



Community Liaison Committee Meeting #43

Tuesday, December 13, 2022



Agenda

1. Review of September 13th, 2022 meeting notes
2. Membership Items
3. Cokemaking Emissions Performance
4. Public Complaints
5. Electric Arc Steelmaking and Environmental Permit Applications
6. Legacy Environmental Action Plan
7. Next Meetings

Membership

Current Members and Alternates

Representation

Algoma Steel
Ministry of Environment, Conservation & Parks
Public
Public
SSM Tribe of Chippewa Indians
Algoma Public Health
Chippewa County Health Dept.
Batchewana First Nations
City of Sault Ste. Marie
United Steel Workers Local 2251
St. Mary's River RAP Coordinator

Primary Member

Fred Post
Lori Jalak
David Trowbridge
Jillian Marquis
Kathie Brosemer
Melissa Francella
Steve Carey
Dan Sayers Jr.
Catherine Taddo
Wayne Hubbard
Lisa Derickx

Alternate

Chris Galizia
Ron Dorscht
Anton Schoahs
Dan Gabor

Chris Spooney
Suzanne Lieurance

Maggie McAuley
Dennis Gagne
John Rankin

Cokemaking Emissions Performance

100% Compliant with the Site Specific Standard leak limits

Key Performance Indicators related to Cokemaking Emissions:

- ▶ average intensity of pushing emissions
- ▶ average duration of charging emissions
- ▶ % lid leaks
- ▶ % off-takes leaks
- ▶ % door leaks

