

Brick MACT Update

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Topics for Today

- Quick review of MACT/Why you should care
- Traditional MACT
- Alternative approach to MACT
- When will MACT happen?
- How you can help

What is MACT?

- **Maximum Achievable Control Technology**
- Also known as **National Emission Standards for Hazardous Air Pollutants (NESHAP)**
- Air emission standard written by US Environmental Protection Agency
- Requirements for kilns and dryers
 - Kilns- numerical emission limits for stacks
 - Dryers- work practice requirements

What Pollutants are Covered?

- Emission limits/limitations for:
 - Hydrogen Fluoride
 - Hydrogen Chloride
 - Chlorine
 - Mercury
 - Other Metal HAP (PM as surrogate- maybe)
- Does NOT include SO₂, NO_x, CO₂, CO, PM_{2.5}



What facilities are covered?

All brick and structural clay facilities that are major sources. For our industry:

- 10 tons per year of HF or HCl
- Typically any facility with combined capacity >4-6 tons per hour- if there are no air pollution control devices
- Actual applicability depends on site-specific emission rates

Why Should You Care?

- EPA currently estimates minimum cost per covered facility: **\$2,000,000** capital investment per kiln (for a small kiln)
- Annual costs: ~\$700,000 per year, minimum
 - Includes cost of borrowing \$2 million +
 - Also includes costs to operate control device (labor, electricity, water, purchase and disposal of control device reagents)

In addition to direct cost impacts to plant

- Brick plant employees
 - Control devices could affect air flow through kilns which could change brick characteristics
 - May need to re-establish product lines/firing curves
 - Would need to learn how to operate controls
 - “Work practices” could change
- Sales
 - Increase in price of bricks
 - Product line changes/delays in getting matching products

How Does EPA Pick the Limit for “Traditional MACT”?



How EPA sets limits- Traditional

EPA has data for all 100 sources

HF	Facility	LB/TON
1	A	0.0003
2	B	0.0004
3	C	0.00042
4	D	0.00048
5	E	0.004
6	F	0.006
7	G	0.008
8	H	0.0086
9	I	0.009
10	J	0.0103
11	K	0.0103
12	L	0.0104
13	M	0.0104
14	N	0.0104
.	.	.
.	.	.
.	.	.
.	.	.
.	.	.
92	BBB	0.22
93	CCC	0.23
94	DDD	0.25
95	EEE	0.31
96	FFF	0.31
97	GGG	0.32
98	HHH	0.55
99	III	0.57
100	JJJ	0.57

12 % of 100 = 12
Average= .0057

NOTE: These data are not real! Just used as an example!

How EPA sets limits- Traditional

Data for only 13 sources

HF	Facility	LB/TON
1	A	0.0003
2	B	0.0004
3	C	0.00042
4	D	0.00048
5	E	0.004
6	F	0.006
7	G	0.008
8	H	0.0086
9	I	0.009
10	J	0.0103
11	K	0.0103
12	L	0.0104
13	M	0.0104
14	N	No data
.	.	.
.	.	.
.	.	.
.	.	.
.	.	.
92	BBB	No data
93	CCC	No data
94	DDD	No data
95	EEE	No data
96	FFF	No data
97	GGG	No data
98	HHH	No data
99	III	No data
100	JJJ	No data

} 12 % of 13 = 1.56 => 2
Average= .00035

NOTE: These data are not real! Just used as an example!

Then- EPA re-ranks sources for HCl- Data for all 100 sources

Not the
same
plants!!

HCl	Facility	LB/TON
1	EEE	0.005
2	K	0.0054
3	L	0.009
4	D	0.0105
5	DDD	0.0119
6	F	0.0203
7	N	0.0235
8	A	0.0254
9	B	0.0367
10	J	0.0368
11	K	0.0368
12	C	0.04
13	M	0.04
14	N	0.05
.	.	.
.	.	.
.	.	.
.	.	.
.	.	.
92	G	0.23
93	H	0.23
94	BBB	0.24
95	CCC	0.25
96	FFF	0.26
97	GGG	0.27
98	E	0.28
99	I	0.29
100	AAA	0.3

12 % of 100 = 12

Average= .022

NOTE: These data are not real! Just used as an example!

