



U. S. Steel Canada Inc.

Hamilton Works Community Liaison Committee

26 May 2016

Trevor Harris
Andrew Sebestyen



Agenda

- 1. Welcome and Safety Contact***
- 2. Review and Approval of Agenda***
- 3. Review and Approval of Minutes of 27 October 2015***
- 4. O.Reg. 419***
- 5. Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates***
- 6. Site Specific Standard – Benzene and B[a]P***
- 7. Environmental Updates***
- 8. Community Concerns***
- 9. In-camera Discussion***
- 10. Adjournment***



Safety Values

- “Safety First” is a Core Value at U. S. Steel.
- We believe that ALL incidents and injuries can be prevented.
- Safety is a personal responsibility. Management is accountable for results.
- Employee engagement and training is essential.
- Hazardous exposures can be eliminated or safeguarded.
- Prevention of incidents and injuries is the right thing to do and is good business.



United States Steel Corporation



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Community Liaison Committee Meeting

Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Daily Observations - #7 Coke Battery

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%
July – Oct, 2015 Range (Average)	0 – 5.43% (Average = 0.70%)	0 – 1.56% (Average = 0.28%)	0 – 5.13 (Average = 1.15%)
Nov - Dec, 2015 Range (Average)	0 – 0.63% (Average = 0.01%)	0 – 1.52% (Average = 0.16%)	0 – 3.8% (Average = 0.34%)
Jan - April, 2016 Range (Average)	0 – 3.97% (Average = 0.40%)	0 – 0.74% (Average = 0.06%)	0 – 3.75% (Average = 0.25%)

Daily Measurements Performed:

- All weekdays, except for **holidays**
- **10 Saturdays (Completed = 9) and 10 Sundays (Completed = 7)**

Operational Adjustments required: (routine maintenance)

- Doors – **Fix door seals, replace door frames, replace doors**
- Lids – **Lute the lids, clean lid and charge hole circumference (auto rotate)**
- Offtakes – **Maintain water seal, apply sealant, clean cap, replace unit**



Community Liaison Committee Meeting

Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

30-Day Rolling Averages - #7 Coke Battery

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
Q3 2015 Range (Average)	0.61 – 0.99% (0.79%)	0.22 – 0.36% (0.29%)	0.89 – 1.59% (1.24%)	0.99 – 1.49 s (1.18 s)
Nov - Dec, 2015 Range (Average)	0.02 – 0.61% (0.2%)	0.07 – 0.26% (0.14%)	0.89 – 1.59% (1.24%)	0.25 – 0.93 s (0.55 s)
Jan – April, 2016 Range (Average)	0.02 – 0.46% (0.34%)	0.03 – 0.22% (0.09%)	0.13 – 0.38% (0.26%)	0.53 – 0.85 s (0.68 s)

Performance:

- Doors, Lids, Offtakes, Charging – all in compliance with the 2020 limits



Community Liaison Committee Meeting

Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Daily Observations - Pushing - #7 Coke Battery

Date	Pushing Emission (opacity %)	Unusual Observation
2015 Limit (July 2 start)	≥ 50%	
2016 – 2018	≥ 50%	
2019	≥ 40%	
2020	≥ 30%	
Q3 2015 Range (Average)	0 - 50% 11.32%	
Nov - Dec, 2015 Range (Average)	0 – 35% (6.91%)	
Jan – April, 2016 Range (Average)	0 - 46% (3.56%)	April 18, 2016 Pushing Opacity – 65% - clean-up coke/coal

All required measurements were performed.

Operational Adjustments were completed:

- Review heating practice to ensure that only coke is dumped into the mogul car during cleanup of the coke-side bench



Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Complaints:

December 2015 – January 2016

- white emissions





Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Complaints:

December 2015 – January 2016 – 4 days

- white emissions

Cause:

- “dampered” ovens – isolating oven from collector main to equalize the pressure. Prevents the raw gas from being released.
- mostly steam with some particulates
- very little hydrocarbons and VOCs since the oven has been coked out and is ready to be pushed.