Performance is monitored and calculated daily for each battery

Progressive Annual Reduction

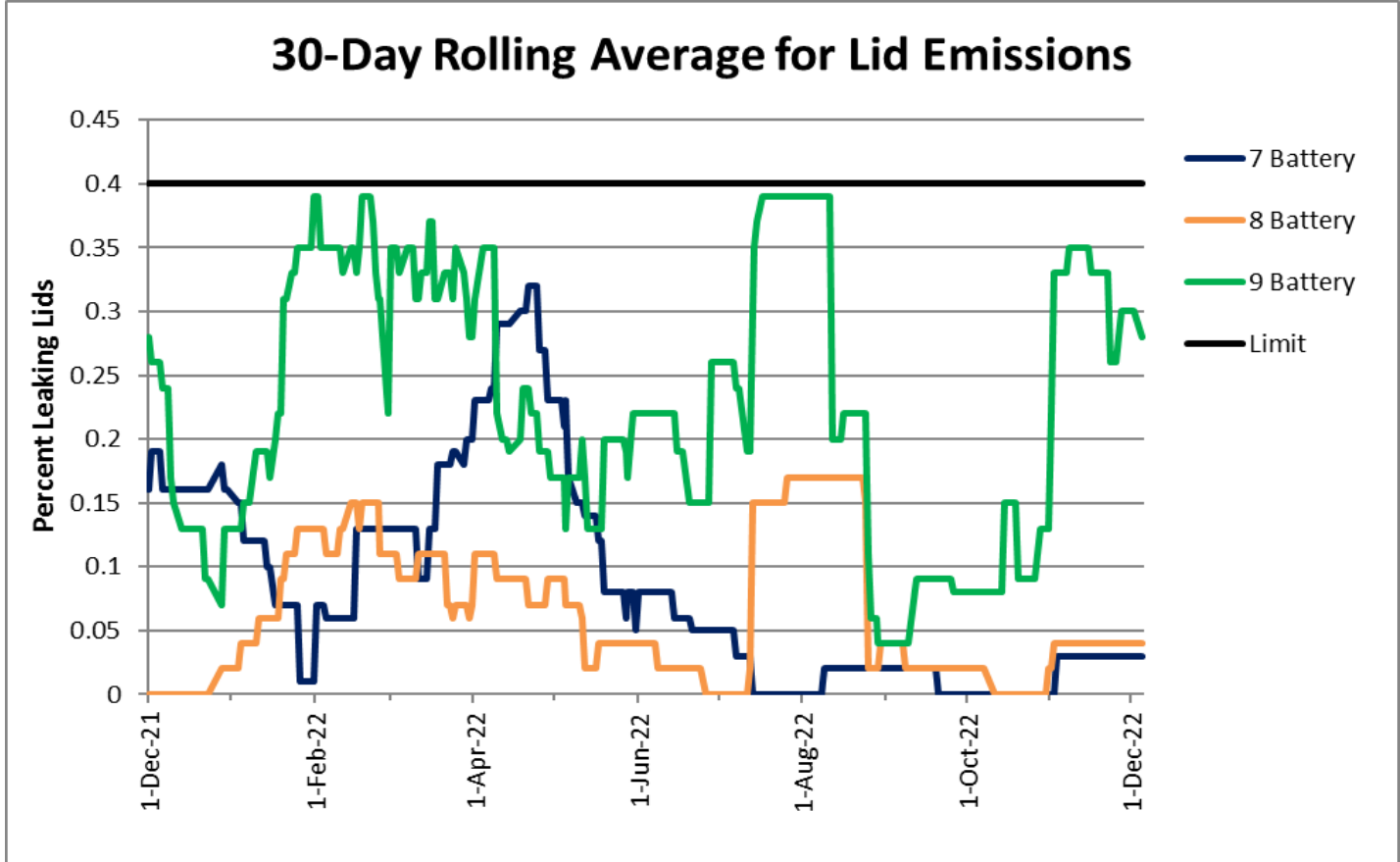
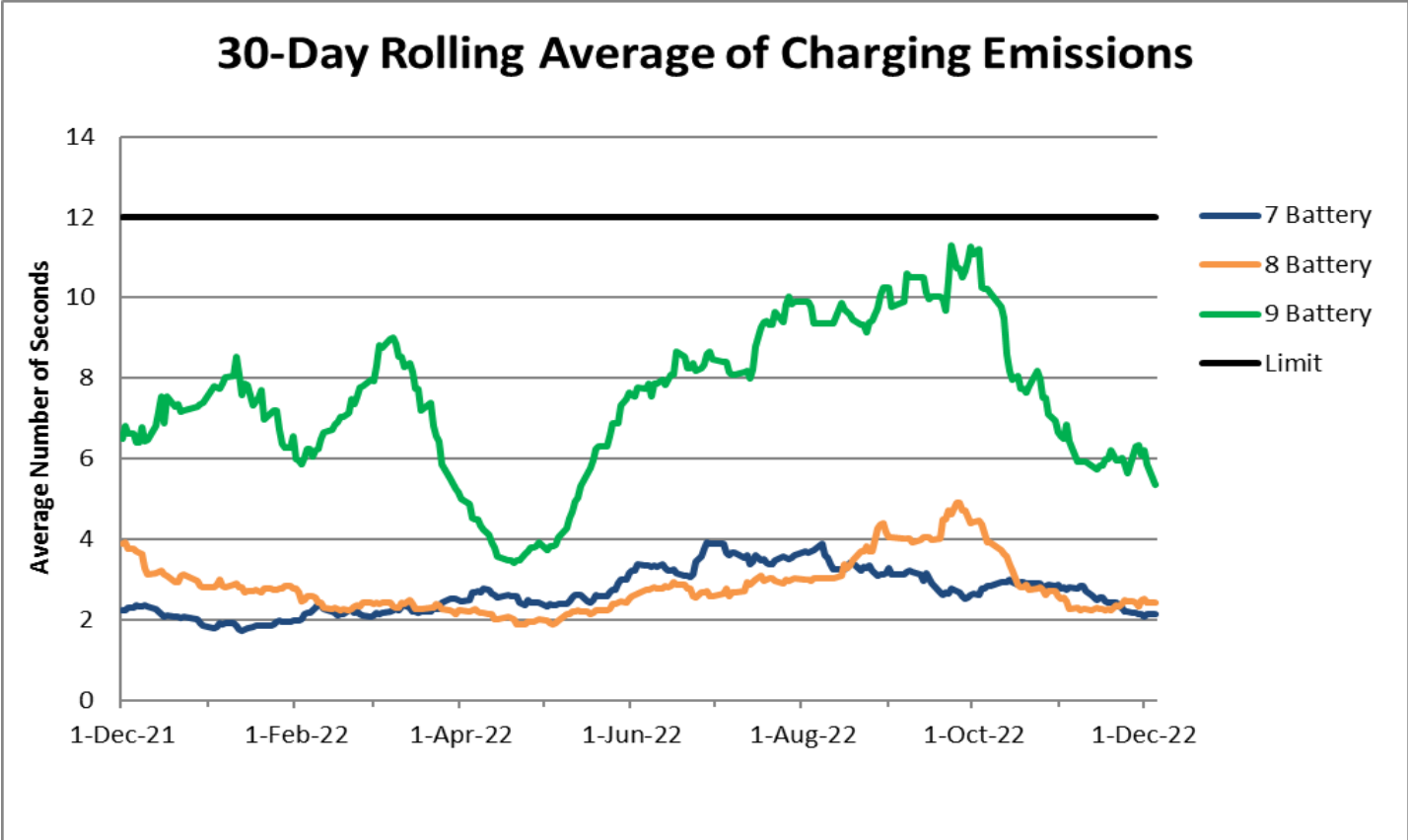
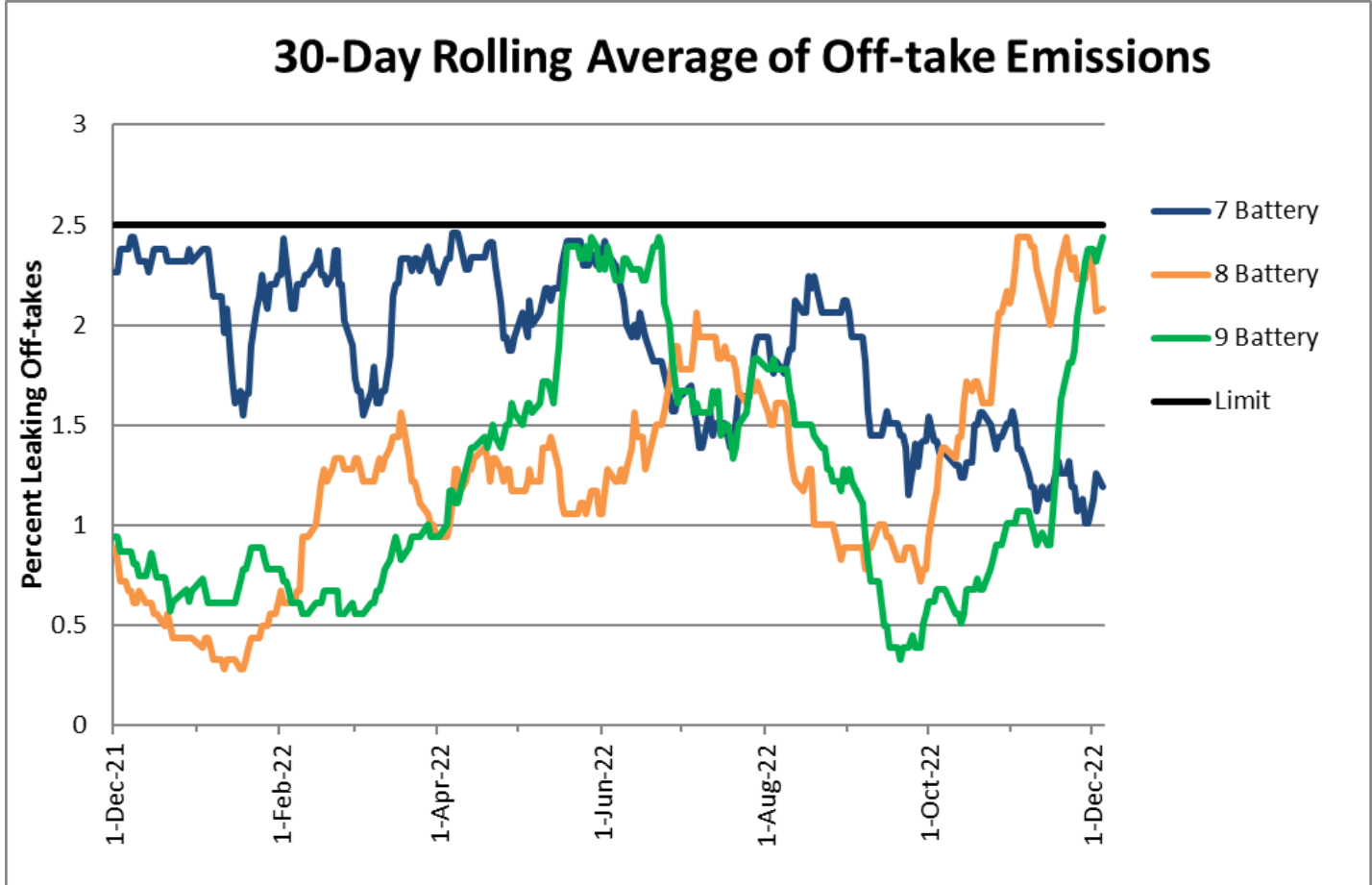
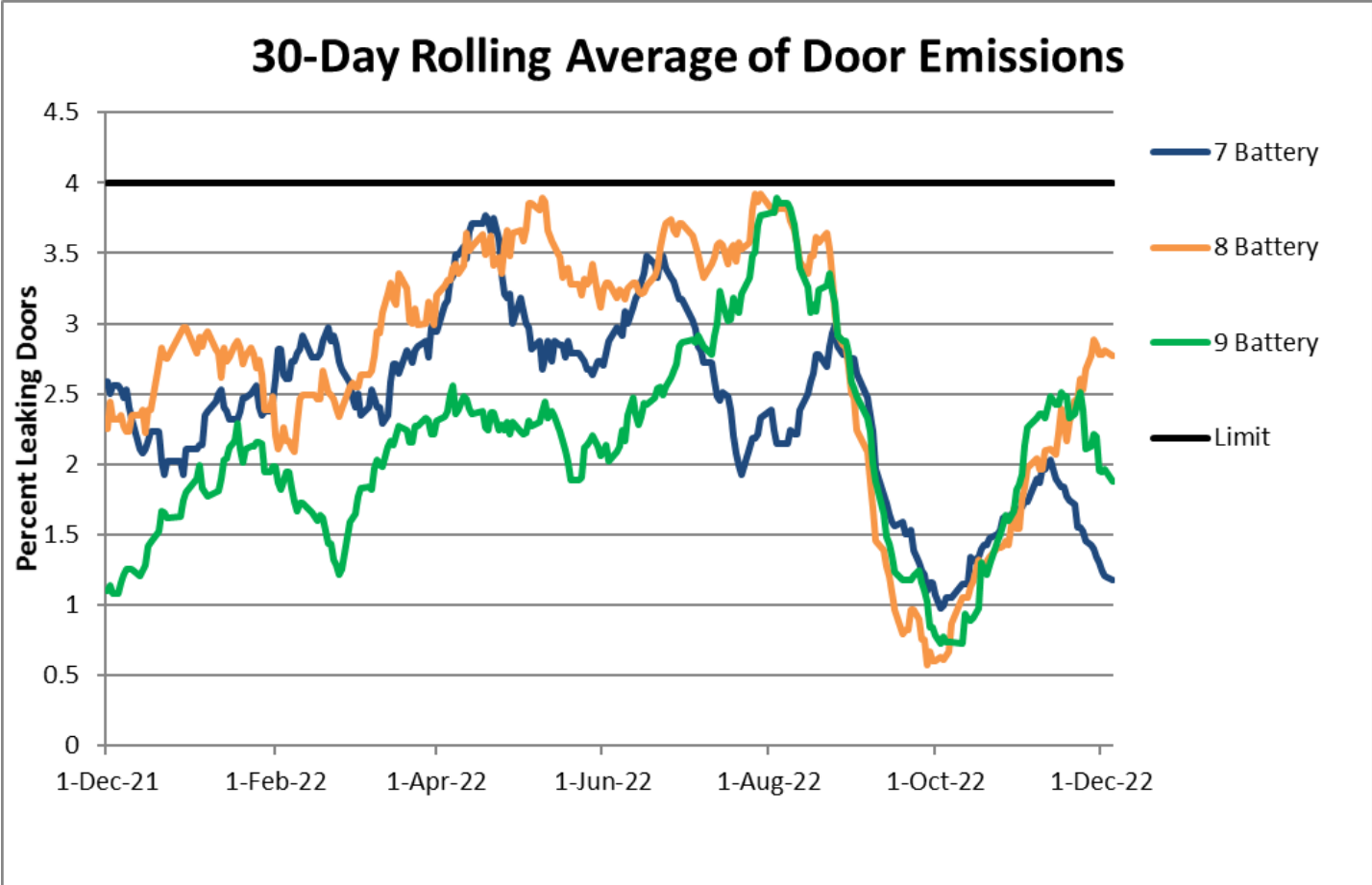
Implementation Date	30 day rolling average%			Charging Emission	Pushing Opacity (%)
	Doors	Lids	Off-takes		
July 2, 2015	38	0.8	25	12 sec	50
Jan 1, 2016	22.5	0.8	15	12 sec	50
Jan 1, 2017	7	0.8	4.2	12 sec	50
Jan 1, 2019	7	0.8	4.2	12 sec	40
Jan 1, 2020 onward	4	0.4	2.5	12 sec	30



