ALGOMA STEEL INC.

Community Liaison Committee Meeting #29

June 4th, 2019

Agenda

1. Review of March 5th, 2019 meeting notes
2. Membership Items
3. Site Specific Standards / Technical Standards
4. Ambient Air Quality Monitoring
5. Noise Abatement
6. Environmental Compliance Approval updates
7. Legacy Environmental Action Plan
8. Climate Change
9. Public Open House
10. Next Meetings

Membership Items

Current Members and Alternates

Representation	Primary Member	Alternate
Algoma Steel	Fred Post	Chris Galizia
Ministry of Environment, Conservation & Parks	Lori Greco	Ron Dorscht
Public	David Trowbridge	Peter McLarty
Public	Patt Marquis	
SSM Tribe of Chippewa Indians	Kathie Brosemer	
Algoma Public Health	Kara Flannigan	Chris Spooney
Chippewa County Health Dept.	Suzanne Lieurance	
Batchewana First Nations	Dan Sayers Jr.	
City of Sault Ste. Marie	Catherine Taddo	Maggie McAuley
United Steel Workers Local 2251	Reginald Dunn	
St. Mary's River RAP Coordinator	Lisa Derickx	

Site Specific Standard for Particulate and BaP

- On March 27th, 2015 Algoma received a Site Specific Standard for Particulate which sets specific emission limits in cokemaking:

  - Certified observers (per EPA Method 9 and Method 303)
  - 5 days per week, 10 Saturdays and 10 Sundays each year
  - Must observe daily per battery: 4 pushes, 5 charges, all lids, all doors, and all standpipes
  - Must make operational adjustments if over the daily limits and notify MECP

Site Specific Air Quality Standard for Particulate & B(a)P

Identifies Key Performance Indicators related to Cokemaking Emissions:

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

Conformance calculated daily for each battery

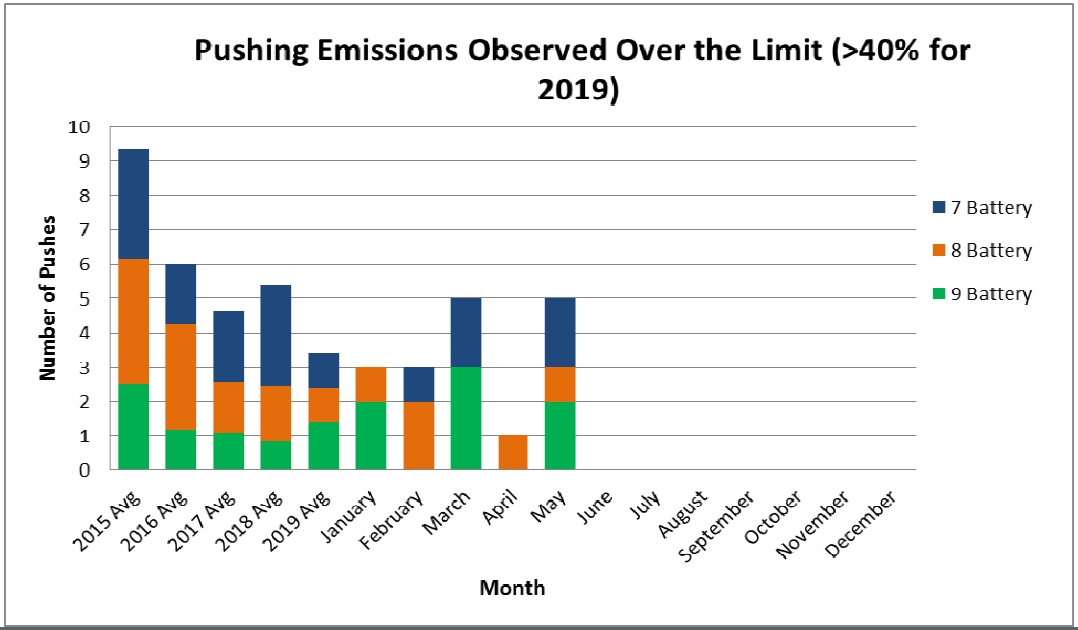
New limits set July 2015. Progressive, annual reduction.

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	4	0.4	2.5	12 sec	30

Continued Success through Operating Adjustments

To date all corrective actions have been successful at reducing pushing opacity below the limit.

