.	SMC has indicated that MTO has been notified of the proposal.
5b	The increased heavy truck traffic will impact the lifespan of the infrastructure on Bowmanville Avenue, including the Municipal bridge at Bowmanville Avenue over the CNRail line, increasing the lifecycle cost of maintaining the road and bridge in good condition.	This concern is not included within the jurisdiction of the ECA Amendment Approval.
5c	Request clarification of the assumptions made in the Traffic Impact Study (AECOM, January 2020) and whether the potential for traffic spikes was considered.	SMC indicates that the assumptions included in the Traffic Impact Study were based on a worst-case scenario and that the expected traffic volumes are less.
Air Quality and Cumulative Effects		
6a	The Municipality requests that air quality and the cumulative effects of the proposal on the community be a key consideration as part of a thorough and comprehensive assessment by the MECP, and further that the advancement of greenhouse gas emissions not be achieved at the cost of impacted air quality or community health.	The MECP considered the cumulative effects assessment completed by SMC as part of their review of SMCs ECA Amendment application. The MECP has agreed to update the July 2018, Overview of Ambient Air Monitoring Programs in Durham Region (south Clarington area) and will be carrying out additional monitoring with TAGA units in Clarington in the summer of 2021.

	Clarington Comments (supplemented by Air Quality Advisor, Dillon Consulting)	Response (MECP ECA Amendment Approval and SMC's Consultant, Golder Associates)
6b	The Municipality expects SMC will ensure the facility incorporates and utilizes modern, state of the art, emissions control technologies that meet or exceed provincial standards for the protection of human health and the environment.	No direct response. However, SMC is required to maintain compliance with O.Reg. 419/05: Air Pollution - Local Air Quality. When new standards are put in place, SMC will be required to maintain compliance with those.
6c	The Site should be required to meet the most current and stringent air emissions levels, and not be grandfathered as "existing."	ECA condition 4 sets out performance limits for air, noise and vibration emissions. SMC is required to maintain compliance with O.Reg. 419/05: Air Pollution - Local Air Quality. Stack emssion limits are precribed in Schedule B of the ECA and include compliance emission limits for Total Particulate Matter and Dixoins and Furans. The in-stack emission limits align with the parameters and parameter concentrations set out in Ontario's Guideline A-7: Air Pollution Control Design and Operations Guidelines for Municipal Waste Thermal Treatment, Table 2 limits for existing cement and lime kilns burning municipal waste.
6d	Request for clarification on the proposed frequency and scope of continuous emissions monitoring, source testing and ambient air emissions monitoring, as well as the application of Ontario's A-7 Guideline to the project.	ECA condition 10 sets out requirement for SMC to undertake continuous emissions monitoring (CEM) in the kiln stack. Parameters to be monitoring continually are limited to Nitrogen Oxides, Sulphur Dioxide and Total Particulate Matter. Guideline A-7 include a broader list of parameters to consider for continous or long-term monitoring. No comment was provided on the MECPs reasoning for the CEMs parameters selected. ECA condition 11 sets out requirements for source testing, including the frequency (annually), procedure and parameters to be tested for. Ambient air monitoring is not prescribed in the ECA. SMC is required to maintain compliance with O.Reg. 419/05: Air Pollution - Local Air Quality.
6e	Request for a comparison of the proposed air quality monitoring program for the SMC Bowmanville Site to the requirements of the DYEC.	Request not granted.
6f	Request the opportunity to review and seek clarification on the air quality monitoring program and related requested information prior to MECP making a decision on the ECA amendment application.	Request not granted.
6g	Reqeust the MECP update the Technical Memorandum: Overview of Ambient Air Monitoring Programs in Durham Region (MECP, July 2018), with regular updating thereafter.	The MECP has agreed to an initial update of this document, and to include in the update the results of monitoring with TAGA units in Clarington in the summer of 2021.
6h	Request clarification on the designation of the site in the Emission Summary and Dispersion Modelling Report (BCX Environmental Consulting, March 2020) as being in a rural setting.	SMC indicates that the use of "rural setting" is based off a definition for the MECP meteorological dataset for use in the air dispersion modelling.
6i	Request that ambient air monitoring for the Site be consistent with that of the DYEC, including PM2.5.	Ambient air monitoring is not prescribed in the ECA. SMC is required to maintain compliance with O.Reg. 419/05: Air Pollution - Local Air Quality. SMC will maintain their existing ambient air monitoring program, which consists of continous monitoring for PM10 and non-continous monitoring for PM10 and Dustfall.