Algoma Steel is meeting the current leak limits on all three batteries.

Improved Air Quality

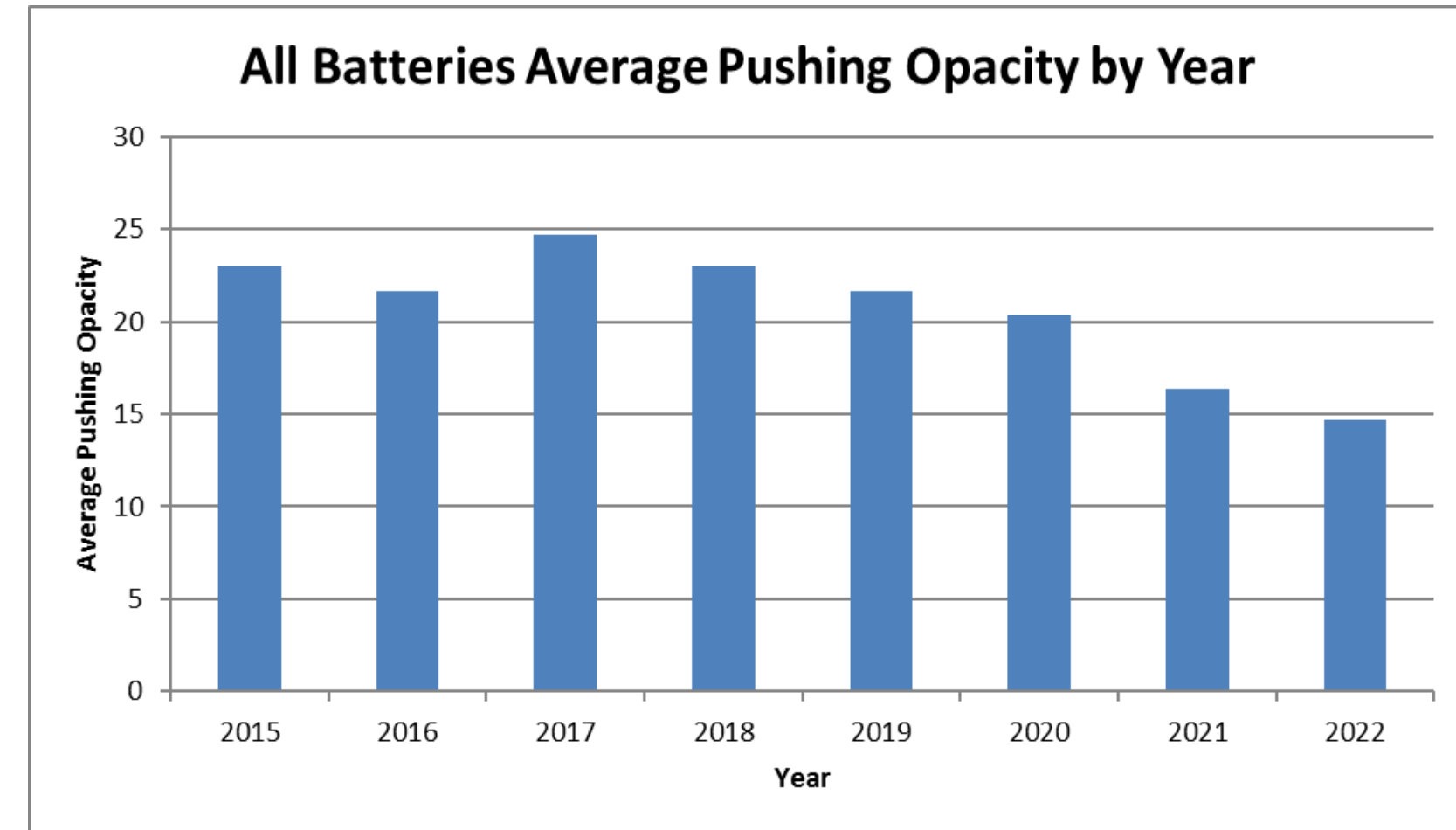
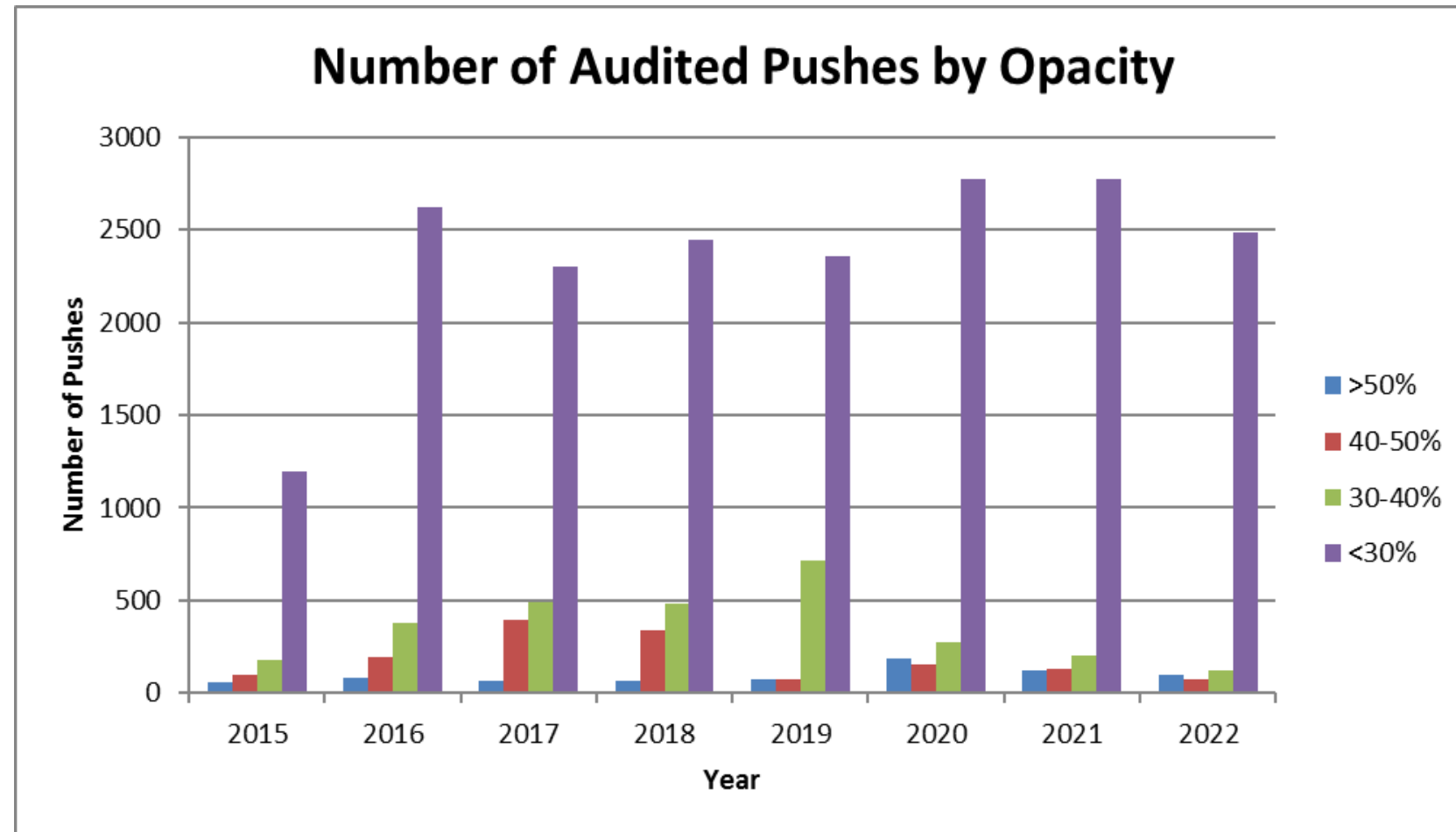
Cokemaking Emissions Performance



All batteries performing below leak limits.