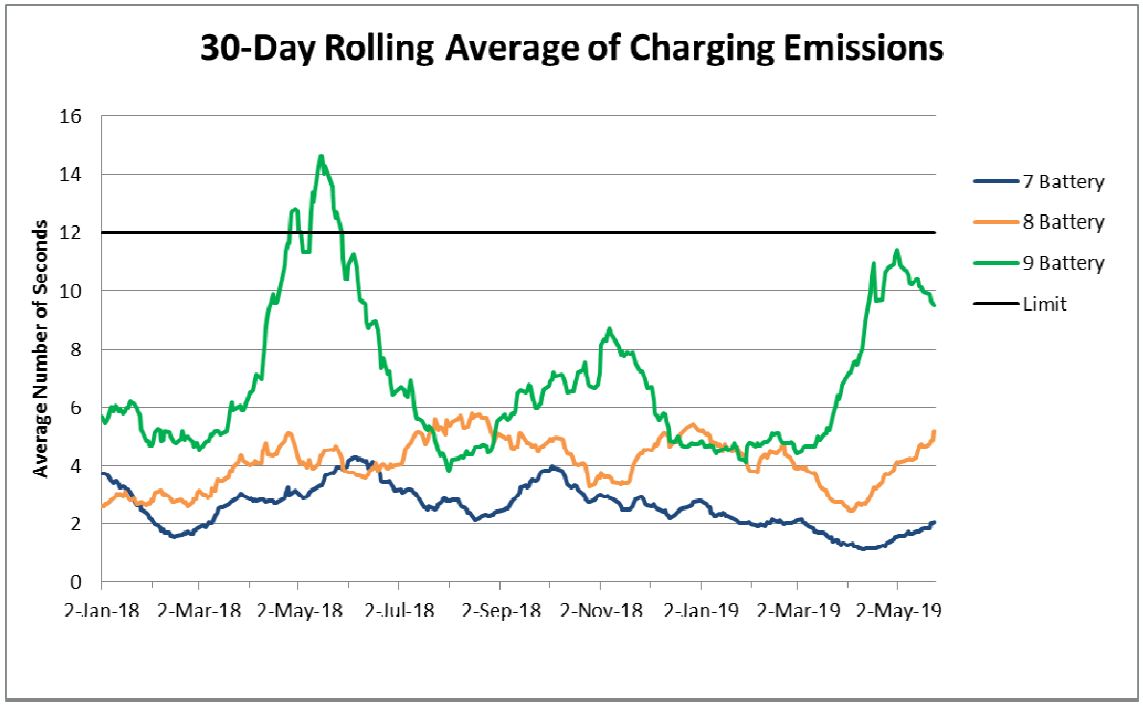
Limit:
50% 2018
40% 2019
30% 2020



Corrective actions include:

- Taking cross-wall temperature readings to identify problem flues
- Cleaning the flues, pins, orifices, risers, flex hoses, venturies and bus flues
- Increasing oven temperature
- Repairing adjacent ovens and ensure proper heating of the shared walls
- Adjusting fuel or air to improve combustion
- Extending coking time

Charging Emissions Below Limit



Preventative Measures include:

Adjusting carbon scraper bar

Decarbonizing standpipes, goosenecks and charge holes

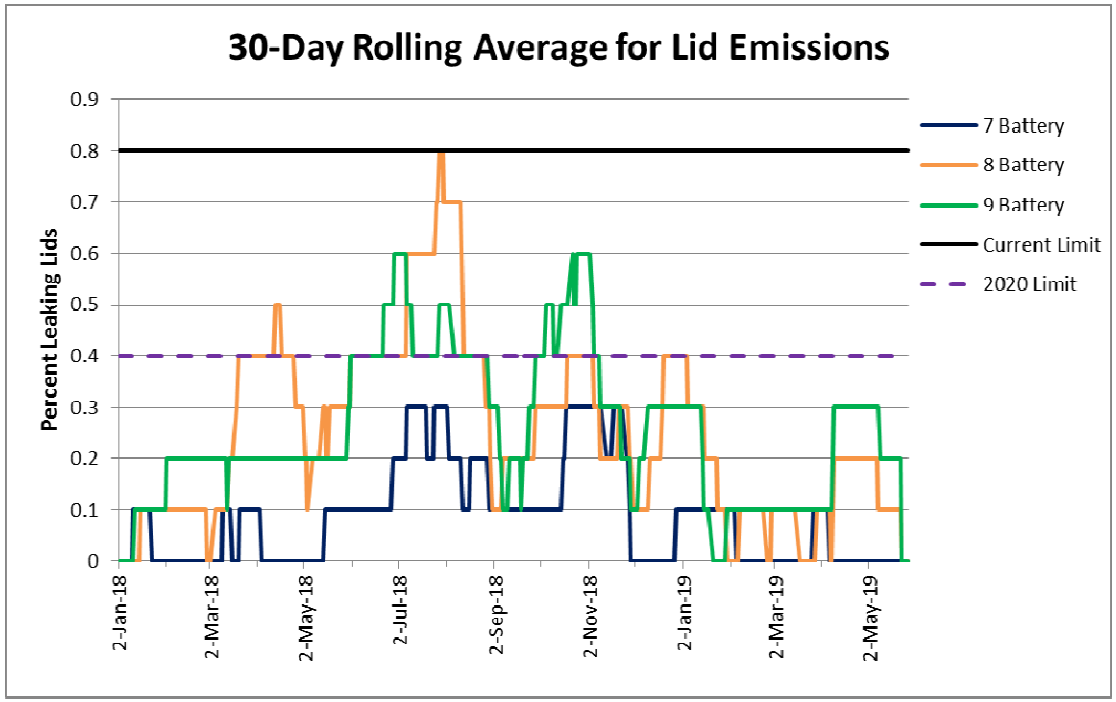
Cleaning goosenecks, sleeves to the collector main, and steam jets