	Clarington Comments (supplemented by Air Quality Advisor, Dillon Consulting)	Response (MECP ECA Amendment Approval and SMC's Consultant, Golder Associates)
6j	Request that SMC be required to update the Air Quality Impact Study and Cumulative Effects Assessment (BCX Environmental Consulting, January 2020) to take into account the updated suphur dioxide ambient air quality criteria value that are being phased in and will soon take effect.	Not granted. SMC used the criteria value that is currently in effect. SMC has recently completed the installation of a wet scrubber, intended to reduce SMCs sulphur dioxide emissions.
6k	Potential discrepancies clinker and product production rates amongst the supporting documents were identified.	SMC confirmed that the various rates given in the supporting documents were correct.
Consultation and Complaints Management		
7a	Actively engage the public throughout the remainder of the permitting process about the proposed use of ALCF, including how questions and concerns can be communicated and addressed.	Staff can confirm that updates were provided to SMCs Community Relations Committee between submission of the ALCF application and issuance of approval by the MECP. Regarding on-going operations, ECA condition 16.2 requires that SMC make the required annual compliance report available to the public by posting on SMCs website and making it available for review at the Bowmanville Site immediately after it is submitted to the MECP. The annual compliance report is due to the Ministry by June 30 of each year.
7b	Request a complaints management and resolution protocol and that the protocol be made publicly available.	ECA condition 14 sets out requirements for complaints recording and reporting. All environmental complaints from the public are to be recorded, investigated and reported on. The MECP York-Durham District Manager is to be notified of each environmental complaint within two days of SMC receiving the complaint. A summary of environmental complaints received and actions taken is to be included in the annual compliance report.
7c	The Municipality encourages SMC to become involved in the odours management stakeholders group being led by the Region of Durham in collaboration with other waste management and large industrial operators in the South Courtice / South Bowmanville area of Clarington, including Covanta, Miller Waste Systems, Ontario Power Generation and Waste Management (of Canada).	No comment.
Key Community Concerns		
8a	Concern that supporting studies have not fully assessed the range of ALCF material types proposed. Request clarification on how the potential differences in the resulting air emissions is taken into account.	No comment. ECA condition 7 lists the ACLF types that SMC is approved to use. ECA condition 4 sets out performance limits for air, noise and vibration emissions. These are applicable irrespective of the ALCF being used. SMC is required to maintain compliance with O.Reg. 419/05: Air Pollution - Local Air Quality. Stack emssion limits are precribed in Schedule B of the ECA and include compliance emission limits for Total Particulate Matter and Dixoins and Furans.
8b	ESDM modelling of "worse-case" scenario should account for the kiln stack emission limits set out in Environmental Compliance Approval 0469-9YUNSK.	No comment. Note that the review completed by Dillon, for the Municipality, indicated that the methods followed by SMC were in line with provincial guidance and industry standards.