Improved Air Quality

Cokemaking Emissions Performance



Notes:

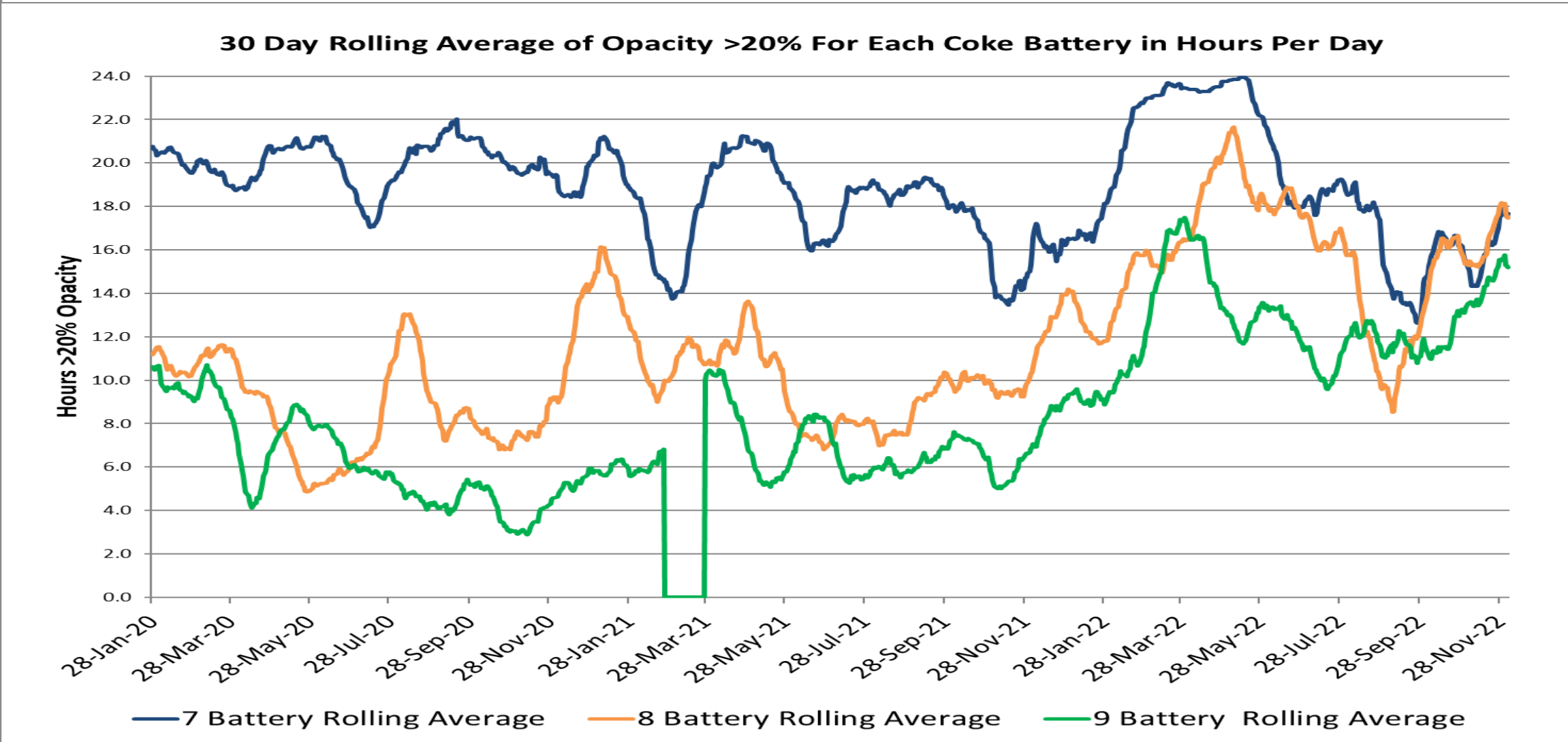
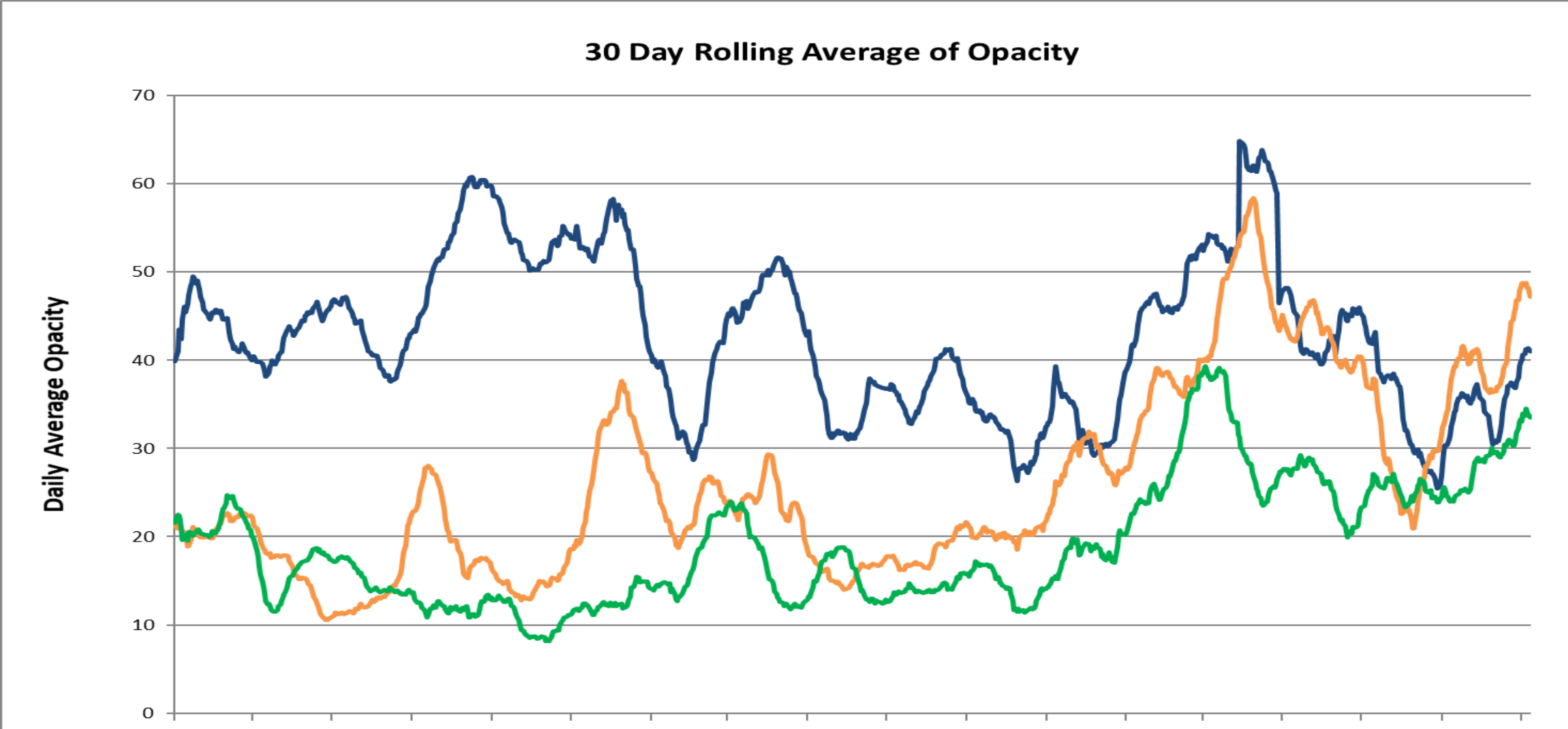
- ▶ 2015 data begins on July 2nd when the standard came into force
- ▶ 2022 data includes Jan 1, 2022 to Nov 30, 2022
- ▶ Number of audits per year vary based on changing operating conditions