Corrective Actions:

- dampering has been reduced to 1 oven at a time (previously up to 3 ovens)



Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Complaints:

December 26, 2015; March 5 2016

- white emissions from coke oven stack





Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Complaints:

December 26, 2015; March 5 2016

- white emissions from coke oven stack

Cause:

- The white emission could be mostly steam due to a higher level of moisture in the underfiring coke oven gas.
- COM was low at 4.3%
- May also have a higher level of NOx



Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Complaints:

February 21, 2016

- black emissions from coke oven stack





Performance under O.Reg. 419/05 Site Specific Standard Order - Particulates

Complaints:

February 21, 2016

- black emissions from coke oven stack

Cause:

- Oven to flue leakage during charging of oven
- Peak opacity was 80% for < 1 min.
- 6-minute average opacity was 12.3%

Corrective Actions:

- The oven being charged was subsequently checked for leaks and repaired.



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Site Specific Standard – Benzene and B[a]P

Benzo[a]Pyrene

- controls are similar to the SSS - Particulates
- B[a]P is attached to particulates
- controlled by visible emission observations limits

Benzene

- emission controls on remaining identified sources:
 - Tar S – tar storage;
 - Tar L – tar loading;
 - DAC – dissolved air clarifier; and
 - EALT – excess ammonia liquor storage tank.
- expansion of the Leak Detection and Repair program
- identification of other sources of fugitive benzene emissions



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World Health Organization Ambient Air Pollution Database – 2016 PM₁₀ & PM_{2.5}

http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/



WHO Ranking of Cities by Air Quality

Country	City	Annual Mean (PM ₁₀) (µg/m ³)	Rank
Nigeria	Onitsha	594	1
India	Delhi	229	25
China	Beijing	108	153
Mexico	Mexico City	42	689
Canada	Courtenay	30	1017
Canada	Regina	25	1274
Canada	Hamilton	16	2341
Canada	Toronto	14	2546
Canada	North Bay	9	2910
Canada	Norman Wells	5	2968
USA	Sinclair, WY	3	2973



Figure 9c

Annual average PM₁₀ for 2015.