	Clarington Comments (supplemented by Air Quality Advisor, Dillon Consulting)	Response (MECP ECA Amendment Approval and SMC's Consultant, Golder Associates)
8c	Request clarification on whether the air quality and cumulative effects assessment will be updated using the data from the Durham York Energy Centre Environmental Screening Report for the proposed capacity expansion to 160,000 tonnes per year, once released.	No comment. SMC used the most current data that was available at the time of completing their supporting studies.
8d	Request that stack emission limits, continuous emissions monitoring parameters and ambient air monitoring requirements be as stringent for the proposed undertaking as required for the DYEC.	The ERO Decision Summary includes a response to this concern, stating that SMC has demonstrated compliance with the applicable air and noise requirements. ECA condition 4 sets out performance limits for air, noise and vibration emissions. SMC is required to maintain compliance with O.Reg. 419/05: Air Pollution - Local Air Quality. Stack emssion limits are precribed in Schedule B of the ECA and include compliance emission limits for Total Particulate Matter and Dixoins and Furans. The in-stack emission limits align with the parameters and parameter concentrations set out in Ontario's Guideline A-7: Air Pollution Control Design and Operations Guidelines for Municipal Waste Thermal Treatment, Table 2 limits for existing cement and lime kilns burning municipal waste.

December 18, 2020 Project No. 19117137

Amy Burke
Municipality of Clarington
40 Temperance Street
Bowmanville, ON L1C 3A6
ABurke@clarington.net

RE: ALTERNATIVE LOW CARBON FUEL USE AT THE ST MARYS CEMENT BOWMANVILLE PLAN

Ms. Burke,

Thank you for submitting your comments and concerns regarding the Alternative Low Carbon Fuel Application for the St Marys Cement (SMC) Bowmanville Plant. The Project Team's responses to your comments that we received are below in Table 1.

Table 1: Project Team Responses to Comments Received August 22, 2020

ID	Comment	Response
1	**Greenhouse Gas Emissions Reduction.** As required by O. Reg. 79/15, SMC has submitted a Carbon Dioxide Emission Intensity Report in support of application. The report does not account for other factors that will change the greenhouse gas emissions profile for the Site. A lifecycle analysis approach should take into consideration the Net effect on greenhouse gas emissions generated from the transport of fuel (conventional versus ALCF) to the Site, the emissions released from the consumption of fuel at the Site, the emissions released from the consumption of fuel at the Site, and the transportation and disposal of materials removed from the Site as a result of pre-screening. SMC is required by Ontario Regulation 390/18 to report their greenhouse gas emissions annually and to have third-party verification of their annual emissions report. While the publicly available data reports the amount of greenhouse gases (carbon dioxide equivalent) emitted by SMC from the combustion of biomass, the available data does not provide for an on-going demonstration of the carbon dioxide emissions intensity reduction that is being	SMC is already approved and using low carbon fuels to reduce cement making GHG emissions. O. Reg 79/15 is designed to further reduce greenhouse gas (GHG) emissions. The regulation only allows the use of alternative low carbon fuels (ALCFs) that have a lower carbon dioxide emission intensity that is less than the carbon dioxide emission intensity of coal or petcoke. The ALCFs will be primarily sourced from local sources which are expected to have a significantly lower transportation distance than coal or petcoke. The ALCFs that can be accepted are those that cannot be recycled and are therefore destined for landfills. Landfills are a significant source of methane which is an approximately 25 times more powerful GHG than carbon dioxide. All of these factors contribute to the use of ALCFs in a cement plant as a decrease in GHG emissions at the site . The target conventional fuel thermal displacement rate is 30% the expected GHG