Replacing drop sleeve donuts, bellow bags, and carbon seals

Adjusting coal feed systems to optimize coal charging volume

Leveling charge hole bases to ensure proper elevation and tight seal

Lid Emissions Below Limit



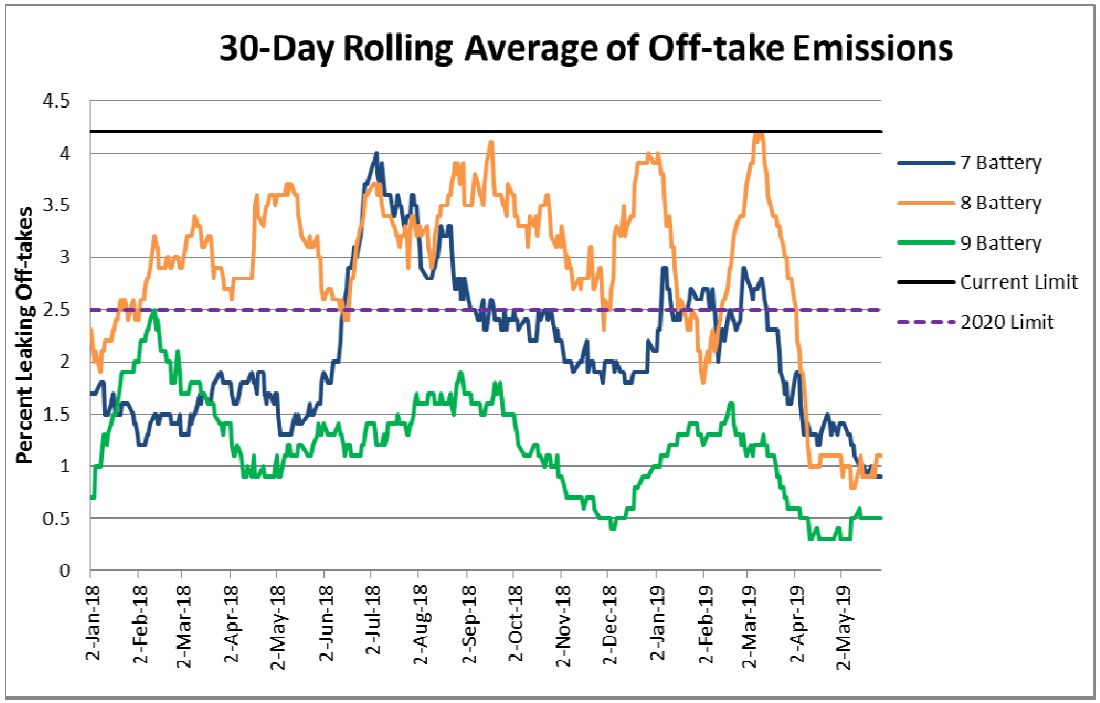
Preventative Measures include:

Applying lid sealant immediately after charging an oven and whenever emissions are observed

Replacing damaged or cracked lids

Repairing, leveling and grouting charge hole bases to ensure proper seal

Off-take Emissions Below Limit



Preventative measures include:

Replacing the soft seal and adjusting the cap

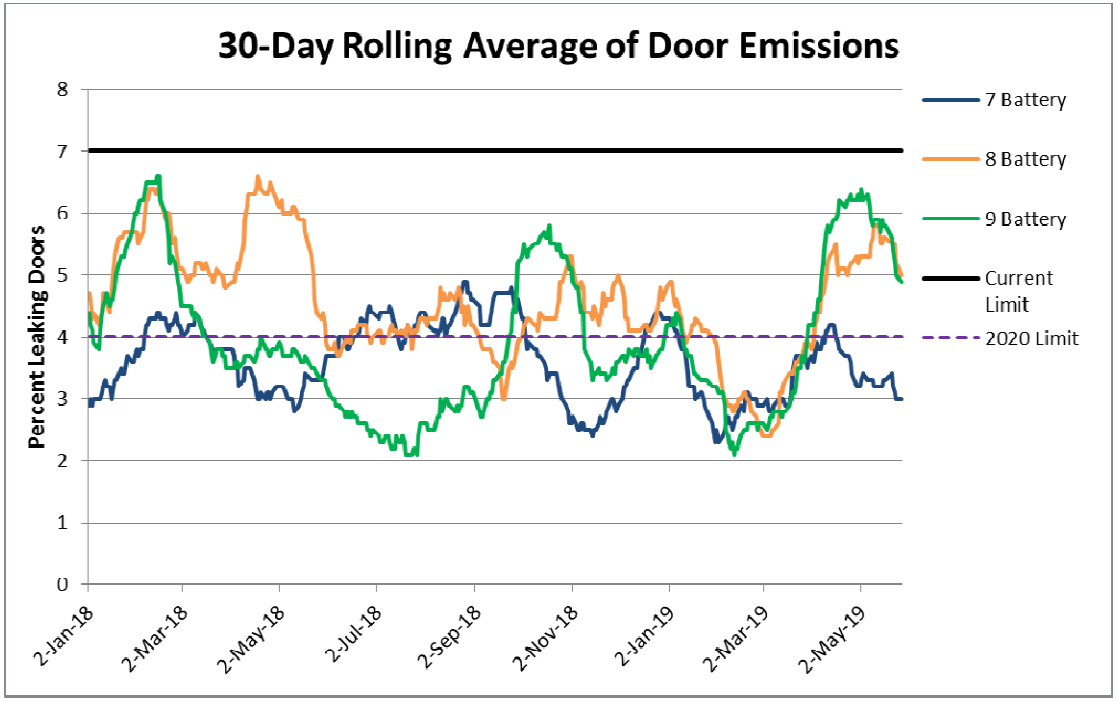
Cleaning the gooseneck, sleeve to collector main, and steam jet

Re-packing collar or base of the pipe with refractory

Applying masonry seal to small cracks until welding can be completed

Replacing the standpipe at the end of its lifecycle

Door Emissions Below Limit



Preventative measures include:

Adjusting door bolts, frame clips and hour glass clips

Cleaning doors, door jambs, sill plates and spotting targets

Replacing door cleaner bushes and jamb cleaner blades on frequent schedule

Replacing damaged doors and frames.

Applying silicate to seal leaks

Ambient Air Quality Monitoring Program

Algoma operates six air monitoring stations

- 4 dust fall monitoring sites
- 2 comprehensive monitoring sites

MECP defined monitoring schedule

- VOC's and PAH's – every 12th day
- PM10, TSP and metals – every 6th day
- Dust fall – continuous for 30 days
- PM10 – continuous, hourly
- TRS – continuous, every minute