To date all corrective actions have successfully corrected pushing opacity.

Progress Improvement

Cokemaking Stack Opacity



➤ The implementation of Algoma's stack opacity reduction action plan is underway to improve opacity and demonstrate continuous improvement

Public Complaints

The following public complaints were received by the Company since the last CLC:

- 4 Odour, 2 Noise & 1 Particulate

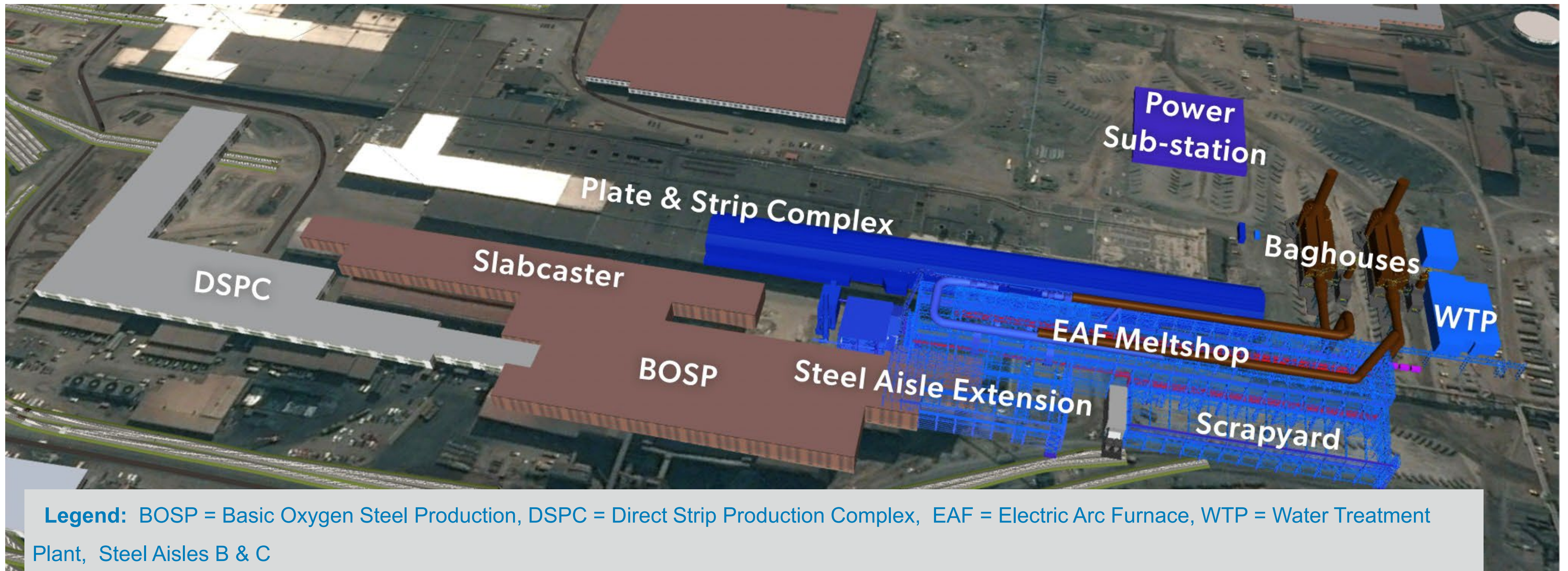
An internal investigation into each public complaint is conducted and a report is submitted to the MECP and a summary is listed on the company website.





Algoma Started Construction of Electric Arc Steelmaking Facility

In November, 2021 Algoma Steel Inc. announced its decision to invest CDN \$700 million in the transition to electric arc steelmaking. Two state-of-the-art electric arc furnaces will replace its existing basic oxygen steelmaking operations and result in the elimination of cokemaking which will result in a significant reduction in Algoma's environmental footprint.



Transition to Electric Arc Furnace Steelmaking

Applications for Environmental Compliance Approvals

Algoma Steel has submitted applications for the following approvals:

1

Site wide **Environmental Compliance Approval** for **air and noise** based on the planned progressive shutdown of equipment and facilities associated with the transition to electric arc furnace steelmaking. Application to include:

- ▶ Two new EAF exhaust treatment plants including baghouses
 - ▶ A new cooling tower
-

2

Amendment to the existing **industrial sewage works Environmental Compliance Approval** that incorporates:

- ▶ New recirculating non-contact cooling water system (with a small blowdown to the existing water treatment facility)
- ▶ No new contaminant loading to the existing treatment facility

Over the course of the transition, contaminant loading to the water treatment facility will decrease. Up to five existing effluent discharges and up to 7 existing noise sources will be eliminated.