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	achieved or the contribution to any established greenhouse gas reduction targets that the facility is trying to achieve. It is understood that a fuel testing program to regularly monitor the carbon dioxide intensity of the ALCF used at the Site will be implemented. However, we request clarification on the frequency of this analysis and the mechanism of reporting. In addition to regular, publicly available reporting to demonstrate whether the objectives of the ALCF legislation are being met or exceeded, we request that SMC share with the community the contribution that the use of ALCF has on reducing total annual greenhouse gas emissions from the Site using a baseline established before the practice of using ALCF as a fuel source.	reduction from fuel combustion will be on a similar order of magnitude to this displacement rate and will be tracked as part of the testing procedures. SMC is subject to federal and provincial GHG reporting programs that include 3rd party verification. The use of ALCFs is one of the initiatives that SMC is undertaking to reduce their annual GHG emissions and the emission reduction will be part of this verification. The GHG reporting program data is publicly available and will be discussed at Community Relations Committee meetings.
2	**Land Use, Zoning and Site Development.** In addition to the adjacent land uses identified in the ECA application submitted by SMC, it is important to note that there are residential and recreational areas in immediate proximity to the SMC Site. The Site is located within the Bowmanville Urban Area of Clarington. The documentation submitted to the MECP to support the subject application provides minimal details relating the proposed changes to existing on-site buildings and structures. In addition, some inconsistencies in the information related to ALCF buildings and structures were noted and as a result it is not clear whether the construction of a new, secondary ACLF building is proposed. An expansion to the existing ALCF building and/or the erection of a new building/structures will require amendment of the Site Plan Approval issued for the ALCF building and the issuance of building permits pursuant to the Ontario Building Code.	The residential receptors of the communities surrounding the SMC property have been included in the air quality modelling as part of the site application. SMC presented details on the ALCF storage at the second public meeting including that the expansion of storage capacity will include expansion of the existing building and addition of a second building. The new storage capacity will be sufficient to store a little more than two days of ALCF materials at the usage rate of 400 tonnes per day. SMC would be happy to discuss this further with the Municipality of Clarington and will meet all municipal approval requirements.

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3	**ALCF Sources and Supporting Regional Waste Management Objectives** The proposal does not indicate the service area from within which ALCF will be sourced. While the Municipality appreciates the potential benefits to SMC of having flexibility in this regard, we do not support Clarington becoming a location of convenience for waste diversion of Ontario's Industrial, Commercial and Institutional sectors. Clarington is the host community for the Durham York Energy Centre (DEYC), where all of Durham Region's residential waste and a portion of waste generated by households in York Region is disposed of. To free-up capacity and postpone the need for expansion of the DYEC, the Region of Durham is pursuing the development of a mixed waste pre-sort and anaerobic digestion facility, also sited in Clarington. From a community benefits standpoint, the Municipality strongly encourages SMC to identify opportunities to collaborate with the Region of Durham to achieve the objective of using ALCF and reduce the need for expansion of the DYEC.	Once SMC receives the ECA amendment, their Director of Alternative Fuels and Raw Materials will start working with local suppliers, including the Region of Durham. SMC has already met with the Region on various occasions and has initiated discussions for how SMC and the Region can work together and how the Region can be an ALCF supplier for SMC. It is important to note that ALCFs accepted at SMC's Bowmanville Cement Plant are accepted based on strict specifications and thermal heating values for the purpose of producing cement. An incinerator is a different type of facility than SMC's Bowmanville Cement Plant. Energy from waste facilities, are waste management facilities that produce energy from the combustion of household waste. SMC's Bowmanville Cement Plant is a cement plant and is applying to use alternative fuel sources, such as ALCFs to produce quality cement and also reduce GHGs. The types of materials that meet these requirements are very different than the material received by the DYEC.
4	**ALCF Receipt, Processing and Storage** The application is seeking approval to increase the daily throughput of ALCF at the Site to 400 tonnes. However, the Alternative Low Carbon Fuel Handling Procedures and Testing Manual (St. Marys Cement, March 2020) indicates that the ALCF system will have a feeding system designed with a feed rate of up to 10 tonnes per hour. At this feed rate, the maximum quantity of ALCF throughput that could be achieved over a 24-hour period is 240 tonnes. How will the additional throughput be achieved? While the application indicates that SMC is seeking approval for new equipment to support the ALCF, few details are provided. The Municipality requests confirmation that all new equipment proposed to support the ALCF expansion has been considered in the assessment of air and noise requirements and potential	At this time SMC's feed rate can accommodate up to 12 tonnes per hour; however, the plan is to increase the feeding system over time to achieve the 400 tonnes per day. SMC will update the ALCF Handling Procedures and Testing Manual as part of the ECA conditions. All new equipment to support the expanded use of ALCFs at the site will be enclosed and will not have potential impacts to noise or air quality. Inspection of ALCFs will take place upon receipt at the site. SMC has a vendor screening process and works closely to ensure quality of ALCF materials and that they meet the specifications required under O. Reg 79/15, their ECA and O. Reg 419.