HCl- Data for 3 sources

HCl	Facility	LB/TON
1	EEE	0.005
2	K	0.0054
3	L	0.009
4	D	no data
5	DDD	no data
6	F	no data
7	N	no data
8	A	no data
9	B	no data
10	J	no data
11	K	no data
12	C	no data
13	M	no data
14	N	no data
.	.	.
.	.	.
.	.	.
.	.	.
.	.	.
92	G	no data
93	H	no data
94	BBB	no data
95	CCC	no data
96	FFF	no data
97	GGG	no data
98	E	no data
99	I	no data
100	AAA	no data

12 % of 3 = 0.36 => 1

“Average” = .005

NOTE: These data are not real! Just used as an example!



...and so on for each pollutant

- No single facility currently meets all limits
- Emissions based:
 - Levels of trace contaminants in raw materials
 - Control device
- This is NOT how we would like them to set the standard!
- Levels would be more stringent than last MACT
- This approach leads to the high costs just mentioned

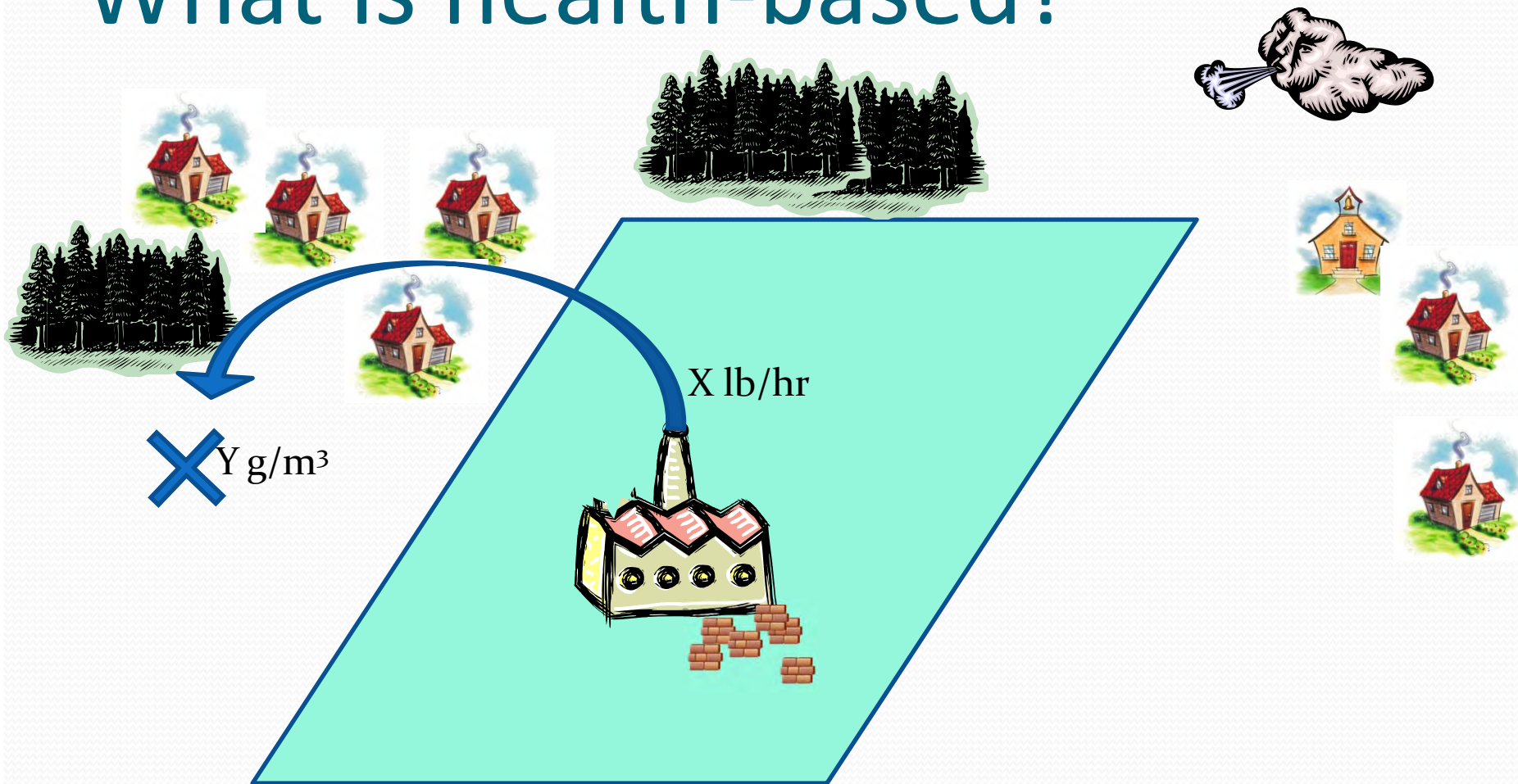
EPA could take another approach- Health-Based

