Hazard Index Rulemaking
Proposed Rules for Adoption

EQC special meeting
April 24, 2020

Background

SB 1541 established a noncancer Risk Action Level (RAL) of a Hazard Index of 5 for existing facilities. It also allows DEQ to establish RALs lower than a Hazard Index of 5 but not less than 3 for noncancer chemicals that have developmental or other severe human health effects.

SB 1541 Requirements for Adjusting a Benchmark

Identify noncancer toxic air contaminants to regulate at a Hazard Index other than 3, based on expected developmental or other severe human health effects.

Establish standards and criteria to identify degree to which DEQ may adjust the Risk Action Level to a Hazard Index of 3 for certain toxic air contaminants.

Must establish and consider recommendations of a Technical Advisory Committee.

Technical Advisory Committee members

Dr. Amy Padula, UCSF

Dr. John Budroe, California (OEHHA)

Dr. John Vandenberg, US EPA (IRIS)

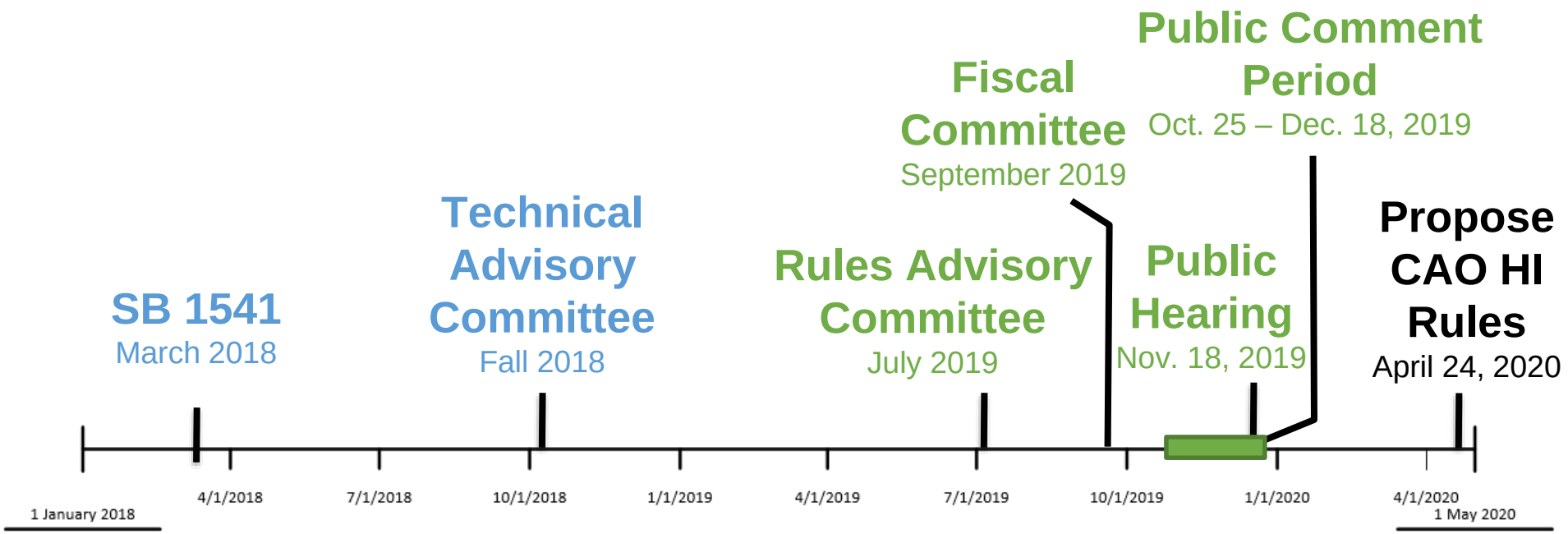
Dr. Kathryn Kelly, Delta Toxicology (at-large)

Dr. Neeraja Erraguntla, American Chemical Council (at-large)

Dr. Perry Hystad, Oregon State Univ.

Dr. Steven Gilbert, Univ. of Washington

Hazard Index Rulemaking Timeline



Chemicals Regulated Under CAO

600-plus chemicals require reporting

Table 2 of existing CAO rules.

259 chemicals have health standards

Toxicity reference values available for chemicals with cancer and noncancer effects (Table 3 of existing CAO rules).

182 chemicals have identified noncancer effects

Toxicity reference values established for noncancer effects.