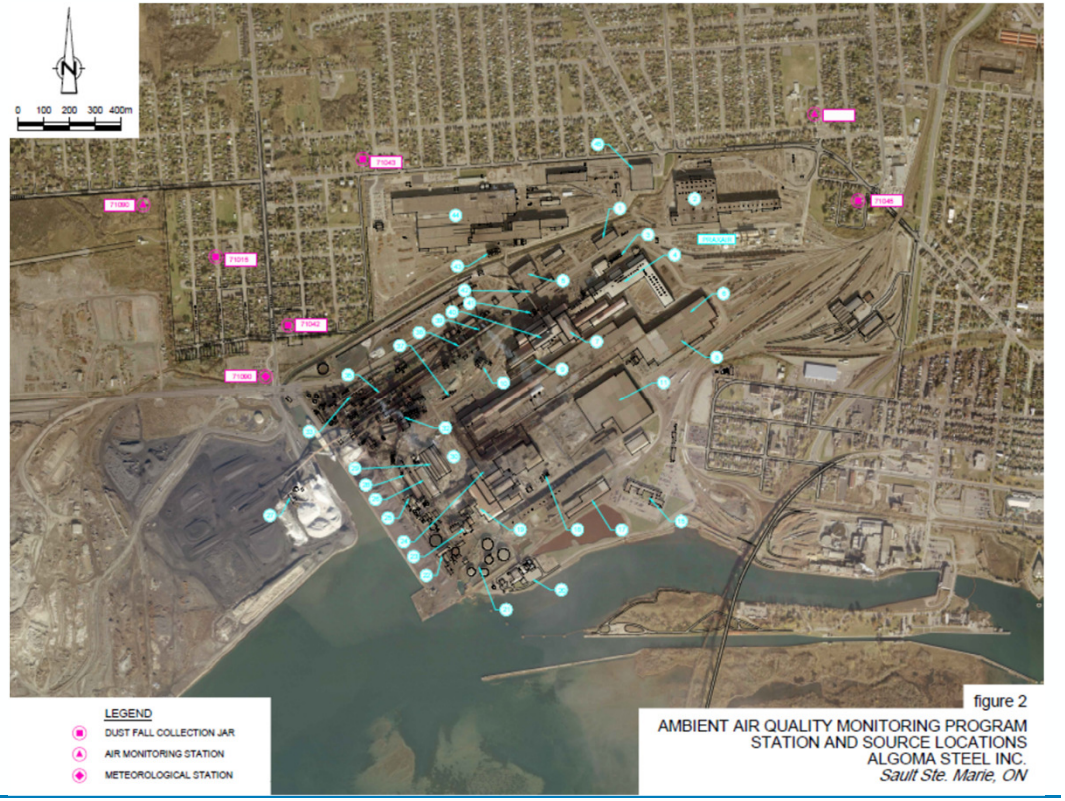


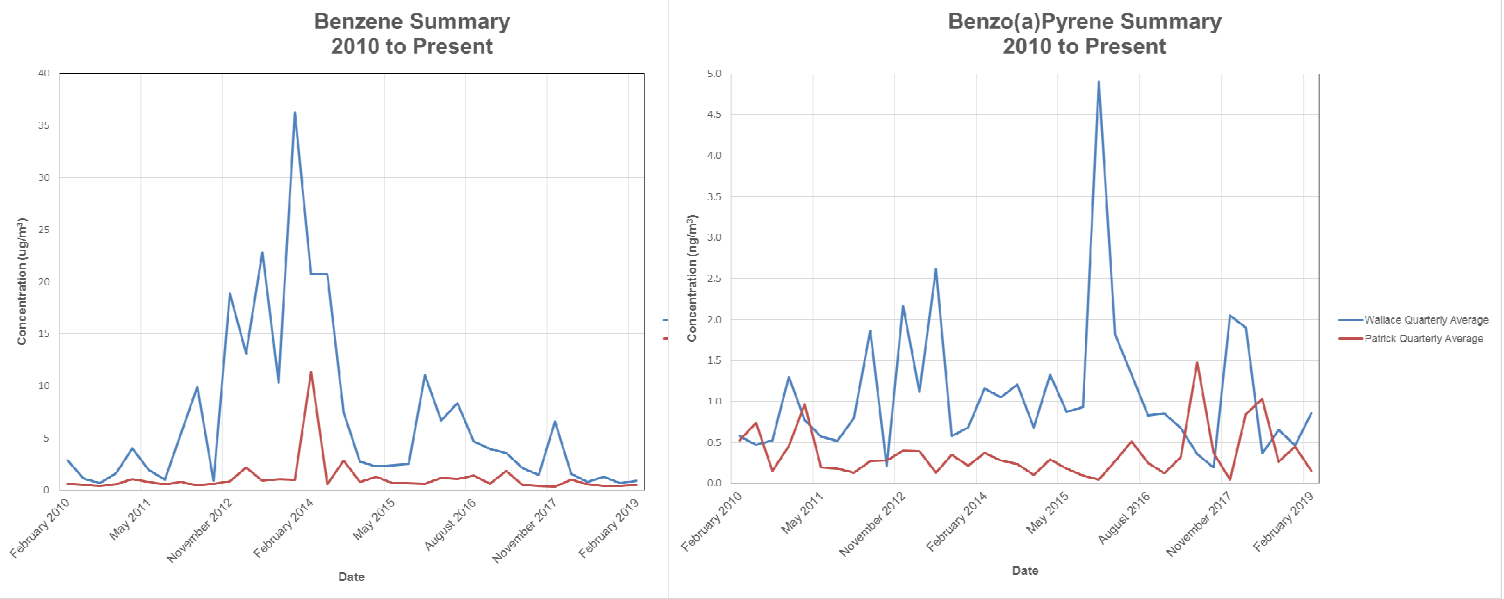
figure 2
AMBIENT AIR QUALITY MONITORING PROGRAM
STATION AND SOURCE LOCATIONS
ALGOMA STEEL INC.
Sault Ste. Marie, ON

