Small Quantity Emission Rates and De Minimis Emission Values

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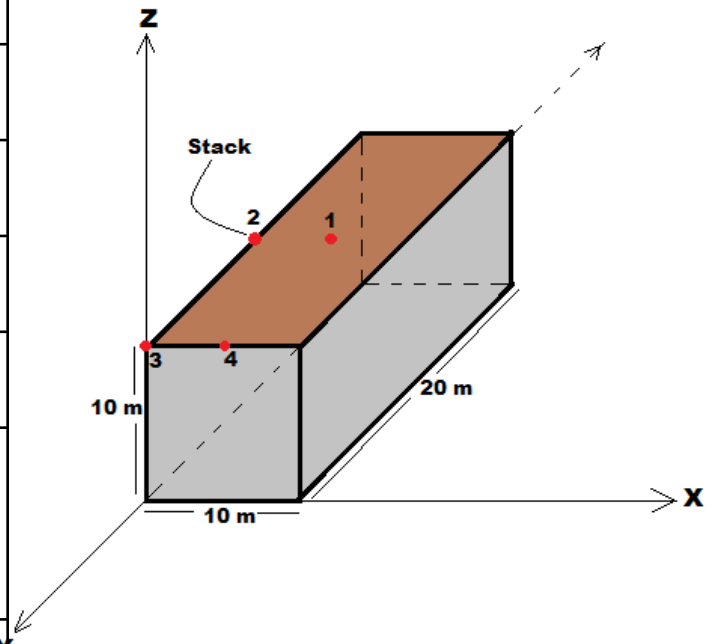
Agenda

- Establishing the small quantity emission rates (SQER)
- Reviewing the rule structure
- Evaluating whether the SQER should be the de minimis emission value
- Feedback
- Next steps

Prior vs Current modeling Parameters to derive SQERs

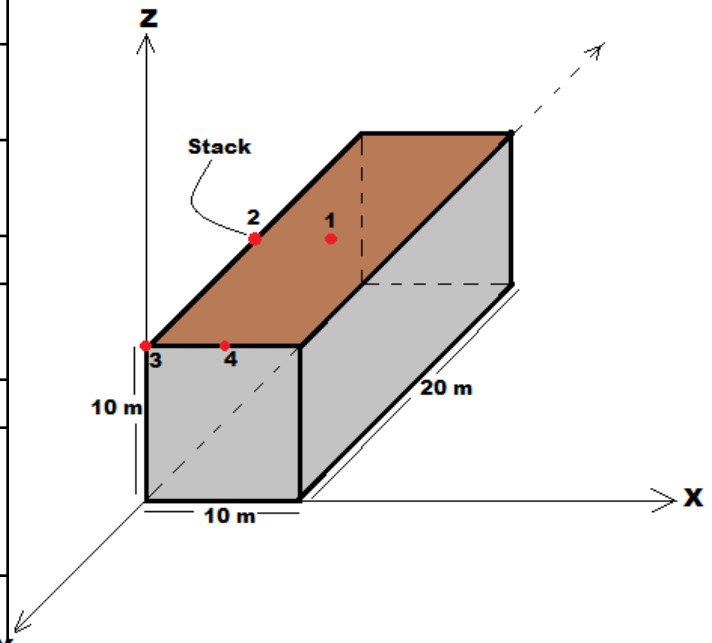
Parameter	Value used in 2009 SQER derivation	Value used in 2019 SQER derivation
Model used	SCREEN3	AERSCREEN
Emission rate	1 gram per second	1 gram per second
Point source stack height	5 meters	10, 10.5, and 11 meters
Point source stack diameter	0.33 meters	0.33 meters
Point source exit velocity	0.00001 meters per second	1, 5, and 10 meters per second
Point source stack temperature	Ambient	Ambient
Point source stack location	Southwest corner of building	Four locations • Southwest corner of building • Building centroid • Center of each horizontal dimension
Volume source side length	N/A	0.5, 1, 2, and 3 meters
Volume source release height + initial vertical dimension	NA	• 5 + 5.5 meters • 6.5 + 4 meters • 7.5 + 3 meters • 10 + 0.5 meters



AERSCREEN simple building downwash assumption
ECY, Jan 2019.

Prior vs Current modeling Parameters to derive SQERs (pg 2)

Parameter	Value used in 2009 SQER derivation	Value used in 2019 SQER derivation
Flagpole receptor height	1.6 meters	1.6 meters
Urban or rural dispersion	Rural	Rural
Building downwash	Yes	Only applies to point sources
Building height	5 meters	10 meters
Building dimensions	10 x 20 meters	10 x 20 meters
Terrain effects	No	No
Meteorology options	• Temperature 250- 310K • Minimum wind 0.5 meters per second	• Temperature 250- 310K • Minimum wind 0.5 meters per second • Friction velocity adjusted (Adj_u*)
Surface characteristics	N/A	• Desert shrubland • Grassland • Cultivated land
Receptor distances	50 meters downwind	5 to 50 meters in 5 meter increments



AERSCREEN simple building downwash assumption
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General results

- Goal = realistic yet conservative scenario
- 124 model runs
- Used the median – middle value
- SQER 18 % lower than existing
- De minimis = SQER/20