Technical Advisory Committee Input

Majority opinions

- Reproductive effects should be considered developmental effects
- Developmental effects at any dose should be considered severe, even if other impacts would occur first
- No science-based way to determine what a “severe” impact is - this is a policy decision

Concerns from two members

- Not considering most recent studies
- Insufficient committee review time

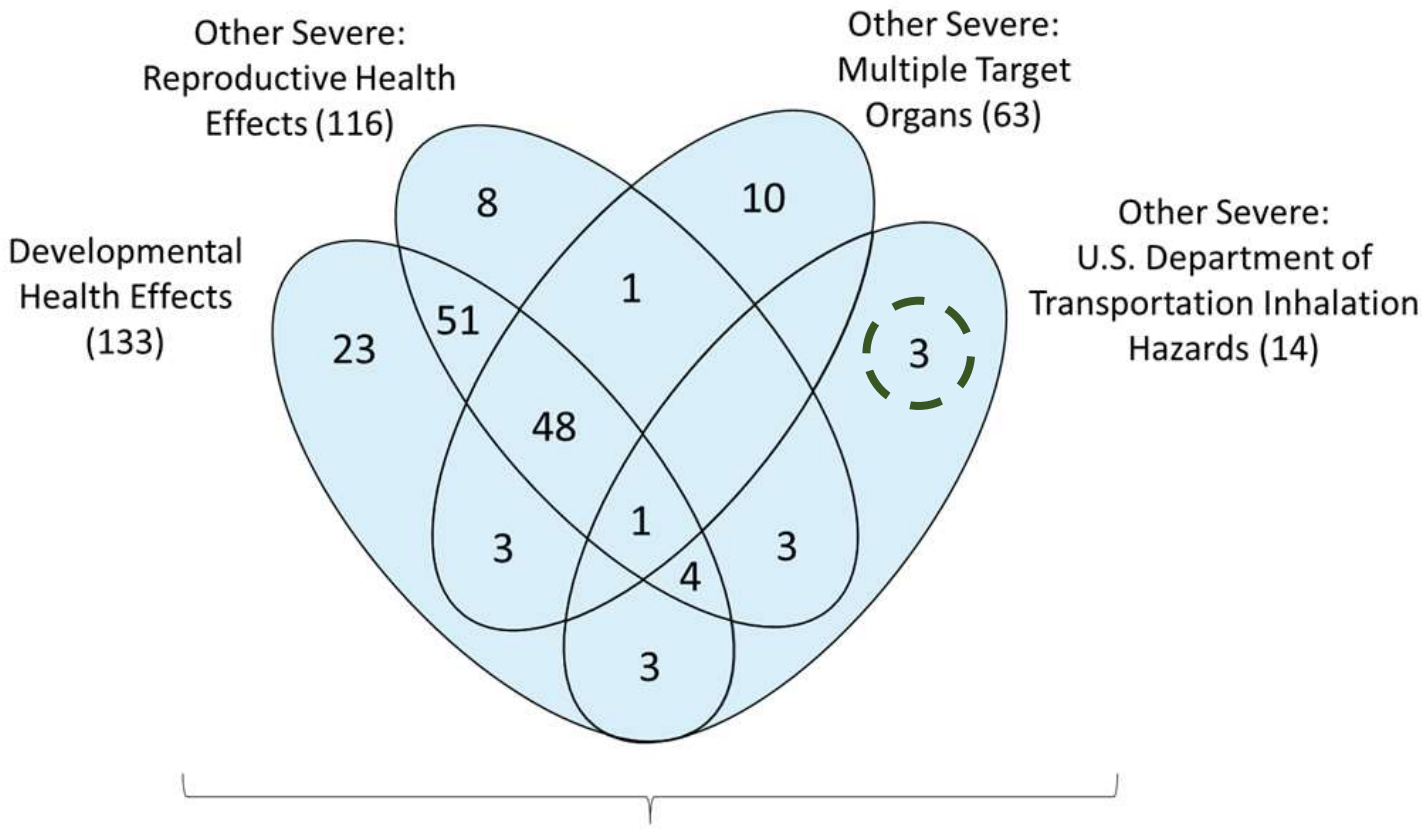
Rules Advisory Committee Input

- Include impacts to multiple organ systems based on the chemical-specific toxicity reference value as an “other severe human health effect”
- Include respiratory impacts as an “other severe human health effect”
- Intent of statute - applies to a subset of toxic air contaminants, assessed at individual sources

Identifying Chemicals with Severe Human Health Effects

		Number of Toxic Air Contaminants
Expected to have Developmental and/or Other Severe Health Effects		**158**
Developmental Health Effects		133
Other Severe Health Effects	Reproductive Health Effects	116
	Multiple Target Organs	63
	U.S. Department of Transportation Inhalation Hazards	14

