



ArcelorMittal

ArcelorMittal Dofasco: The Alternative Standards Experience

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Topics

- Company Overview
- Alternative Standards
- The ArcelorMittal Dofasco Experience
 - Emission Summary and Dispersion Modeling
 - Combined Modeling and Monitoring Assessment
 - Technology Benchmarking Review
 - Action Plan
 - Community Consultation
 - Timeline
 - Results

ArcelorMittal Dofasco Overview

- Fully- integrated steelmaker
- Hamilton, Ontario
- ~4.5 million tonne capacity
- ~750 acres
- ~ 5000 employees
- ISO 14001 certification



Alternative Standards

- Site-specific air emission limits under O. Reg 419/05;
- Bridge to allow additional time to comply with MOE standards;
 - Demonstrate best efforts to reduce emissions
- Compliance point for Certificate of Approval;

Industry estimates MOE will have to review/consider
>150 alternative standard applications

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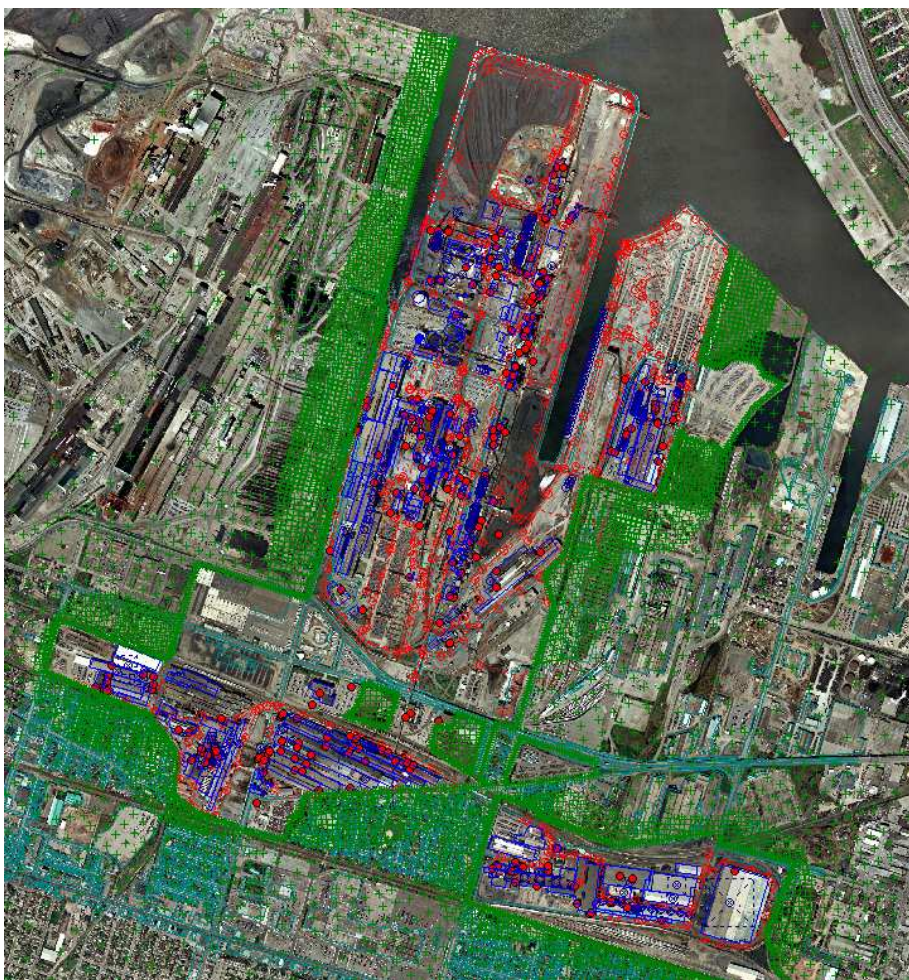
Emission Summary and Dispersion Model

- Acquired emission inventory and modeling software
- Business Unit audits to identify emission sources
- Data collection and documenting emission calculations
- 3rd party consultant: Quality Assurance / Quality Control
Report template and compilation

Consult other industry players to align source and emission calculation estimates and assumptions where appropriate