Site Specific Standard Requests

New Site-Specific Standards will govern the operating transition to electric arc steelmaking

- ▶ In March 2022, Algoma submitted a request for amended site-specific standards for benzene, benzo(a)pyrene, and particulate matter. The new standards will reflect changes to the air emission dispersion model that have resulted in an increase in modeled emissions.
- ▶ Model updates include:
 - Newest model version (province-wide)
 - Data reflecting more recent meteorological conditions
 - Changes to the land use designation from urban to rural to more accurately reflect local land use
- ▶ Algoma's request included a continuous improvement plan that provides for the substantial reduction or elimination of emissions as a result of the progressive shutdown of equipment and facilities in the transition to electric arc steelmaking.
- ▶ Algoma also submitted a new Site Specific Standard application for sulfur dioxide (SO₂) in order to provide a compliance approach to the new provincial standards coming into force in July 2023. This application includes an action plan to reduce SO₂ which reflects the progressive facility shutdown.

Progressive Reduction in Modeled Emissions

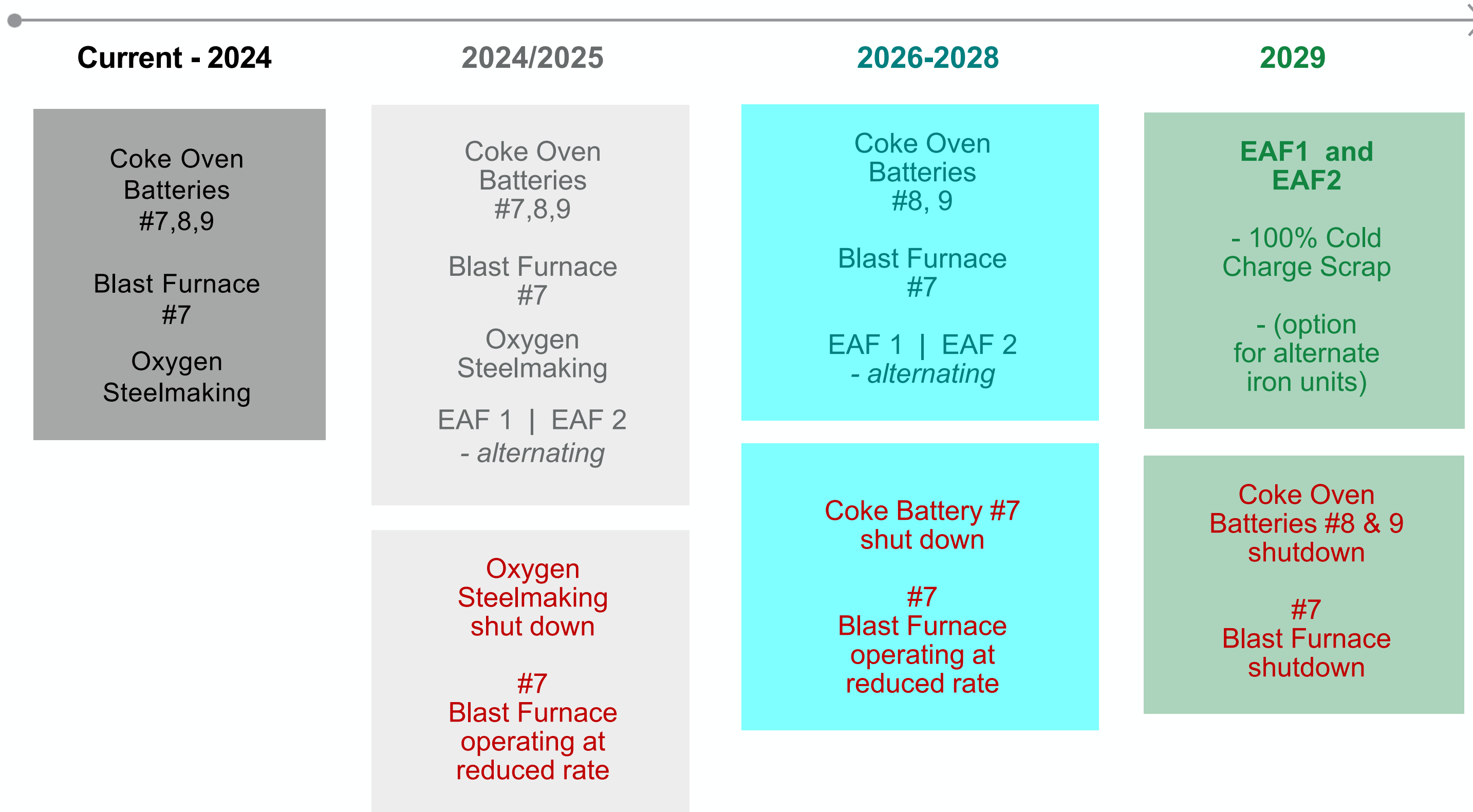
Transition to Full Compliance to the Standard

Contaminant	Averaging Period	MECP Point of Impingement Limit ($\mu\text{g}/\text{m}^3$)	Maximum Predicted POI Concentration ($\mu\text{g}/\text{m}^3$)			
			Current-2024	2024/2025	2026-2028	2029 Onwards
Benzene	Annual	0.45 (2.2 SSS)	3.98	3.98	3.21	0.11
Benzo(a)pyrene	Annual	0.00001 (0.004 SSS)	0.0053	0.0053	0.0045	0
Sulphur dioxide	1 hour	690 (current) 100 (as of Jul,2023)	597	615	494	79
Sulphur dioxide	Annual	No current limit 10 (as of Jul, 2023)	34	23	18	1.4
Particulate matter	24 hour	120 (127 SSS)	135	131	121	34

- ▶ Algoma Steel has applied for updated Site Specific Standards for benzene, B(a)P and particulate matter and a new Site Specific Standard for sulphur dioxide. These would apply to the interim period, allowing for the planned progressive shutdown of equipment and facilities associated with the transition to electric arc steelmaking.
- ▶ The transition to electric arc steelmaking will eliminate coke-making emissions.
- ▶ We expect the facility will meet Ontario Regulation 419 Schedule 3 criteria when it reaches EAF independent mode. At that time, Site Specific Standards will no longer be required.

Progressive Transition to Electric Arc Steelmaking

Operating equipment included in the modeled transition to electric arc steelmaking.



Terminology:

MECP

Ministry of Environment, Conservation and Parks

POI

Point of Impingement: any point outside the Company's property boundaries at which the highest concentration is expected to occur

µg/m³

The concentration of an air pollutant is given in micrograms (one-millionth of a gram) per cubic meter of air

Air Emission

Dispersion Modeling

computes the maximum concentrations of contaminants emitted from a facility assuming all equipment is operating at full capacity. Factors that impact the transport of contaminants in the atmosphere such as meteorological conditions, site configuration, emission release characteristics and surrounding terrain are incorporated into the computer modeling.