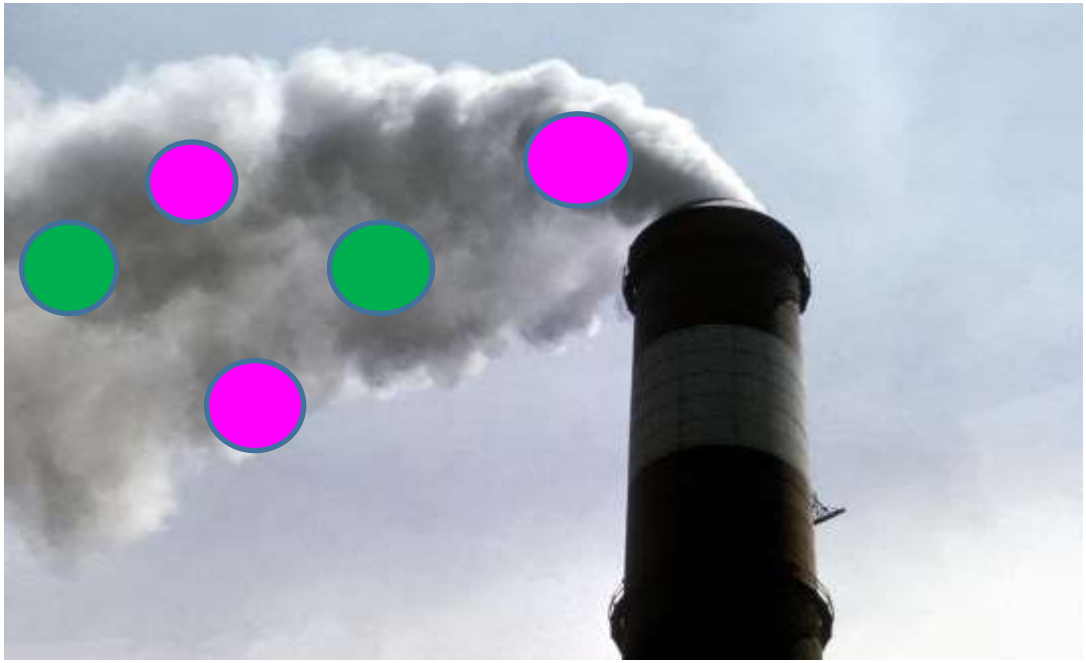
Category Overlap



158 toxic air contaminants expected to have developmental and/or other severe health effects

Establishing Standards and Criteria

$$\textit{Risk Determination Ratio} = \frac{Risk_{HI3}}{3} + \frac{Risk_{HI5}}{5}$$



Changes to CAO Table 1 (Proposed Rules)

For existing sources –
Noncancer Hazard Index Risk Action Levels

TBACT Level	**5[a] or 3[b] or Risk Determination Ratio of > 1.0[c]**
Risk Reduction Level	**10[a] or 6[b] or Risk Determination Ratio of 2.0[c]**
Immediate Curtailment Level	**20[a] or 12[b] or Risk Determination Ratio of 4.0[c]**

Scope of Fiscal Impact Statement

The potential fiscal impacts of 158 noncancer toxic air contaminants being regulated at a Hazard Index of 3 rather than 5 at existing facilities.

Summary of Fiscal Impacts of HI Rule Adoption

- No change in applicability of CAO program rules to sources.
- Minimal additional fiscal impacts expected, but exact fiscal impact cannot be estimated with current information.
- Incremental impacts to existing facilities posing risks over existing benchmark of 5.
- May require reductions or controls at facilities that otherwise would not have been required.
- Increased potential assessment costs considered minimal.

Fiscal impacts to small businesses – 50 or fewer employees

- Approximately 1,090 small businesses have air permits that will be subject to the HI rules.
- Minimal additional fiscal impacts are expected, although exact fiscal impact cannot be calculated with currently available information.
- Potential significant impacts to small businesses if required to reduce emissions, based on lowered benchmark, that otherwise would have not been required to.

Mitigation of Impacts to Small Businesses

- Cost impacts may be reduced through other methods (pollution prevention, product substitution)
- Tiered implementation of the CAO program would delay/defer regulatory costs for most smaller businesses
- Additional time for compliance with risk levels through extensions and postponement proposal (established in CAO program rules)
- DEQ to assist with risk assessments for sources on General and Basic Air Contaminant Discharge Permits
- DEQ and OHA staff positions for technical assistance.

Public Comment Period – number and type of comments submitted

- 357 individual comments
- 202 comment submittals *(emails and letters)*
- 31 Comment Categories (Attachment C)

Public Comment Period – most frequent comments

- Regulate all 182 chemicals at HI3 (155)
- Regulate Diesel Particulate at HI3 (67)
- Regulate all 182 chemicals at HI1 (42)
- Regulate all chemicals at HI3 that do not have *a* temporary and reversible physiological effect, and so can be considered to have severe impacts (17)

Public Comment Period - other comments

- Consider additional authoritative sources to evaluate chemicals.
- Should not list 158 toxic air contaminants as HI3. Base regulation of an emitted chemical at HI3 on a source-specific evaluation.
- Don’t identify a chemical as having developmental effects unless toxicity reference value is based on developmental effects.
- Technical Advisory Committee given insufficient time/resources.
- DEQ did not follow intent of SB1541, which requires a source-specific approach for HI adjustment based on established regulatory standards and criteria.

Changes to Proposed HI Rules Based on Public Comments

- We identified two chemicals to add to the list of toxic air contaminants proposed to be regulated at a Hazard Index of 3.

Oleum =
Fuming Sulfuric Acid

U.S. Department of Transportation lists fuming sulfuric acid as an inhalation hazard.

Diesel Particulate Matter

In response to comments, we consulted EPA's *Integrated Science Assessment for Particulate Matter* published December 31, 2019.

Evidence that diesel particulate matter is linked to developmental effects.

Any questions?

Hazard Index Rulemaking

Proposed motion language:

"I move that we adopt the proposed rules and rule amendments as seen in Attachment A of the staff report for this item as part of Chapter 340, Division 245 of the Oregon Administrative Rules."