

## August 20, 2018 460 Rulemaking Meeting Summary

### Participants

Ecology: Elena Guilfoil, Gary Palcisko, Jason Alberich  
Stoel Rives: Matt Cohen, Rachel Cox  
Friends of Toppenish Creek (Yakima): Jean Mendoza  
Northwest Clean Air Agency: Lyn Tober  
Hanford: Amber Chapman  
Ramboll: Eric Albright  
Citizens for a Healthy Bay (Tacoma): Erin Dillworthy  
JR Simplot: Heidi Radke, Krista Kinsey  
Boeing: Kristen Marshall, Matt Iwicki  
Olivia Parrish  
Hanford Mission Support Alliance: Reed Kaldor, Tanya Williams  
US Airforce: Scott Dickinson  
Consultant: Brian Rumberg  
Western Environmental Law Center: Andrew Hawley

The following questions were asked during the meeting:

What is a de minimis emission value?

- The Merriam-Webster dictionary defines de minimis as lacking significance or importance, or so minor as to merit disregard. In the acceptable source impact level (ASIL) table, the de minimis value represents an emission rate from a new source of toxic air pollutants above which the requirements of Chapter 173-460 WAC apply. New sources with emissions below the de minimis emissions rates do not need to obtain a notice of construction approval order. De minimis is determined by dividing the SQER by 20

Is there a public review of the screening process for Tier 1?

There is an opportunity for a public review but it is only required for those applications that trigger a mandatory public comment period (most don't).

- An agency posts notice for 15 days on their web site when they receive an application. If no one requests a 30-day comment period, the agency issues the construction permit, except for those actions that trigger a mandatory public comment period.
- An agency would post the technical support document for an application that triggers a public comment period or for an application for a project that they are holding a public comment period. This document provides the analysis by the permitting agency supporting its decision on the draft permit.

What resources does a local air agency have to understand modeling of emissions?

- Most permit writers know how to run the screen model. Local air agencies often consult with Ecology's modelers to help them determine the adequacy of refined dispersion models.
- Ecology's modelers evaluate modeling for a tier 2 analysis.

## August 20, 2018 460 Rulemaking Meeting Summary

Does information on the analysis come from the permittee or an agency?

- Applicants submit the details of their proposed project to the local permitting agency as part of their notice of construction application. The permitting agency reviews the information in an application and will return it if they think it is incomplete.

Is there any required information when issuing a permit? That is, is there a technical support document?

- Lyn Tober explained that the Northwest Clean Air Agency issues a worksheet that discusses the assumptions and basis for the agency's decisions.
- Some local agencies develop a technical support document that provides a background on how the elements within a permit are consistent with existing rules and requirements.

How does Ecology define background?

- "Background" in the context of Chapter 173-460 WAC refers to the existing ambient level of an air pollutant prior to the increase in emissions from a proposed new source. WAC 173-460-090(5) tells us we can estimate background concentrations of toxic air pollutants using one of three methods:
  - Latest NATA (EPA's National Air Toxics Assessment) for the census tracts
  - Model emissions from facilities with similar emissions that are within 1.5 kilometers of the new business/modified business
  - Ambient monitoring (never done)

Where is the impact boundary?

- First tier – highest point of impact beyond the area of controlled access (e.g., fence line). If the maximum impact is less than the ASIL, then there is no need to continue to second tier review.
- Second tier – we assume different exposure rates depending on the type of land uses that are impacted. For example, people are more frequently exposed if the impacted area is residential compared to an area that is agricultural or undeveloped.

Do we take into account the number of individuals exposed?

- The decision is typically made based on whether or not the maximally impacted individual's risks are acceptable. We typically quantify the number of people or residences impacted, and in some cases, estimate a population risk and an individual risk. Most new sources of toxic air pollutants affect a neighborhood scale versus a regional scale.

Are we looking at the most sensitive receptor?

- We look at locations of sensitive receptors, but more often evaluation of the maximally impacted residential location is sufficient. The assumptions used in the risk assessment process account for sensitive individuals.

Does the boundary change?

- The dimensions of the compliance boundary (the area outside which impacts must be estimated) is dependent on the area of land that the public can access.

## August 20, 2018 460 Rulemaking Meeting Summary

- Refined modeling typically provides concentration estimates out to a distance of about 5 km from the facility (roughly 10 km across). If the estimated impacts are likely to exceed an ASIL at a greater distance, then we will request that the applicant expand the domain of the model.

What does a multi-pathway exposure look like?

- A multi-pathway exposure scenario considers exposure to toxic air pollutants from inhalation, ingestion, and dermal absorption. Ingestion of toxic air pollutants can occur after emissions of persistent toxic air pollutants are deposited potentially contaminating soil, food crops, water, and fish. Chemicals could build up in soil and humans can be exposed through inadvertent soil ingestion and dermal absorption after direct contact with soil.
- We've told applicants to use [California's Hot Spots guidance. \(Overview of the Air Toxics "Hot Spots" Information and Assessment Act\)](#). This hasn't happened very often.

How do you know what are persistent, bio-accumulative chemicals?

- We're using California guidance in Table 5.1 of California OEHHA's [Guidance Manual for Preparation of Health Risk Assessments](#). Typically, this includes metals and persistent organic chlorinated pollutants.

How do you measure the unit risk factor (URF)?