Ambient Air Quality Monitoring Program

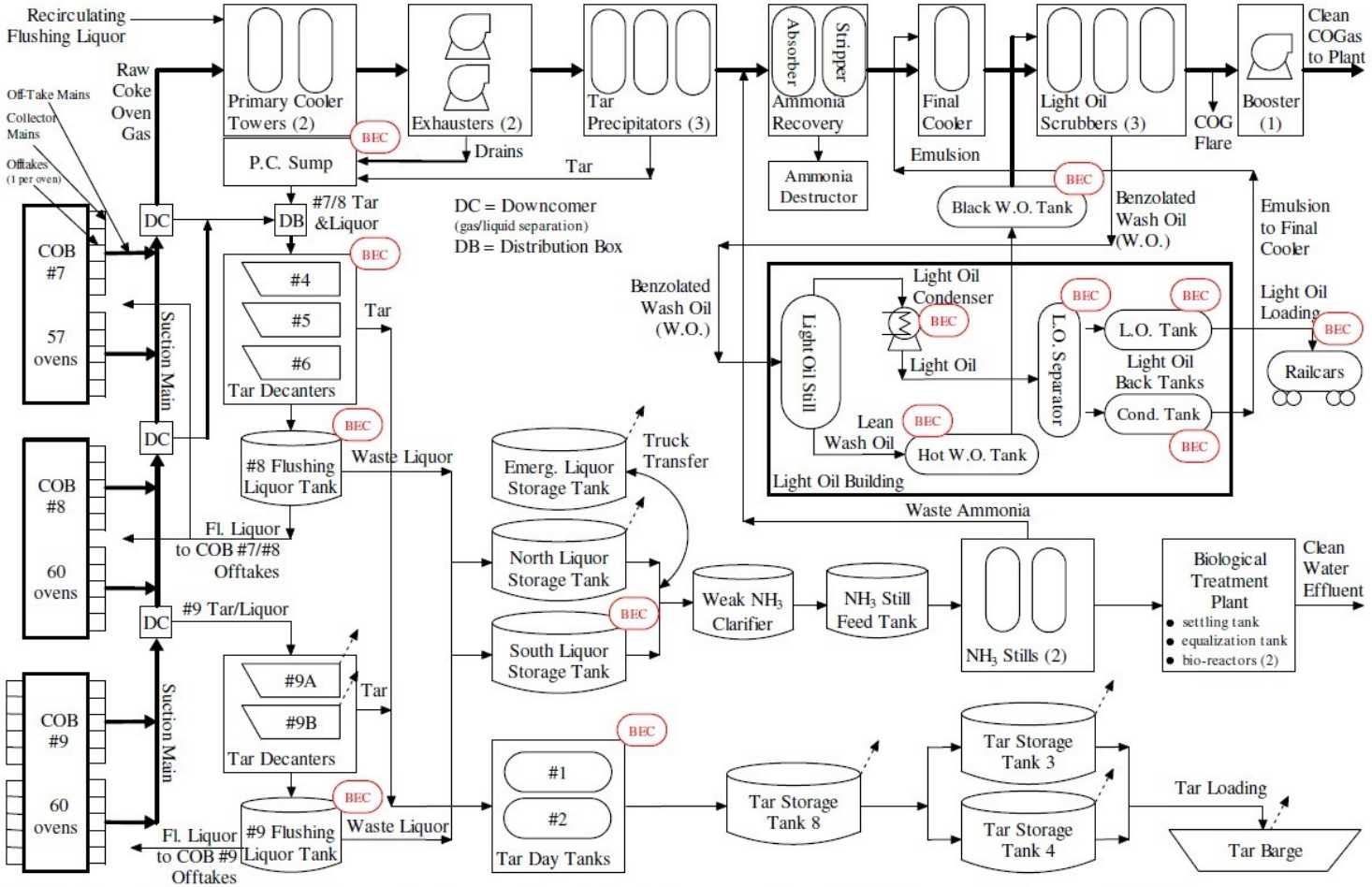
Community air monitoring results for benzene and benzo(a)pyrene from 2010 to present

Algoma's Current Site Specific Standards

- Benzene – 5.5 µg/m^3
- Benzo(a)pyrene – 11 ng/m^3



By-products Process Flow Diagram



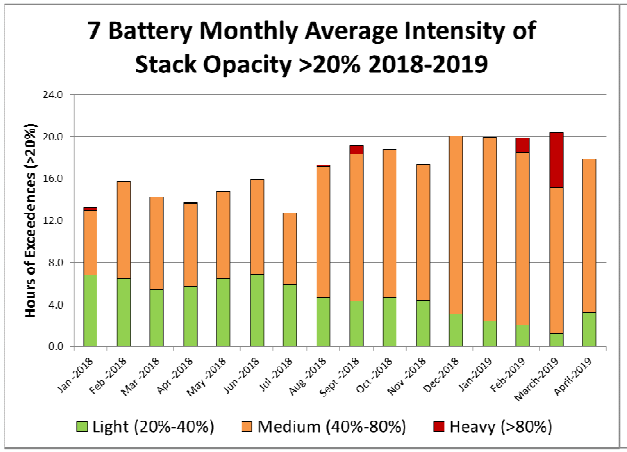
Source: ESAI Information, site visit, Oct. 2009

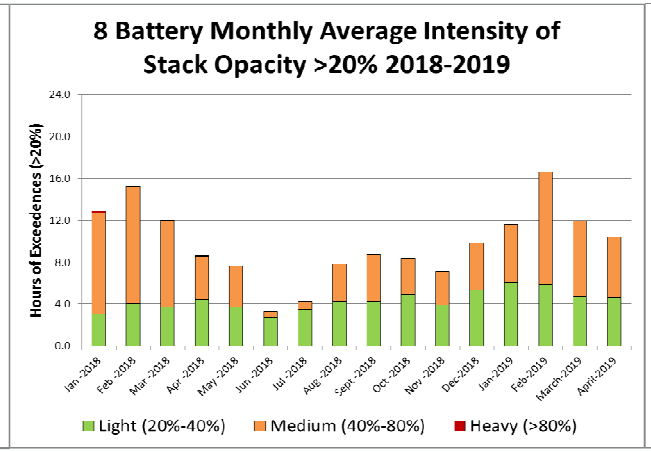
Note: Benzene Emission Control sources are shown with "BEC"; uncontrolled sources with dotted emission arrows.