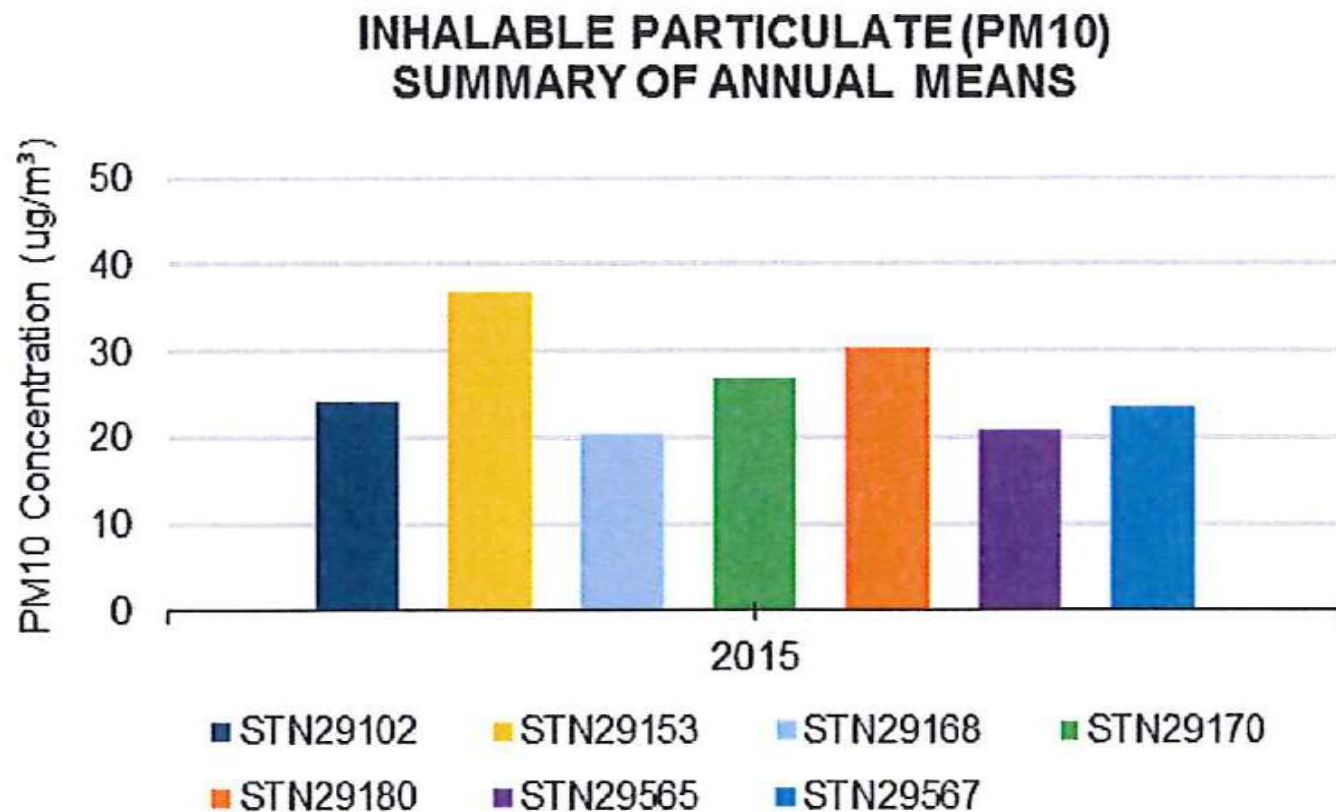




Figure 11

Monthly PM₁₀ exceedance trends

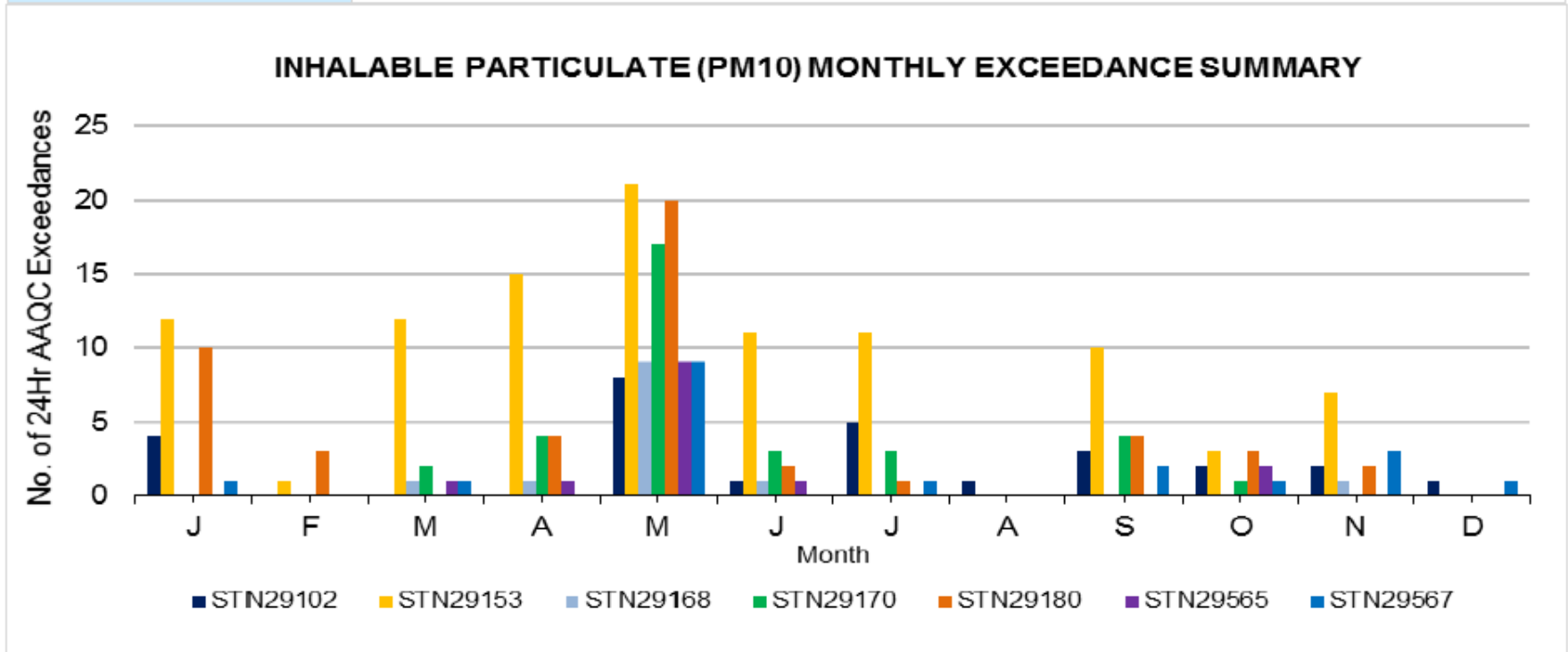


Figure 11 shows the number of 24 hour PM₁₀ AAQC exceedances in each month of 2015. The spring clean-up of road dust accumulated over the winter months along with road dust re-entrainment by vehicle traffic contribute to elevated particulate during the spring months and the overall annual average. Table 6 provides statistics on data