- The unit risk factor is derived by USEPA and California OEHHA. It is a number used in estimating increased cancer risk from exposure to a cancer-causing pollutant. It is an estimate of the increased cancer risk from inhalation exposure to a concentration of 1  $\mu\text{g}/\text{m}^3$  for a lifetime. The Unit Risk Factor or URF can be multiplied by an estimate of lifetime exposure (in  $\mu\text{g}/\text{m}^3$ ) to estimate the lifetime cancer risk.
- Unit Risk Factor (URF) is a term adopted by EPA to identify the cancer risk associated with a unit concentration of a carcinogen in air and water.

How do we consider existing pollution when we evaluate new sources of toxic air pollutants?

- Under first tier review, we do not consider background concentration of toxic air pollutants. We assume an increased concentration below the ASIL represents an insignificant increase in health risk.
- Under second tier review, we consider background, but the current rule does not specify how background levels factor into a decision. See previous response on how Ecology defines background for a discussion on how "background" levels of TAPs are evaluated.

What are early life adjustment factors?

- EPA developed a process to adjust the unit risk factors for certain chemicals to account for the possibility that children are more susceptible to the impacts from mutagenic compounds. The adjustment may be necessary because the most toxicity testing occurs on adult animals.

What is an SQER (small quantity emission rate)?

- An SQER is a screening level emission rate. Emissions below the SQER are unlikely to be a concern.

## August 20, 2018 460 Rulemaking Meeting Summary

- To derive SQERs, we ran a generic conservative model to estimate offsite concentrations from a process with a:
  - Generic building designed to produce high off-site concentrations
  - Low stack – derives highest concentration
  - Small property boundary

These assumptions are designed to ensure that SQERs are set sufficiently low to be protective of public health.

What are the draft ASIL table headings?

- 2018 ASIL Update
- CAS
- Common Name
- HAP list: noted whether chemical is a federal hazardous air pollutant
- Mutagen: noted whether EPA determined that chemical is a mutagen
- Current Averaging Period
- Current ASIL
- Proposed Averaging Period
- Proposed ASIL
- Proposed ASIL Basis: shows basis of information
- Agency with URF most recent? Lists agency we are relying on for information
- Most recent URF: lists value
- Agency most recent Chronic Value: table headers follow our hierarchy
- Chronic Value
- ATSDR Intermediate MRL
- ATSDR Acute MRL
- CAL (OEHHA) Acute REL
- Ratio Proposed to Current ASIL (#DIV/0! means New ASIL): 1.7 means new ASIL is less stringent than existing ASIL
- Reason for Change
- Early-life Adjust
- Acute REL severity

Why is Ecology using the 2009 hierarchy to establish an ASIL?

The goal of this rulemaking is to update the toxicity values established in 2009 so it makes sense to continue applying the principles we used to revise the rule:

- The process to derive defensible toxicity values is extremely time consuming, therefore we decided to limit our use of toxicity values to the three agencies that have developed toxicity values using a rigorous public process.
- We rely on most recent review of toxicological information when there are multiple agencies with different values
- We decided to establish one ASIL for each chemical that is protective of multiple exposure durations:
  - Cancer values are more health protective

## August 20, 2018 460 Rulemaking Meeting Summary

- The policy decision was to establish ASILs based on 24-hour averaging time even when based on chronic noncarcinogen toxicity values. This was intended to make sure we are conservative with screening when there are potential short-term effects not captured by chronic ASILs.

Why is the proposed ASIL for sulfur dioxide different from the existing value?

- The proposed ASIL of 26 ug/m<sup>3</sup> (24-hr average) while the current ASIL is 660 ug/m<sup>3</sup> (1-hr average). The current ASIL is based on the Acute REL, but an Acute MRL from ATSDR existed at the time and should have been used instead according to the hierarchy. Perhaps a decision was made and the basis can be identified in the previous rulemaking file.

How does this compare with NAAQS?

- The current SO<sub>2</sub> NAAQS is 75 ppb, or about 197 ug/m<sup>3</sup> (1-hr average). The form of the 1-hour standard is the 3-year average of the 99th percentile of the yearly distribution of 1-hour daily maximum SO<sub>2</sub> concentrations

Why are there ASILs for criteria pollutants?

- In 2009, there were NAAQS for some pollutants based only on long-term averaging periods. We wanted to make sure our decisions also considered short-term impacts on public health, so we included some criteria pollutants on our list of toxic air pollutants. Subsequently, many NAAQS have been revised to include different averaging times from previous NAAQS. In most cases, the ASIL value corresponds to the NAAQS. For short-term concentrations, the ASIL looks at first highest value while the NAAQS typically relies on an upper percentile concentration.
- The rule establishes ASILs for the following criteria pollutants:
  - Nitrogen dioxide
  - Sulfur dioxide
  - Carbon monoxide
  - Ozone
  - Lead (which is also a hazardous air pollutant)

Why is an ASIL set on a cancer risk?

- ASILs based on an increased lifetime cancer risk of 1 in one million are always lower (i.e., more protective) of those ASILs based on non-cancer effects.

Other identified issues

- Some “new” ASILs on the table are based on toxicity values that are not “new”. We need to look into the previous rulemaking file to evaluate the policy decisions that were made to omit these from the list.
  - Examples: Fuel Oil #2, kerosene, JP-4, JP-7, had relevant toxicity values, but were not included on the list.