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	impacts associated with the proposal. This includes the new conveyance system to the kiln burner, pre-processing rotary cutter and drum or belt magnetic separator that have been referenced in the supporting documents to the application. The Emission Summary and Dispersion Modelling Report (BCX Environmental Consulting, March 2020) indicates that unloading of ALCF will be a completely enclosed process. How is ALCF feedstock inspection occurring to remove undesirable materials or reject undesirable loads if there is direct feed to the conveyor? Clarification on proposed ALCF storage at the Site is requested in order to provide fulsome comments. A maximum six-month storage duration for any one load is proposed; however, the maximum quantity of ALCF to be stored at any one time is not known. The Alternative Low Carbon Fuel Handling Procedures and Testing Manual (St. Marys Cement, March 2020) indicates that there may be outdoor storage. The proposed location for this is not clearly indicated in any of the supporting documents. Outdoor storage raises questions about how ALCF moisture levels, run off, and potential nuisance impacts, such as litter and odour, would be managed. The Municipality does not support the outdoor, unclosed storage of ACLF. Further, Darlington Creek, which crosses the Site, is in close proximity to the existing ALCF building and portions of the Site are within the regulatory limits of the Conservation Authority. Consultation with CLOCA should be undertaken.	The proposed storage capacity at the site will accommodate a little more than two days of ALCFs at the usage rate of 400 tonnes per day. In accordance with the O. Reg 79/15, fuel cannot be stored for more than 18 months, the maximum amount of fuel stored is the amount that is reasonably capable of being combusted at the site during a period of six months, and the fuel stored is to be combusted at the site. As all storage will be indoors, there will be no potential for impacts to Darlington Creek as a result of the use of ALCFs.

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5	**Traffic Impacts** As noted in the Traffic Impact Study (AECOM, January 2020), the increased number of trucks will have a negative impact on the adjacent intersections. These intersections are already at capacity, so any additional traffic will make the condition worse. The intersections that are studied are all under the jurisdiction of the Ministry of Transportation (MTO). SMC should consult with MTO regarding the operation of these intersections. The Municipality will be undertaking rehabilitation of the Bowmanville Avenue bridge over the Canadian National Railway line in the fall of 2020 and spring/summer 2021. We have been in consultation with SMC through the design. There will be temporary traffic signals to control traffic through the construction zone and the intersection of Bowmanville Avenue and Energy Drive. This will cause disruption of traffic to SMC during construction. The Traffic Impact Study (AECOM, January 2020) is based on an anticipated increase in two-way trips of up to 35 per day. This is based on the assumption that 7 days of material will be delivered over 4 days and that the deliveries will be spaced out through the day similar to existing traffic patterns. SMC should confirm that this assumption is correct since any spike in traffic would have additional impact on the affected intersections and should be part of the discussions with MTO.	MTO has been notified of the project throughout project milestones and will be notified of project updates going forward. The assumptions included in the Traffic Impact Study were based on a worst-case scenario, conservative estimate (e.g., seven days of material being delivered over four days was based on deliveries when there is a statutory holiday weekend, assuming no materials would be delivered over the course of the three-day weekend). Typical delivery volumes will be lower.