- Allowed by Clean Air Act, but never been done in other rules
- Possibility offered to us because:
 - We are a smaller industry with fewer total sources
 - We do not have other emission sources on-site
 - We tend to be rural
 - We pushed hard for it/pestered!

How EPA develops a Health-Based MACT standard

1. Gathers data from industry
2. Models emissions for health-based pollutants and identifies “allowable emission levels”
3. Establishes limits for non-health based pollutants
4. Identifies compliance requirements

What is health-based?



Your site-specific value

- Get Y_{HF} , Y_{HCl} , Y_{Cl_2} in g/m^3 for your plant, using your stack parameters and emissions data (when available)
- Calculate your Hazard Quotient for each pollutant- example

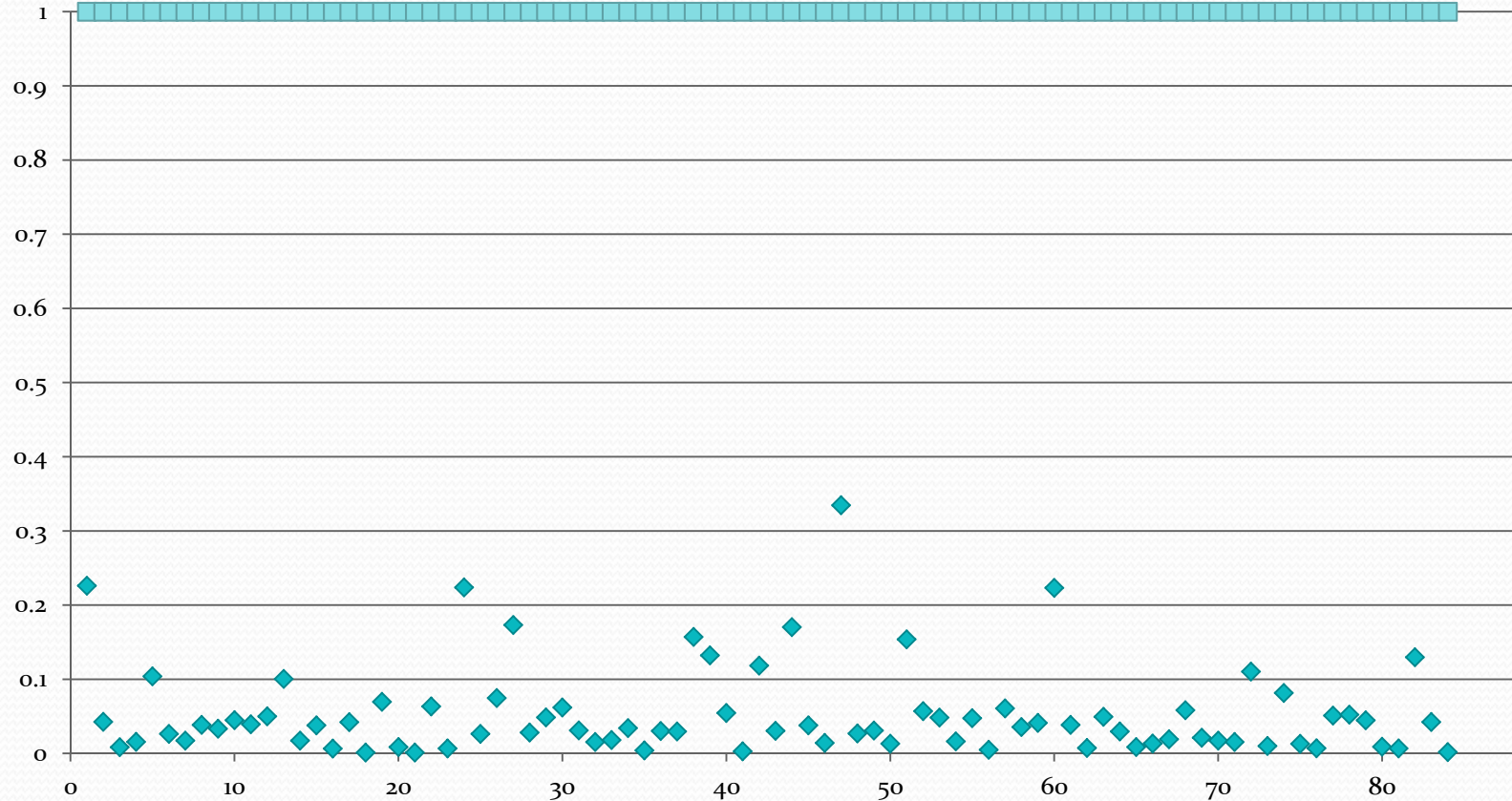
$$HQ_{HF} = \frac{Y_{HF} \text{ g/m}^3 \text{- for facility}}{R_{HF} \text{ g/m}^3 \text{- considered "safe"}}$$

