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The Steel Company of Canada

Hamilton Works
Community Liaison Committee Meeting

December 2019

Agenda

1. Welcome and Safety Contact
2. Review and Approval of Agenda
3. Review and Approval of Minutes of 18 September 2019
4. Performance under O.Reg. 419/05 Site Specific Standard Order – Particulates
5. Pilot Project Update: Utilization of Bio-Carbon to Reduce Fossil Carbon Input Requirements for Coke Production
6. Community Concerns
7. Adjournment

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Know Your Emergency Exits

Review Evacuation Routes of the room you are located in

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Site-Specific Standard Order (Particulates): Performance Review – Daily

Date	Doors (% Leaks)	Lids (% Leaks)	Off-takes (% Leaks)
2015 Limits (July 2 start)	54%	2%	NA
2016 Limits	32%	2%	NA
2017-2019 Limits	**10%**	**2%**	**5%**
2020 Limits	5%	1%	4%
Sept 1- Nov 30, 2019 Range (Average)	**0 – 4.39% (0.42%)**	**0 – 1.58% (0.21%)**	**0 – 5.13% (0.44%)**

Daily Measurements Performed YTD

- All weekdays, except for holidays
- 10 Saturdays
- 10 Sundays

Sept 1 – Nov 30 Operational Adjustments

• 1 event - Cause: Offtake patching for the day was not done because the area was cordoned as the Battery prepared to temporarily stop production to remove the level bar that got stuck inside an oven. Control: Offtake cleaning and patching resumed.

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Site-Specific Standard Order (Particulates): Performance Review – 30 Day Rolling Averages

Date	Doors (% Leaks)	Lids (% Leaks)	Off-takes (% Leaks)	Charging (sec) (log avg)
2015 Limits (July 2 start)	38%	0.8%	25%	12 sec
2016 Limits	22.5%	0.8%	15%	12 s
2017-2019 Limits	**7%**	**0.8%**	**4.2%**	**12 s**
2020 Limits	4%	0.4%	2.5%	12 s
Sept 1- Nov 30, 2019 Range (Average)	**0.24 – 0.53% (0.45%)**	**0.14 – 0.36% (0.24%)**	**0 – 1.28% (0.62%)**	**2.22 – 3.88 s (3.08 s)**

Sept 1 – Nov 30, 2019 Performance

- In compliance with 2019 limits

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Site-Specific Standard Order (Particulates): Performance Review – Daily Observations – Pushing Emissions

Date	Pushing Emission (opacity %)
2015 Limit (July 2 start)	≥ 50%
2016 – 2018	≥ 50%
2019	**≥ 40%**
2020	≥ 30%
Sept 1- Nov 30, 2019 Range (Average)	**0 – 43.33% (9.24%)**

Sept 1 – Nov. 30, 2019 Operational Adjustments

- Plugged risers were corrected.
- Mogul car with the hot coke stayed inside the shed longer to contain emissions.
- Heating in other ovens were adjusted.

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Site-Specific Standard Order (Particulates): Performance Review – Additional Items

- There were no community inquiries received during this period
- MECP to provide verbal comments

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Pilot Project Update:
Utilization of Bio-Carbon to Reduce Fossil Carbon Input Requirements for Coke Production

December 2019

Andy Sebestyen

Converting Coal to Coke

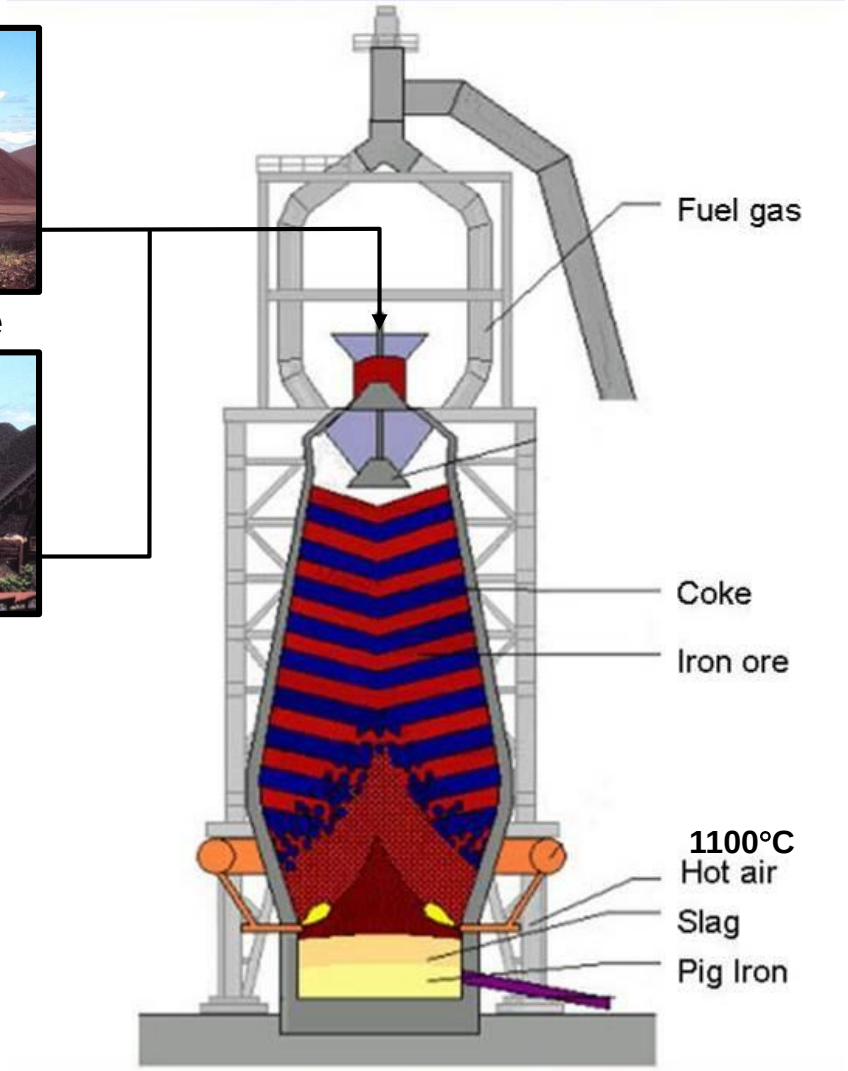
- Blend of coal is charged into tall slot ovens
- Coal is heated for 18 hours at 1100°C in the absence of oxygen & converted into coke (nearly pure carbon)
- QA/QC to determine coke quality

- Coke is used in the Blast Furnace
- Coke Oven gas is processed at the By-Product Plant into fuel gas (for steam and electricity) and chemical products

Producing Iron from Iron Ore

Iron ore & limestone

Coke



$Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

- The Blast Furnace converts iron ore into molten iron metal at 1450°C for Steelmaking
- Blast Furnace gas is used for steam & electricity

Greenhouse Gas Reduction Opportunity

Replace a portion of the fossil carbon (coal) with bio-carbon (used railway ties)

Innovative technology: First application in a Canadian steel plant

Optimization of Wood/Coal Blend

- Canmet Research Facility – Ottawa
- Blends of coal and wood tested in bench and pilot scale facility
- Analysis of coke strength, ash contest and coke stability
- Optimal mixture of coals and wood

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Proposed 2020 CLC Meeting Dates

Wed. Feb. 5

Wed. May 13

Wed. Aug. 12

Wed. Nov. 4

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Thank You.

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