



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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Ecology 460 Rulemaking Stakeholder Meeting Summary

Jan. 23, 2019 (revised)

Participants

Participating in-person

Olympic Region Clean Air Agency: Jennifer DeMay, Aaron Manley
Ecology: Jason Alberich, Ranil Dhammapala, Philip Gent, Elena Guilfoil, Matt Kadlec, Chris Hanlon-Meyer, Stephanie Ogle, Gary Palcisko, Judy Schweiters, Emily Toffol
Puget Sound Clean Air Agency: Maggie Corbin
Western States Petroleum Association: Alan Newman

Participating via the telephone

Boeing: Kristin Marshall
DOE Richland: Amber Chapman, Thomas Ferns
Ecology: Jenny Filipy, Daniel Heuston, Ryan Vicente
Friends of Toppenish Creek: Jean Mendoza
Mission Support Alliance: Reed Kaldor
Navy: Matthew Hamilton
Nippon Dynawave Packaging Co: Brian Wood
Northwest Clean Air Agency: Agata McIntyre
Northwest Pulp and Paper Association: Kathryn VanNatta
Olympic Region Clean Air Agency: Lauren Whybrew
Packaging Corp: Charleston Ramos
Puget Sound Clean Air Agency: Alfredo Arroyo
Simplet: Heidi Radke
Spokane Clean Air Agency: John Conklin
Stoel Rives – Microsoft: Matt Cohen
Western States Petroleum Association: Ken Johnson, Tery Lizarraga
Not specified: Marcos Rocha, Megan Rodrigo

Small quantity emission rate (SQER)

The SQER is a screening tool for a level of emissions that does not require dispersion modeling to show the project is below an ASIL. The existing rule reflects the results from

modeling parameters based on conservative parameters for a “standard building” using the SCREEN3 model. Since EPA no longer supports this model, we used AERSCREEN Version 16216, EPA’s recommended screening model.

We also reviewed the modeling parameters that provide the basis for the SQER to establish parameters that reflect a more reasonable set of conservative assumptions. Rather than follow the previous model that used one-set of values, we applied multiple scenarios that reflect a range of 124 conservative but realistic scenarios. When a pollutant was emitted at 1 gram per second, the model runs predicted a median (value in the middle) concentration of 4282 $\mu\text{g}/\text{m}^3$. This conversion factor was used as the basis with which to revise the SQERs.

Results

- Draft SQER is 17 percent lower than current SQER
- Calculation factor = 4282 $\mu\text{g}/\text{m}^3$

Modeling parameter discussion

- Point source stack heights tested: 10, 10.5 and 11 meters
 - The 2009 average building parameters reflected a 5-meter tall building with a release vent at building height. To reflect more representative building parameters, we changed the building to a 10-meter tall warehouse building and assumed stack heights of 10, 10.5 and 11 meters.
 - Stack gas exit velocities were assumed to be 1, 5 and 10 meters per second.
 - Building downwash: Stacks were placed in 4 different areas of a 10-meters long and 20-meters wide building to account for worst-case plume downwash scenarios.
 - Yakima Regional Air Agency recommends retaining the building height to 5 meters because doubling building height reduces the SQER. We think the modeling parameters represent a reasonable set of conservative assumptions and running 124 model runs provides a range of conservative representative values.

Since all our model runs were based on a range of conservative assumptions, their mid-point is likely to be a reasonable but yet conservative estimate of conditions encountered in typical permitting. It does not hinge on the worst scenario encountered in the field.

- Meteorology: The AERSCREEN model doesn’t require measured meteorological data because it uses synthetic data. The model assumes a full range of temperatures and wind speeds..
- Flagpole receptor height: Reflects the average height of an adult which is a surrogate for the human breathing zone.
- Surface roughness: Were there model runs with higher surface roughness (urban characterization)? No. Urban areas usually have higher surface roughness which would lead to higher plume impacts. But sources in such areas are also likely to have more buoyant stacks (we only assumed an ambient release temperature) and taller

buildings, all of which increase dispersion and result in lower calculated SQERs. We considered dispersion over shrubland, desert shrubland, and cultivated land.