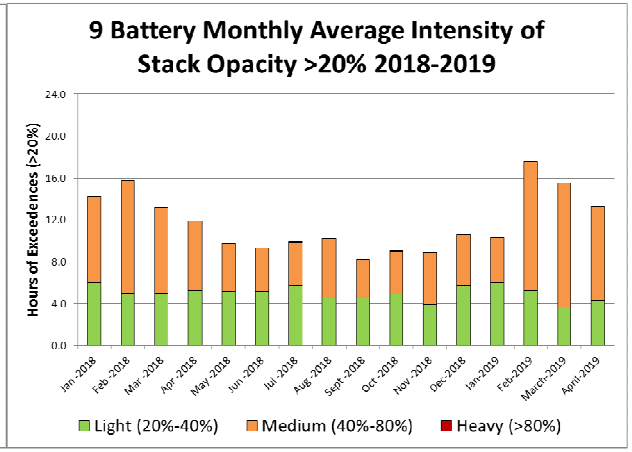
Stack Opacity

Continuous corrective actions on all batteries

- Part of the investment plan to achieve compliance with SSS limits also focuses on reducing stack emissions from cokemaking
- Intensive Masonry maintenance continues to be required on oven walls and end flues
- Focus is on reducing intensity of stack emissions







Public Complaints

There were no public complaints received since the last CLC meeting that related to a matter addressed in the SSS Order.

The following public complaints were received by the company:

- March 9th – Noise at boiler house on start-up after power failure
- May 13th – Odour – Sault Michigan
- May 14th – Odour – Terrance Ave
- May 20th – Odour – International Bridge
- May 29th – Odour – Estelle

March 9th Power Failure

- On March 9th at 9:32am, Algoma Steel experienced a total loss of commercial power for nearly one hour.
- The power outage resulted in the loss of cooling water and steam to the operation, which gave rise to emissions as manufacturing processes were suspended.
- A comprehensive investigation has identified several risk mitigation measures that Algoma Steel is undertaking to prevent a recurrence.

April Blast Furnace Upset

- An unplanned process upset occurred in the blast furnace in April.
- During the Blast Furnace re-start, safety procedures required for pressure relief and the beaching of iron resulted in emissions until the Furnace returned to normal operation.

Site Specific Standards (SSS)

Benzene SSS - requires expansion of Benzene Emission Control (BEC) systems and on site monitoring to identify missing sources

- North Raw Liquor Tank – removed from service in late spring
- Planning for the installation of the remaining controls by 2020 year end is now underway.
- A monitoring program was completed in the by-products area to identify benzene emission sources. Three sources were identified and corrective actions are completed or planned.

Particulate SSS – An ambient air monitoring program is ongoing for metals contained in particulate (Iron, Chromium VI, Manganese and Nickel)

Technical Standard

Regulatory Instrument to replace existing SSS's

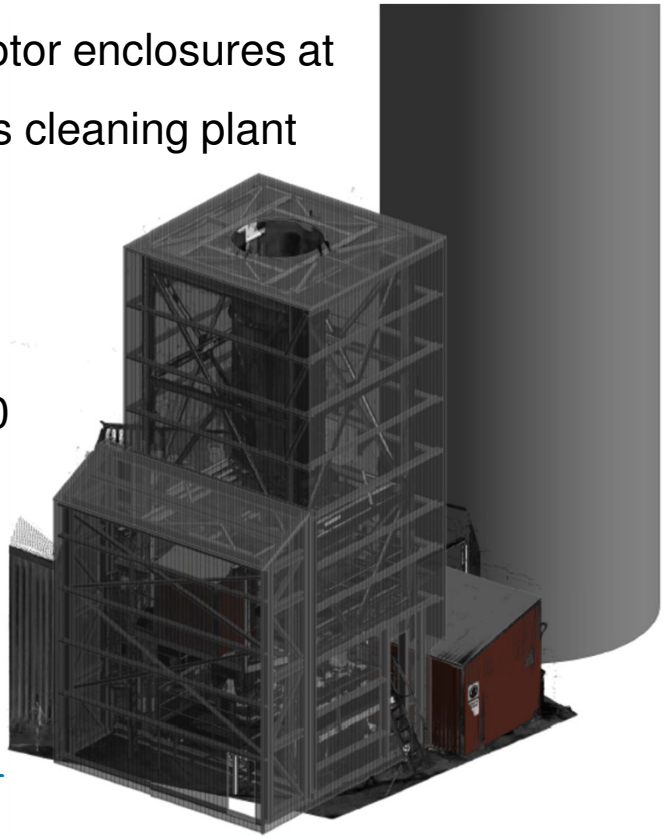
- A new Technical / Site Specific Standard for multiple air contaminants is under development
- Contaminants include: Particulate, B(a)P, Benzene, Sulfur Dioxide, Total Reduced Sulfur and Metals (x4)