collected from the continuous PM₁₀ monitors in the network. STN29153 recorded the highest number (103) of exceedances of the 24 Hr PM₁₀ AAQC.

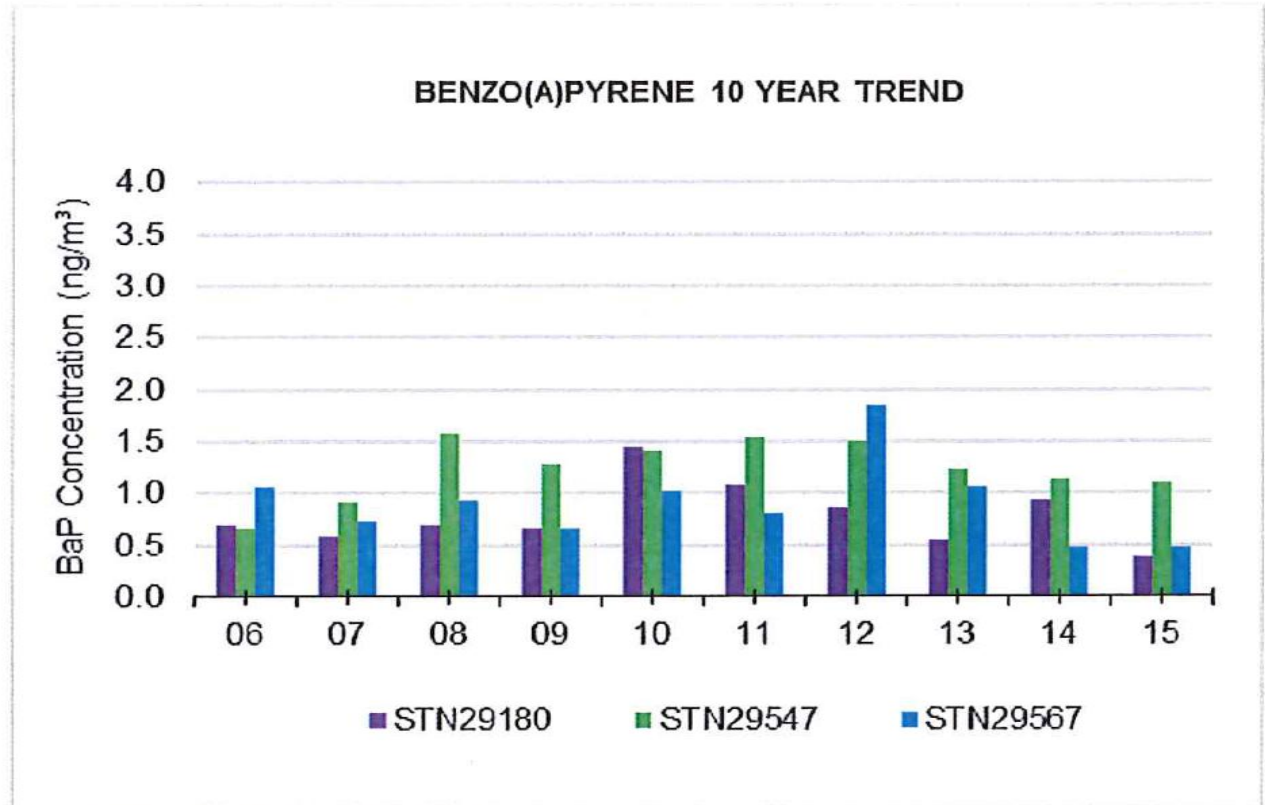


Figure 12

Annual average BaP trends over the past 10 years for STN29180, STN29547, and STN29567.



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Adjournment

**Thank You For Your
Time and Commitment to
the Hamilton Works
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