Public Consultation – Site Specific Standards

A number of plain language summaries of Algoma's Site Specific Standard applications have been made available on our website including the following:

- Site Specific Standard Application Process
- Emission Summary and Dispersion Modelling Report (ESDM)
- Technology Benchmarking Report
- Action Plan
- Algoma Steel Manufacturing Process – Current and Future
- Standards and Emissions

These documents can be found at the following link:

<https://algoma.com/environment/site-specific-standards-applications/>



Decarbonization Strategy

Algoma continues to evaluate additional opportunities to further decarbonize our operations aligned with the Canadian Steel Industry's aspirational goal of achieving net zero greenhouse gas emissions by 2050.

Algoma is taking a collaborative approach, working with industry peers, federal and provincial stakeholders, research associations and technology providers to develop a decarbonization pathway.

Current technology pathways to decarbonization under evaluation by the Canadian Industry include:

- Utilizing local biomass for fuel substitution
- Process electrification
- Carbon capture, utilization and storage
- Hydrogen based fuel substitution

Site Greening

Algoma has launched a Site Greening Initiative that includes surface stabilization, ground and surface water management, and revegetation.

The plan includes the **creation of naturalized green buffer strips** along the perimeter of the site by introducing clean soils, creating seasonal surface water ponding areas, and vegetating with select native plants and tree species.

In May Algoma hosted a site tour with project stakeholders to provide physical site context and obtain feedback and recommendations for the project.

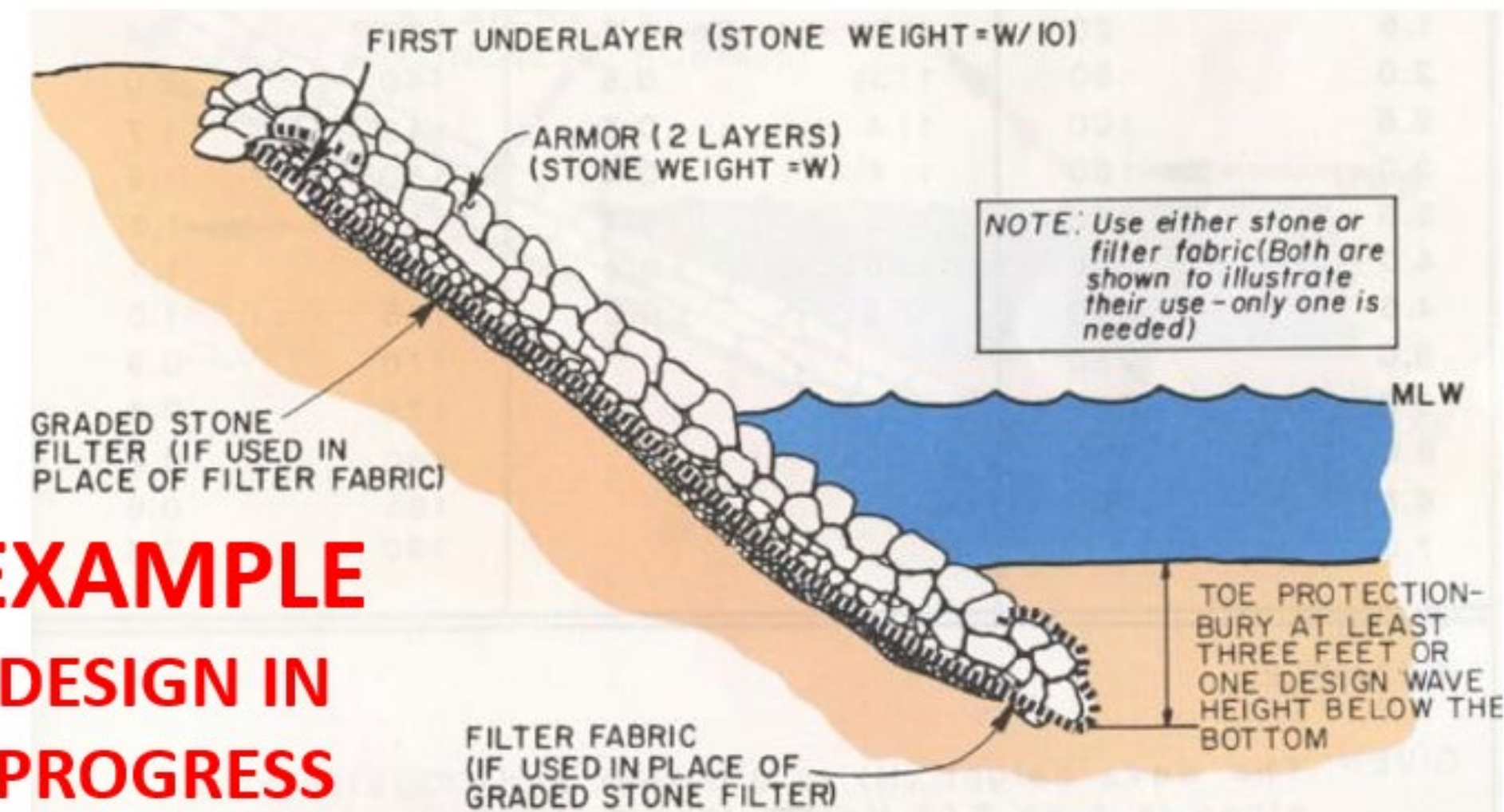


Shoreline Stabilization

Algoma's shoreline stabilization project is required to support the Site Greening Initiative to ensure that the **naturalized green buffer strips** along the perimeter of the site remain intact and are protected from possible erosion.

The shoreline stabilization project consists of a four year plan to design and implement shoreline projection along the St. Mary's River via the placement of clean rip-rap and armour stone.

Approximately 4.1 km of Algoma's shoreline will be protected from future erosion via shoreline armouring.



**EXAMPLE
DESIGN IN
PROGRESS**

Figure B-3 Typical Quarrystone Revetment

Community Liaison Committee - Next Meetings

Proposed 2023 Schedule:

- March 7th, 2023
 - June 6th, 2023
-
-
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Thank you

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— STEEL INC. —

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