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Air Quality and Cumulative Effects		
6a	We request that air quality and the cumulative effects of the proposal on the community be a key consideration as part of a thorough and comprehensive assessment by the MECP. Is the advancement of greenhouse gas reduction being achieved at the cost of impacted air quality or community health? This proposal is only one of two environmental permitting processes that are now underway within Clarington involving the thermal treatment of municipal solid waste. The Site is located approximately 4 km east of the DYEC, which is undergoing a concurrent Environmental Screening Process to increase processing capacity from 140,000 to 160,000 tonnes per year. Council and residents have concerns with the potential cumulative effects of these projects within what is perceived to be an already burdened airshed. Questions have also been raised about specific contaminants of concern, including fine particulate matter (PM2.5), dioxins and furans, nitrogen oxides (NOX), sulphur dioxide (SO2), and Benzo(a)pyrene. Further, the allowance for the industry to use emissions trading for sulphur dioxide and nitrogen oxides has seen the Site benefit from other locales in Ontario. Given the technical complexity of the air quality aspects of the subject application and the on-going Environmental Screening Process for the DYEC, it is difficult for Council members and staff to understand the inter-relationships between the project requirements, their potential cumulative effects, and the adequacy of their respective monitoring programs and overall ambient air quality monitoring for the area. As such, in accordance with Council direction, staff are in the process of seeking independent, technical expertise to provide advice and assist with interpretation and commenting. We anticipate that the Technical Expert will report to Council in October 2020, after which further comments will be submitted to the MECP on the subject application.	SMC prepared the air quality and cumulative effects assessment in response to public comments received during the preparation of the application. This report was reviewed by Dillon Consulting Limited (Dillon) on behalf of the Municipality of Clarington. Dillon's review agreed with the Air Quality and Cumulative Effects Assessment, that the increase in ALCF throughput would lead to an insignificant increase in emissions and local airshed impacts. This report is currently under review by the MECP. SMC is committed to responding to community concerns. SMC is required to remain in compliance with O. Reg 419 with the use of ALCFs. MECP regulates O. Reg 419 as standards for protection of human health. MECP is always looking at new regulations for Ambient Air Quality Criteria and makes changes to provincial standards in order to continue to protect human health.

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6b	While we understand that a key objective of the use of ALCF in the cement sector is the reduction of greenhouse gas emissions rather than providing a waste management solution, we cannot discount the fact that this proposal would result in a substantial amount of waste being brought to the Municipality for final disposal by means of a thermal treatment process. Accordingly, the Municipality expects SMC will ensure the facility incorporates and utilizes modern, state of the art, emissions control technologies that meet or exceed provincial standards for the protection of human health and the environment. The Site should be required to meet the most current and stringent air emissions levels, and not be grandfathered as "existing." Details on how the air emissions from the facility will be monitored and reviewed is important to community understanding of the proposal. The application does not include details about the frequency and scope of continuous emissions monitoring, ongoing source testing or ambient emissions monitoring proposed for the Site. These details are requested, including information on the application of *Ontario's Guideline A-7: Air Pollution Control, Design and Operation Guidelines for Municipal Waste Thermal Treatment*, to the project, as well as a comparison of the proposed air quality monitoring program for the Site to the requirements of the DYEC. The Municipality requests the opportunity to review and seek clarification on the air quality monitoring program and related requested information prior to MECP making a decision on the ECA amendment application. In addition to SMC's existing ambient air quality monitors, a network of air monitoring stations is present in the vicinity of the property, including ambient air monitoring equipment for the DYEC and a long-term ambient air monitoring station at the Durham College Oshawa Campus. Data is also available for temporary ambient air monitoring stations installed as part of the Highway 407/418 construction. These monitoring stations contributed to the completion of a review of local air quality undertaken by the MECP in 2018.MECP's Technical Memorandum: Overview of Ambient Air	The DYEC is a different type of facility than SMC's Bowmanville Cement Plant. As stated on the DYEC's website, durhamyorkwaste.ca, the DYEC is a waste management facility that produces energy from the combustion of household waste. SMC's Bowmanville Cement Plant is a cement plant and is applying to use alternative fuel sources, such as ALCFs, to produce quality cement. The process for using ALCFs at a cement plant is different than an energy from waste facility as the materials that can be used are different (e.g., ALCFs to produce cement have to remain compliant with not only MECP regulatory requirements but also compliant with the manufacturing process in order to produce quality cement), and the systems are built differently. The cement kiln operates at extremely high temperatures (1,550 °C) and ALCFs are not introduced into the kiln during start-up or shut-down. The cement kiln also has a long residence time for fuels. SMC is required to maintain compliance with O. Reg 419. When new standards are put in place, SMC will be required to maintain compliance with those. Environmental Compliance Approvals (ECAs) do not grandfather existing standards for approval holders. As indicated in 6a, the Air Quality and Cumulative Effects Assessment report was reviewed by Dillon on behalf of the Municipality of Clarington. Dillon's review agreed with the Air Quality and Cumulative Effects Assessment, that the increase in ALCF throughput would lead to an insignificant increase in emissions and local airshed impacts.