ESDM Facts



- ~750 emission sources (including roads)
- >150 contaminants
- >8300 Receptors
- 2 TB of data storage to hold model files
- 5 days to run model
- 6" binder to hold ESDM Report

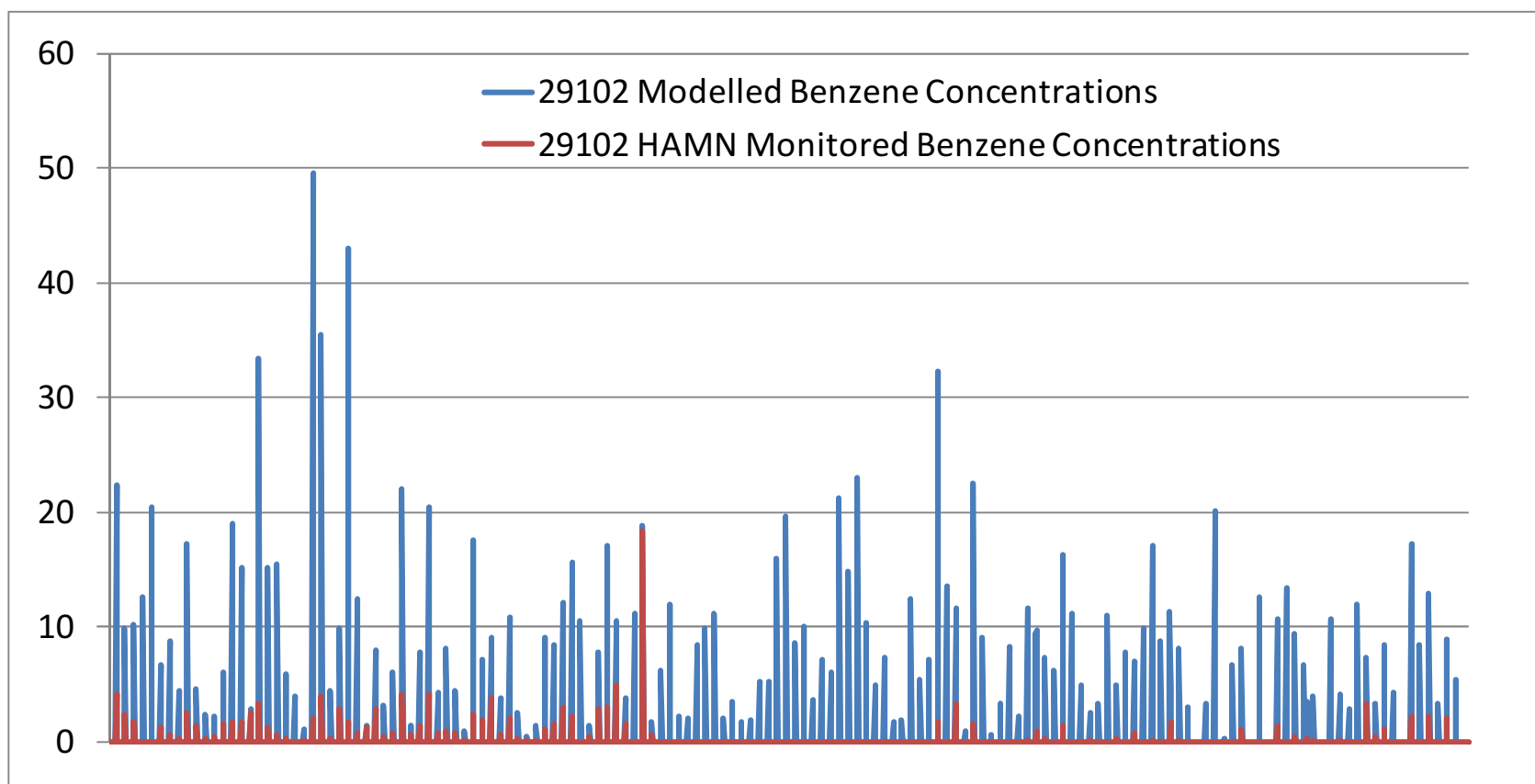


Combined Analysis of Modeling and Monitoring (CMM)