- Use of median value compared to 95% confidence value: The 95% confidence interval provides a range around which the mean is distributed, whereas we need a single value for deriving SQERs. The median is considered a robust middle-of-the-road estimate of all the conservative scenarios we modeled.
- Fenceline receptor distances: The 2009 modeling only evaluated impacts at 50 meters downwind of the facility. Here we evaluated plume concentrations from 5- to 50-meters downwind of the source, at 5 meter intervals.
- Spokane Regional Clean Air Agency was concerned that example building is not representative of diesel generators.

Ecology response

Diesel generators are likely to have higher exit velocities and temperatures (and thus more plume buoyancy) than assumed here, reducing the amount of downwash-driven concentrations. Therefore, we think the building profiles represent a reasonable set of conservative building profiles.

SQER as equal to the de minimis emission value

We discussed the option of aligning the SQER with the de minimis emission value.

Overview

- De minimis emission values are small levels of emissions that don't require regulation because they do not pose a health or environmental risk
- De minimis = SQER/20
- New de minimis would be 17% lower than current values
- Emissions greater than de minimis require TBACT
- If SQER = de minimis
 - Projects with emissions lower than SQER would not be subject to review
 - Emissions greater than SQER would require TBACT
- TBACT frequently not cost effective for projects with low emissions
- 460 definitions:
 - ASIL means a screening concentration of a toxic air pollutant. It is set at an acceptable level of risk (below 1-in-a-million for a cancer causing chemical and a hazard quotient of one applying daily averaging times for chemicals with chronic exposures).
 - SQER means a level of emissions below which dispersion modeling is not required to demonstrate compliance with ASILs.
 - De minimis emissions means trivial levels of emissions that do not pose a threat to human health or the environment.
- Should we divide SQER by a different value instead of 20?

Ecology

- Holds a variety of views on the topic
- SQER = de minimis reduces the number of projects going through a SEPA analysis because fewer sources would go through permitting
- Recalculating SQER = de minimis falls within the subject of possible rule making scope in Washington State Register 18-15-099.

Microsoft

- Wonders what are the practical implications of setting the SQER at the de minimis level when the SQERs are low enough
- TBACT is a cost-based test so wonders how often a permit establishes a different control technology due to high costs. What is the incremental benefit to TBACT for emissions below the SQER?

Northwest Clean Air Agency

- Uses rule as written
- Concerned that de minimis captures low volume sources in permitting that doesn't make sense so permits may have little value
- Problematic source: refinery valve, spray booth
- De minimis and SQER are conservative values
- After hearing discussion, supports retaining de minimis

Northwest Pulp and Paper Association

- Will review and provide comments later
- Supports holding a meeting in March so they will have more time to review materials

Olympic Regional Clean Air Agency

- Uses rule as written
- Current rule works well
- De minimis removal = backsliding if no TBACT required for values below SQER when SQER = de minimis
- Creates inequity if source would not be subject to NSR if SQER = de minimis
- Concerned that source may "game the system" if SQER = de minimis because 460 looks at incremental increases and if multiple projects/changes are below SQER they will avoid permitting and TBACT
- Important to apply TBACT to pollutants that are not criteria pollutants (like hydrogen sulfide and hydrogen chloride) because these chemicals are not subject to permitting for criteria pollutants
- Support value other than SQER/20
- TBACT is not overly burdensome
- Suggests SQER = de minimis is outside the rulemaking scope

Puget Sound Clean Air Agency

- Does not use de minimis
- Requires TBACT for any project with a TAP emission increase

- Recommends discussing SQER = de minimis at phase 2
- Suggests SQER = de minimis is outside the rulemaking scope
- Wondered if the ASIL, SQER, and de minimis are protective values

Spokane Regional Clean Air Agency

- Does not use de minimis
- Runs AERSCREEN on all applications

Western States Petroleum Association

- Rule should focus on numbers so discuss SQER = de minimis at next phase
- Suggests SQER = de minimis is outside rulemaking scope

Other items

- Consider the economic impacts from the rule changes. See “Economic questions for stakeholders” in slides 14 and 15 in the 1-23-2019 presentation for details.
- Send your suggestions for implementation guidance that Ecology could develop.
- Next meetings: Feb. 21 and March 11