



# *Air Toxics Monitoring in Region 5*

Air Toxics Monitoring and Data Analysis Workshop, 2011  
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# R5 HAP risk priority screening

- AQS Discoverer query created for annual risk screen of HAP annual averages
- Aim to identify pollutants and geographic areas of greatest concern for possible further investigation
- Low bar for data inclusion
  - Minimum of 10 samples per year per HAP
  - <85% nondetects
- OAQPS dose-response values from FERA website
  - Noncancer RfC or  $1 \times 10^{-5}$  cancer risk equivalent
  - Sites caught in screen if 80% of comparison value

# 2009 Region 5 HAP risk screening

	HAP	Ave. <sup>1</sup>	Site <sup>2</sup>	Address	City	Potential Source
IL	Mn (TSP)	0.10	170310022	3535 E. 114th St.	Chicago	(closed LTV Steel)
		0.05	171190010	15th & Madison	Granite City	US Steel Granite City
IN	Butadiene	1.3	180892008	1300 141st St.	Hammond	Exxon-Mobil Terminal
	Benzene	5.1	180890022	201 Mississippi St.	Gary	US Steel Gary Works
		2.1	180892008	1300 141st St.	Hammond	Exxon-Mobil Terminal
	Mn (PM <sub>10</sub> )	0.06	180895504-S	601 Jackson St	Gary	US Steel Gary Works
	Mn (TSP)	0.14	180895503-S	2001 E. 135th St.	East Chicago	Mittal Steel
0.06		180896000	1100 W. Columbus Dr.	East Chicago	Mittal Steel	
MI	Mn (TSP)	0.05	261630015	150 Waterman	Detroit	US Steel; Severstal
		0.07	261630027	7701 W. Jefferson	Detroit	US Steel Great Lakes
		0.08	261630033	2842 Wyoming	Dearborn	Severstal Steel
MN	Benzene	3.7	271630438	4th Ave & 2nd St	Newport	Marathon Ashland
	Mn (TSP)	0.07	271230866	1450 Red Rock Rd.	St. Paul	Gerdau Ameristeel
		0.05	271377001	327 First St. S	Virginia	US Steel Minntac
OH	Benzene	2.5	390350069	7300 Superior	Cleveland	(near roadway)
		18.4	390810017	618 Logan St.	Steubenville	Severstal Wheeling
		2.6	391555504-S	458 Franklin St SE	Warren	ArcelorMittal
	Mn (PM <sub>10</sub> )	0.09	390290022-S	500 Maryland	East Liverpool	S.H. Bell
		0.11	391670010-S	115 Victory Place	Marietta	Eramet Marietta
		0.15	391675506-S	16855 State Route 550	none	Eramet Marietta
	Mn (TSP)	0.14	390290019	1250 George	East Liverpool	S.H. Bell
		0.83	390290020	2220 Michigan	East Liverpool	S.H. Bell
		0.08	390290022-S	500 Maryland	East Liverpool	S.H. Bell
		0.11	390350049	E. 56th St.	Cleveland	Charter, AK, ISG steel
		0.05	390350050	Grant Rd.	Cleveland	Charter, AK, ISG steel
		0.08	391670008	S.R. 676	Marietta	Eramet Marietta
		0.13	391670010	115 Victory Place	Marietta	Eramet Marietta
		0.15	391675506-S	16855 State Route 550	none	Eramet Marietta
		Naphthalene	3.5	390810017	618 Logan St.	Steubenville
WI	Benzene	2.1	550790010	1337 S. 16th St.	Milwaukee	(near roadway)

- Years ago, benzene and Mn were most often on the list
- Now, fewer benzene and more Mn sites b/c VOCs levels dropping and changes in network
- 2010 version will include 24-hour peak concentrations vs. acute risk values

▪ Note: VOCs in ppbC, metals in ug/m<sup>3</sup>



# Lead NAAQS and Manganese

- R5 has 17 new TSP-Pb sites - most are reporting the full suite of toxic metals to AQS
- 2010 data show several new sites with average Mn higher than RfC ( $0.05 \text{ ug/m}^3$ ) for neurological effects
- Mostly steel industry oriented monitors
- Region may pursue multi-pollutant strategy in events of Pb nonattainment and elevated Mn
- Where Pb does not exceed NAAQS, EPA may approach high Mn emitters to achieve voluntary PM reductions