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	Monitoring Programs in Durham Region summarizes the analysis of air quality data in the Region for years 2013 to 2016. The Municipality requests MECP undertake an updating of this report to include data to 2020, with regular updating thereafter.	
6c	The Emission Summary and Dispersion Modelling Report (BCX Environmental Consulting, March 2020), completed a portion of the analysis using a designation of the site as being in a rural setting. The Municipality is concerned with this determination. As indicated, the Site is located with the Bowmanville Urban Area of Clarington. A residential neighbourhood comprised of approximately 100 households is located directly east of the property along the Lake Ontario shoreline, and extensive residential neighbourhoods exist immediately north of the Site, on the north side of Highway 401. In addition, commercial and mixed- use areas, a designated Major Transit System Area, and both the East Bowmanville and South Bowmanville Industrial Parks are located within a 3 km radius of the property boundary (see enclosed map).	Residential receptors of the communities surrounding the SMC property have been included in the air quality modelling. The land use of “rural setting” is based off a definition for the MECP meteorological dataset for use in the air dispersion modelling, not based off of the Municipality of Clarington land-use.
6d	The generation of PM2.5 by SMC and the DYEC has been an on-going concern of Council. While previous presentations by SMC to Council have indicated that the contribution of PM2.5 to the community by the Site is low, the Emission Summary and Dispersion Modelling Report (BCX Environmental Consulting, March 2020) identifies PM2.5 as a primary emission from the facility. As stated, the Municipality requests that ambient air monitoring for the Site be consistent with that of the DYEC, including PM2.5.	The current PM10 monitoring at SMC’s Bowmanville facility is intended to monitor particulate matter concentrations and is approved and validated by the MECP. PM10 includes the fraction of PM2.5 therefore changes in PM2.5 will be reflected in PM10 monitoring. The emissions from the cement kiln are monitored by Continuous Emissions Monitoring (CEMs) to demonstrate that complete combustion in the kiln is occurring and that emissions will be maintained at levels that do not cause adverse impacts. Community PM2.5 levels are impacted by regional issues and are not primary point source related. Community PM2.5 is currently monitored by the Region of Durham and therefore additional PM2.5 monitoring is not required by SMC.

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6e	The Air Quality Impact Study and Cumulative Effects Assessment (BCX Environmental Consulting, January 2020) uses the current sulphur dioxide Ambient Air Quality Criteria value of 690 ug/m3. Air standards for sulphur dioxide were updated in 2018. While a phase in period is currently underway, the new standards will take effect is less than three years. To align with the conservative approach that has been taken with the analysis completed by SMC, to address community concerns, and recognizing the new standard will come into effect in sequence with or very soon after the potential start-up of expanded operations, the Municipality requests that the most current standards be used.	SMC is preparing to advance the addition of a Wet Scrubber to their plant to further reduce air quality contaminants, including sulphur dioxide. This addition is being undertaken independent of the ALCF application.
6f	The following discrepancies in data amongst the supporting documents have been identified: ■ Differing clinker production rates of 1.8 million tonnes per year [*Carbon Dioxide Emission Intensity Report* (Golder Associates, January 2020) and the *Air Quality Study and Cumulative Effects Assessment* (BCX Environmental Consulting, January 2020)] and 2.4 million tonnes per year [Alternative Low Carbon Fuels Handling Procedures and Testing Manual (St. Marys Cement, March 2020)]. ■ Differing maximum production rates of 5500 tonnes per day [*Air Quality Study and Cumulative Effects Assessment* (BCX Environmental Consulting, January 2020)] and 5800 tonnes per day [*Carbon Dioxide Emission Intensity Report* (Golder Associates, January 2020)].	The production rates are both correct as they represent a range. 5500 is the typical rate, while 5800 is the design capacity at a maximum and is not sustainable for continuous use. Both clinker production rates are also correct, 2.4 million tonnes per year is what SMC has approval for under their ECA, while 1.8 million tonnes per year was based off of SMC's best production year to date at their Bowmanville Cement Plant. Conditions on the ECA will require SMC to update the ESDM Report based on actual production at the site to demonstrate ongoing compliance with O. Reg. 419/05.