- Phase 1: Submitted using local air monitoring network data
- MOE requested additional (on-site) monitoring
- Phase 2:
 - MOE recommended monitor locations and “hit” criteria
 - Five monitors established
 - Six months (30 samples / contaminant / monitor)
- MOE used Phase 2 to update emission rates
 - “Fully Refined” ESDM
 - > 7 times predicted increase in Benzene emissions
 - Highly inconsistent with community monitored data



Combined Analysis of Modeling and Monitoring (CAMM)



Fully understand the CAMM process and how data is to be used before study begins

Technology Benchmarking Review

- Expert team for each area of investigation:
 - Business Unit, Engineering, Environment
- “MOE Guide for Requesting an Alternative Air Standard”
- Global benchmarking identified possible emission-reduction opportunities:
 - material substitution, process change, add on controls
- Evaluated for technical and economic feasibility
 - MOE’s Total Resource Effectiveness methodology.
- Audited by independent MOE-hired third party

Early engagement with MOE to agree on TBR scope

Action Plan



Project	Primary Contaminant	Secondary Contaminant	2010	2011	2012	2013	2014	
CP1: New Door Machine	BaP	Benzene, TRS, TSP	4,900,000					
CP3: Replace Door Jambs	BaP	Benzene, TRS, TSP	1,500,000					
CP2: Pusher Side Jamb Cleaners	BaP	Benzene, TRS, TSP	750,000		500,000			
CP1,2,3: Coke Guide Pyrometers	BaP	Benzene, TRS, TSP	150,000					
CP2,3: Electronic Off-gas Controllers	BaP	Benzene, TRS, TSP	120,000					
CP1,2,3: Off-Gas Temperature Monitoring	BaP	Benzene, TRS, TSP			500,000			
CP 1,2,3 Benchmarking for Continuous Improvement	BaP	Benzene, TRS, TSP						
BP1: Improved Primary Coolers	Benzene	TRS	1,000,000	1,500,000				
BP1: Thermal Oxidizer	Benzene	TRS		1,500,000				
BP1,2,3: Leak Detection Analysis	Benzene	-	300,000	300,000	300,000	300,000	300,000	
#3BF Slag Pelletizer Hood and Stack	TRS	TSP	1,500,000					
#4BF Investigate Slag Pelletizer Improvements	TRS	TSP						
CTS: Increased Road Sweeping/Flushing	TSP	-	300,000	300,000	300,000	300,000	300,000	
IRON: Investigate Coffining Mobile Baghouse	TSP	-						
			TOTAL:					
			\$16,620,000	10,220,000	3,600,000	1,600,000	600,000	600,000

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Community Consultation

- ArcelorMittal Dofasco:
 - 3 Open Houses between July 2008 and September 2009
 - Modest attendance
 - Continuous website updates
- MOE:
 - “Hamilton Stakeholder Committee”
- Challenging communications exercise
 - “Alternative Standard” concept
 - Highly technical subject matter

Public Consultation requirement in Alternative Standard Application necessitates detailed planning, implementation and documentation