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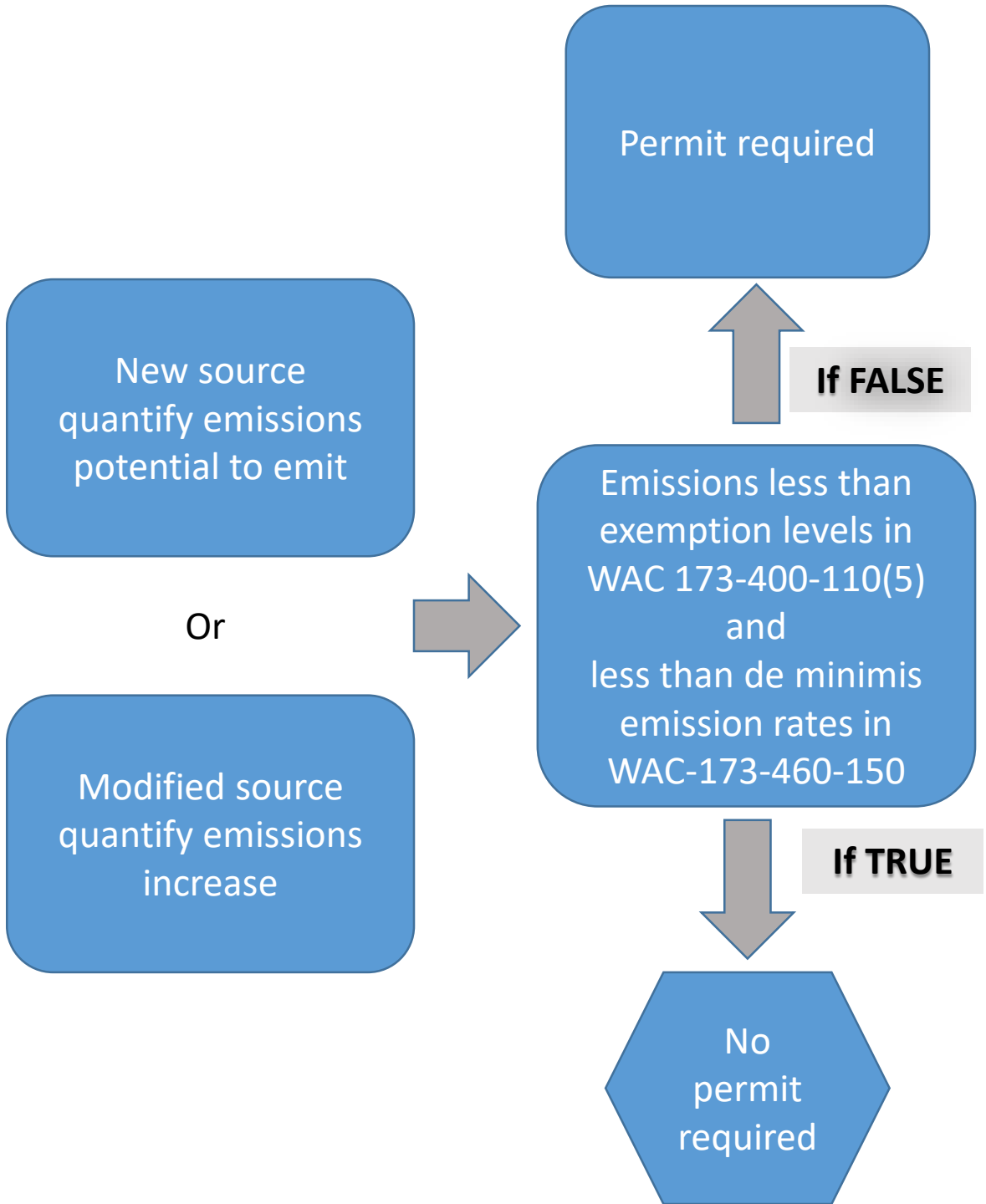

Requirements if TAP emissions > de minimis

Determine TBACT

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Estimate emissions after TBACT

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Ambient impacts analysis

SQERs | AERSCREEN | AERMOD

↓

First Tier Review

Permissible if emissions < SQER or impacts < ASIL

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Second Tier Review

Permissible if risk < 1 in 100,000
or noncancer hazard acceptable

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Third Tier Review

Not Permissible without Director's Risk Management Decision

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2009 Purpose

- Improved permitting efficiency
  - SQER screening tool without modeling
  - De minimis – no permit required

Questions

- How does an agency use the de minimis values?
- Have SQERs and de minimis values simplified permitting?
- Are de minimis values useful for determining when a source should be regulated under this rule?
- Draft SQER = 18 percent lower & de minimis = SQER/20
  - Should we retain SQER/20?
  - How much lower should it be?
- What are consequences of SQER = de minimis?

Consequences of Change

SQER = De Minimis	SQER > De Minimis
Fewer sources subject to rule	More sources subject to rule
Lose ability to review sources with low TAPS	Retain ability to review sources with low TAPS
TBACT moved to > SQER	TBACT > de minimis
Reduced permitting burden	Retain current permitting impact

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Feedback

- Guidance?
  - Post searchable 150 list on web page

Economic Questions for Stakeholders

Answer the following questions if they apply to you. Please be as specific as possible.

- **How would the rule changes affect you?**
  - Specific costs or benefits?

- **What specific costs do you expect to incur as a result of the changes to the rule?**
  - Equipment
  - Supplies
  - Labor
  - Professional services/contractors
  - Administrative costs
  - Other?

Economic Questions for Stakeholders

- **How could we still achieve the goals of the rulemaking while using the following methods reduce your costs of compliance with the rule changes?**
  - Reducing substantive regulatory requirements
  - Reducing recordkeeping & reporting
  - Reducing inspections
  - Phasing in
  - Reducing penalties
  - Other?

- **Are you a small business or local government?**
  - What problems do you encounter in complying with the rule changes because you are a small business or local government?
  - Can you provide examples? (e.g., need to borrow to cover large up-front costs, lack internal staff and need to hire contractor, need to revise local ordinance, difficulty or lag in raising fees)?

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Next Steps

- Review recommendations
  - Feb. 21 meeting
  - March 11 meeting
- Rule drafting deadline: March 20
- Propose rule: May 22