Next steps – Algoma Steel participating in working groups focusing on:

- Fugitive metal/particulate emissions from on-site roadways; steel-making; slag management;
- Identifying current emission sources and air pollution control approaches at each facility;
- Assessing the ongoing ambient air monitoring program results;
- Coke oven gas de-sulphurization (Federally required by January 1, 2026);
- Development of an Ontario-based emission auditor training and certification program;
- Completing a jurisdictional review of best available emission control techniques globally;
- Industry economic overview and economic feasibility assessment (industry led);
- Development of trigger mechanisms to facilitate a review of the appropriateness of the Technical Standard every 7-8 years

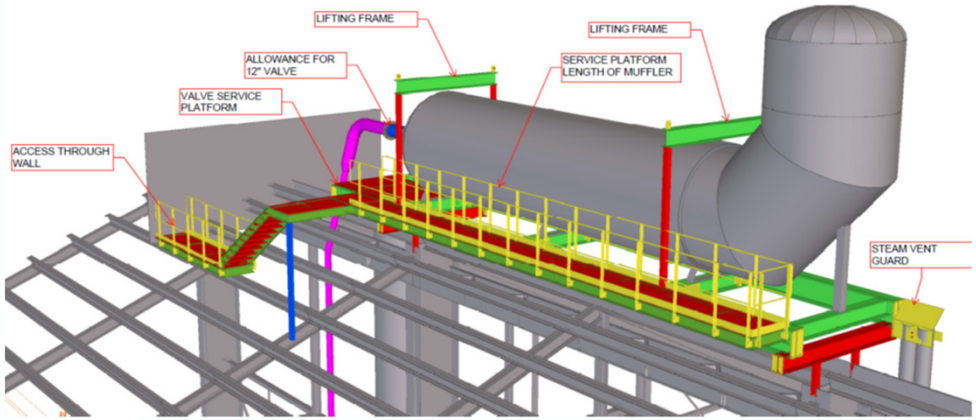
Noise Abatement

- Installation commenced in October 2018 for two fan motor enclosures at the steelmaking gas cleaning plant
  - Completion in June 2019
  - Cost ~$1,076,000



Noise Abatement

- New acoustic silencing muffler has been fabricated and shipped to site
- Final installation slated for June 2019
- Cost $742,000



New Environmental Compliance Approval Applications

- Algoma Steel has received an Environmental Compliance Approval for a surface and groundwater treatment facility at base line ditch. Final engineering will now get underway.

Legacy Environmental Action Plan (LEAP)

Environmental Framework Agreement

- The MECP and Algoma Steel signed an Environmental Framework Agreement which was established to mitigate risk from on-site legacy environmental liabilities

Program Approval

- Ontario's EPA allows a person responsible for a source of contaminant to submit a program to prevent or to reduce and control the discharge into the natural environment of any contaminant. A Program Approval has been issued by the MECP which describes the associated abatement activities.

LEAP

- The LEAP is a risk-based environmental management plan to be maintained and funded by Algoma Steel (ASI), with the objectives of identifying, assessing, managing and mitigating off-site adverse environmental effects caused by Legacy Environmental Contamination at the Site. ASI is responsible for planning, budgeting/funding, implementing, documenting and reporting the activities undertaken as part of the LEAP, while the MECP has oversight, review and approval responsibilities for LEAP budget, plans and activities, including approval (or pre-approval) of eligible LEAP expenses.
- A formal action and implementation plan for Year 1, and action plans for the following four calendar years have been approved by the MECP. Algoma Steel has commenced the implementation of the Year 1 Action Plan.

Legacy Environmental Action Plan (LEAP)

There are 9 projects scheduled for implementation in 2019 totaling $4.1 million

- Site wide baseline investigation
- PCB disposal
- Dredge Boat Slip
- Secondary Containment Waste Oil Tanks
- Secondary Containment Raw Liquor Tanks
- Legacy Tire Disposal
- Legacy Coke Oven Gas main cleaning
- Engineering for re-routing blast furnace 30" sewer
- Engineering Base Line Ditch Water Treatment

Climate Change Regulations

Federal Backstop

- Federal regulations will apply to provinces without carbon pricing systems starting Jan 1 2019.
- Anticipate final regulations in late spring 2019

Ontario

- On February 12th Ontario released details of a new provincial climate change plan for industry
- The intention is to meet the federal benchmark and exempt industry from the backstop regulations
- Ontario's proposed plan has not been accepted by the federal government

Public Open Houses

- Last open house held on December 5, 2018 at the Polish Canadian Hall
- Next open house to be scheduled for fall 2019.

Next Meeting

- Proposed 2019 Schedule:
  - June 4th, 2019 (today)
  - September 10th, 2019
  - December 10th, 2019