Community Consultation

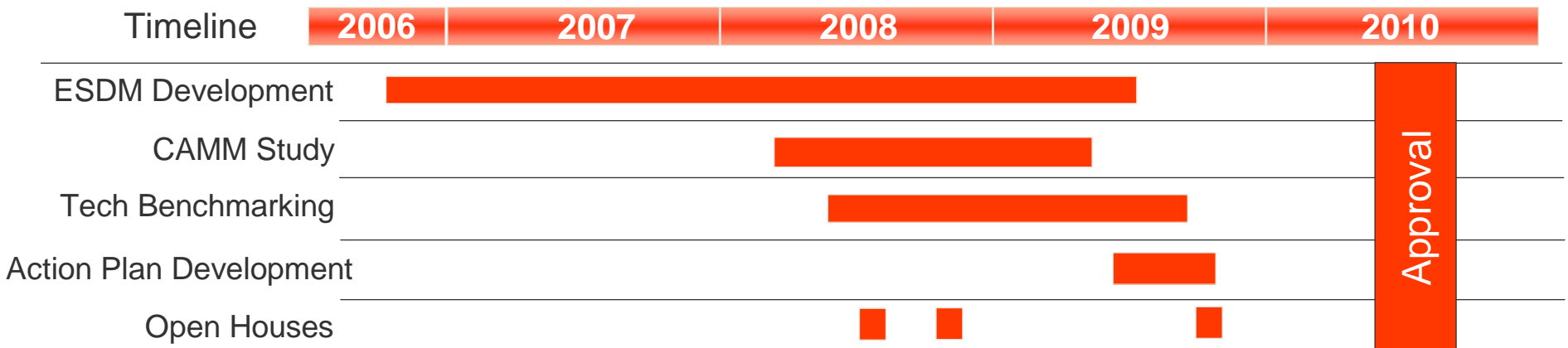
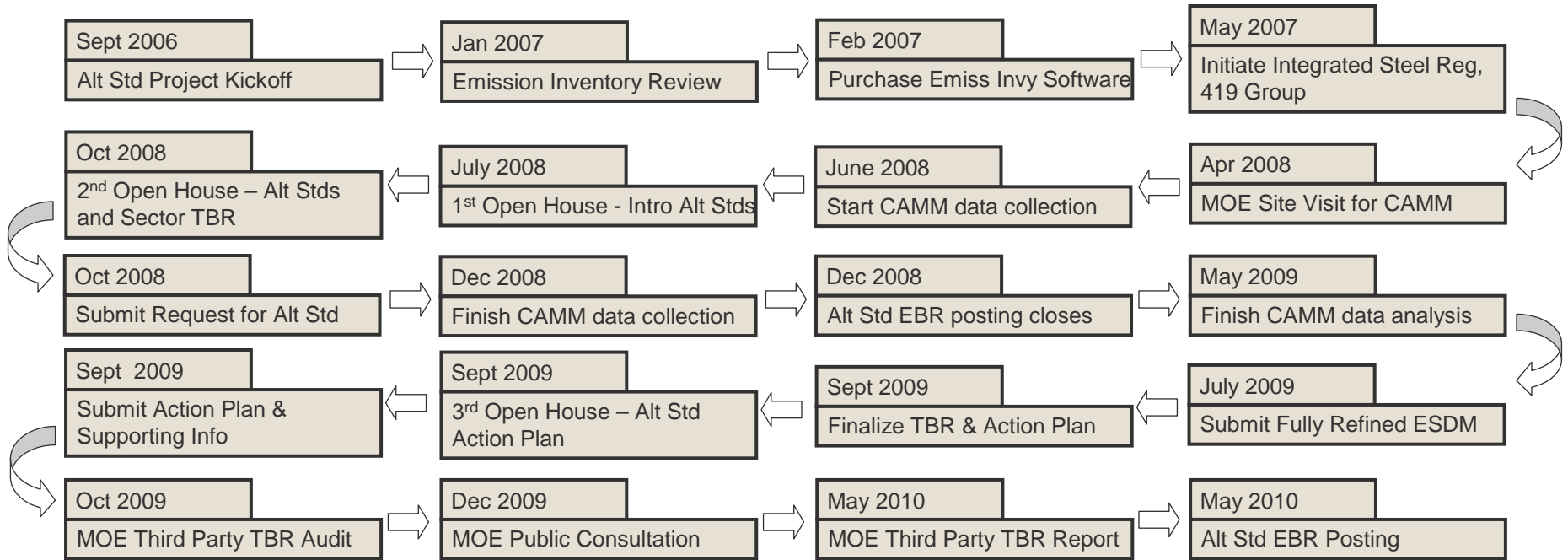
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Timeline



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The Results

- Alternative Standards:
 - Suspended Particulate Matter ; Total reduced Sulphur
- Site-specific Limits:
 - Benzene and Benzo(a)Pyrene
- Future obligations (conditions of Approvals):
 - Action Plan projects (within timelines)
 - Additional engineering studies
 - Regular community consultation
 - Ongoing reporting requirements
- Re-evaluate in 2014

Process doesn't end with MOE approval



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Thank You



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