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7	**Consultation and Complaints Management** An extensive consultation program was carried out by SMC as part of preparing the ALCF permit application. Timing of the release of the final supporting documents for the proposal, which coincided with the onset of the COVID-19 pandemic, effected our ability to complete our review and submit comments to the MECP and SMC prior to the Environmental Registry deadline and influenced in part the hiring of air quality technical expertise. As previously mentioned, we anticipate submitting additional comments to the MECP. As SMC continues through the permitting process, we would like to see on-going active engagement and education of the community about ALCF including, potential benefits of ALCF use, potential environmental and nuisance impacts mitigation, monitoring and measuring that will occur, and how questions and concerns can be communicated and addressed. Continuation and regular updating of the project website, along with on- going engagement of the St. Marys Cement Community Relations Committee are ideal forms for this to occur. Further, the Municipality requests that a complaints management and resolution protocol be documented and made publicly available. This has been a requirement of many significant undertakings in the community and helps to clearly and openly communicate to the public a company's commitment to open dialogue with the community and to hearing and addressing concerns. More specifically with respect to nuisance odour complaints management, the Municipality encourages SMC become involved in the odours management stakeholders group being led by the Region of Durham in collaboration with other waste management and large industrial operators in the South Courtice / South Bowmanville area of Clarington, including Covanta, Miller Waste Systems, Ontario Power Generation and Waste Management (of Canada). While the purpose of using ALCFs at the site is not waste disposal, the quantities of waste that will be managed are comparable and possibly	SMC is committed to ongoing engagement with the Bowmanville community. SMC meets with a Community Relations Committee on a quarterly basis where they discuss ongoing projects and activities that are taking place at the Bowmanville Cement Plant and discuss any concerns and questions from the members. SMC will occasionally bring in experts to address additional concerns at the request of the committee and has provided site tours as requested. Additionally, SMC will continue to post project updates on their website, remains committed to responding to questions from members of the community as they arise and to ongoing open communication with the Municipality of Clarington and the Region of Durham. Odour has not been an issue at the site in the past. Odour is not anticipated to become a concern as part of the use of ALCFs as all delivery and storage of ALCFs will take place in enclosed buildings and containers and the LCF material itself is not a significant source of odours. As part of the ECA a complaints procedure will be put in place for SMC to address complaints received associated with the use of ALCFs.

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	greater than other nearby facilities. We anticipate public perception of nuisance impacts, including odour, may arise in the community as a result of the project.	

Please contact Sean Capstick by phone at 905-567-6100 x1145 or by email at sean_capstick@golder.com if you have any additional questions or comments. You may also wish to contact Ruben Plaza, Corporate Environmental Manager North America, at St Marys Cement at 905-623-3341 or by email at Ruben.Plaza@vcimentos.com.

Yours sincerely,

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https://golderassociates.sharepoint.com/sites/104011/project files/07-deliverables/01_consultation/01_consultrecord-includesnewcomments/response to amy burke-dec2020/smc-bowmanville-alcf-response-to-aburke-18dec2020.docx