R_{HF} g/m^3 - considered "safe" (reference concentration)

- If $HQ < 1$, you are below safe concentration
- EPA requiring us to sum all HQ and still be <1 .

So we did! Summing HIs- long-term

Maximum Facility Risk Combined Chronic Risk





We still have a long way to go...

- EPA wants to use “worst case” single facility to establish limits for all facilities
- EPA wants to look at more stringent short-term impacts to establish limits
- Still evaluating what to do about:
 - Mercury
 - Other Metal HAPs/Particulate Matter
- Mercury and metals could still trigger same costly controls



When will the MACT Happen?

- EPA published consent decree December 7, 2012 proposing court ordered schedule
 - Proposal- August 2013
 - Final Rule- July 2014
- BIA MACT TF asked all to comment and copy Capitol Hill
- And you did!

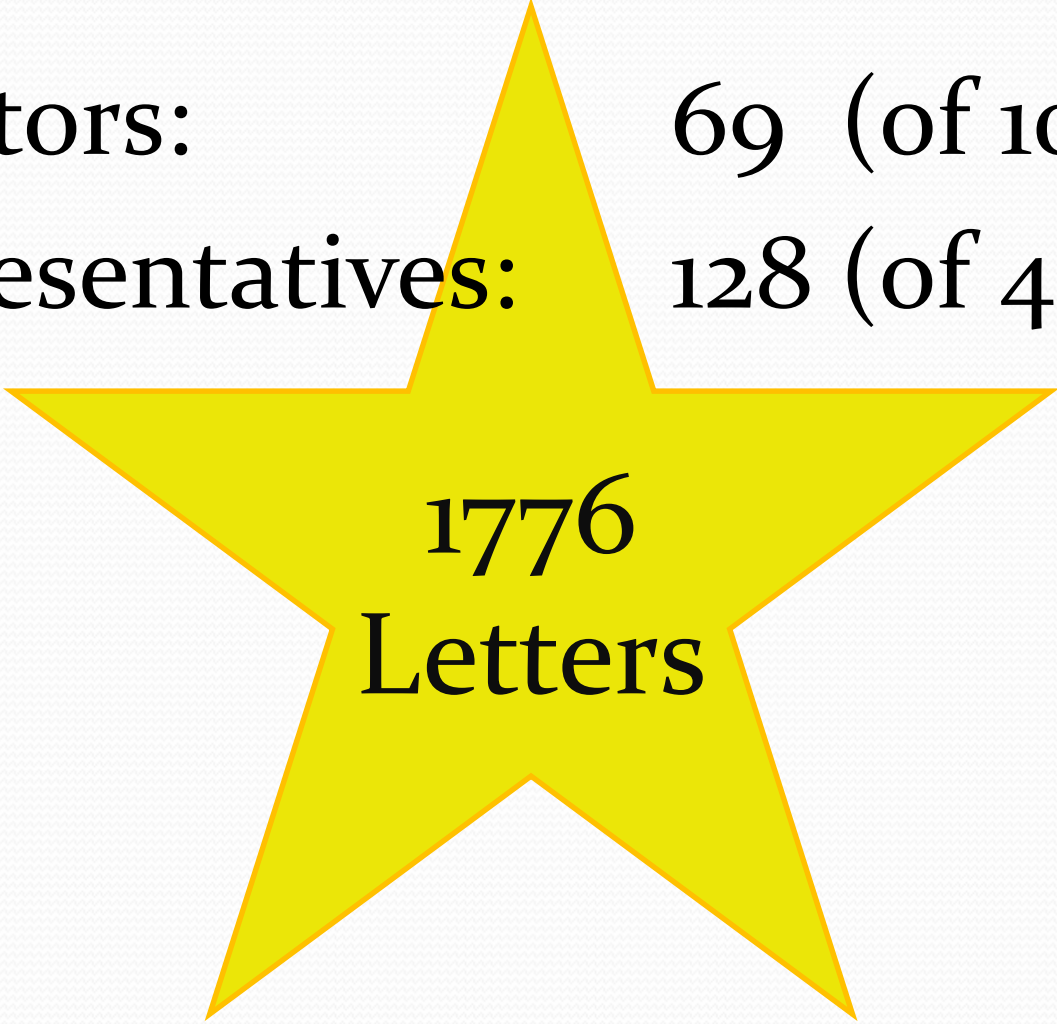
Your Response- 400 Letters to EPA!

- 26 CEOs
- >20 environmental compliance officers
- Distributors, Manufacturers, AFL-CIO
- Many, many employee campaigns, including plant managers through maintenance workers and support staff



THANK YOU!!!

- Senators: 69 (of 100)
- Representatives: 128 (of 441)



1776
Letters



Our pressure is working!

- First time in at least 10 years- EPA changed draft consent decree based on public comments
- Brick MACT proposal moved ~ 6 months

Brick MACT- Key dates (approx.)

[Estimates based on court-ordered signature dates: 2/6/2014 for proposed rule and 12/18/2014 for final rule]

Key Date	What is this?	What else happens?
March 2014-	Proposed rule published in Federal Register [Proposal date]	Any source constructed after proposal date is considered a new source
January/ February 2015	Final rule published in Federal Register [Promulgation Date]	Compliance date for new sources . Clock starts for existing sources.
January/ February 2018	Compliance date for all existing sources [<u>IF</u> EPA allows full 3 years, as expected]	To avoid MACT applying to you, you must be a synthetic minor source <u>before</u> this date

You can help...

- If EPA calls, get it in writing and call BIA!
- If we call/email, please respond as fully and as quickly as you can.
- Have you talked to your Congressman lately?
- We =
 - BIA staff (Susan Miller, Irene Kuo, Paul Regina)
 - NBRC staff (John Sanders, Jim Frederic)
 - Other brick industry personnel helping on specific tasks

Questions?

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