

## Summary of Six Air Toxics Health-Risk Based Permitting Programs + Oregon by Program Element

*This table compares existing program elements in current state regulations that apply to air toxics from permitted facilities*

Issue Paper		State and Local Air Toxics Programs							
Program Element		Louisville	New Jersey	New York	Rhode Island	South Coast	Washington	Oregon (current)	Oregon (proposed)
<b>Applicability</b>	<b>1</b> Inclusion of existing sources in program	New/modified/ existing	New/modified/ existing	New/modified/ existing	New/modified/ existing	New/modified/ existing	New/modified	Other than categorical rules for gasoline distribution and colored art glass manufacturing, no equipment or facility-specific air toxics regulations beyond federal program	New/modified/ existing
	<b>2</b> Regulation of individual pieces of equipment and/or the whole facility	New/mod + existing whole facility	New/mod + existing whole facility upon notification	New/mod/existing equipment only	New/mod + existing whole facility	New/mod + existing whole facility	New/mod equipment + whole facility		New/mod + existing whole facility
	<b>3</b> Categorical exemptions	“Trivial” and “insignificant” activities <a href="#">Rule 2.16</a>	insignificant sources <a href="#">Rule 7:27-8.2</a>	exceptions <a href="#">Rule 212-1.4</a>	exemptions <a href="#">Rule 22.2.2</a>	exemption categories <a href="#">Rule 219</a>	New Source Review categorical exemptions <a href="#">WAC 173-400-110</a>		Categorically insignificant activities, natural gas/propane combustion
<b>Pollutant Scope and Setting Concentration Levels</b>	<b>4</b> Air toxics included in the program	<ul style="list-style-type: none"> <li>18 Category 1 TAC</li> <li>19 Category 2 TAC</li> <li>17 Category 3 TAC</li> <li>136 Category 4 TAC</li> </ul>	<ul style="list-style-type: none"> <li>168 carcinogens, 133 chemicals with other long-term effects,</li> <li>64 with short-term effects</li> </ul>	<ul style="list-style-type: none"> <li>1,091 air toxics</li> <li>62 High Toxicity AC</li> </ul>	258 air toxics	<ul style="list-style-type: none"> <li>24 high risk pollutants</li> <li>150-200 permit pollutants</li> <li>450 Hot Spots chemicals</li> <li>187 HAPs</li> </ul>	398 air toxics	187 HAPs	<ul style="list-style-type: none"> <li>Reporting: 601 air toxics</li> <li>Health risk based permitting: 260 air toxics</li> </ul>
	<b>5</b> Method for setting regulatory health risk-based concentrations	EPA, NTP, IARC, ATSDR	EPA IRIS, ATSDR, CalEPA, NJDEP	NYDEC, NYDH, EPA IRIS	ATSDR, CalEPA	CalEPA OEHHA	EPA IRIS, CalEPA, ATSDR	Other than categorical rules for gasoline distribution and colored art glass manufacturing, no equipment or facility-specific air toxics regulations beyond federal program	<ol style="list-style-type: none"> <li>DEQ ATSAC</li> <li>EPA IRIS</li> <li>EPA OSRTI</li> <li>ATSDR</li> <li>CA OEHHA</li> </ol>
	<b>6</b> Default toxicity values	When a chemical does not have readily available toxicity information: URF default value = 0.0004 µg/m <sup>3</sup> . RfC default value = 0.04 µg/m <sup>3</sup> .	No default toxicity value	<ul style="list-style-type: none"> <li>Not high toxicity default = 0.1 µg/m<sup>3</sup></li> <li>Low toxicity default = 1 µg/m<sup>3</sup></li> <li>High toxicity = 2 x 10<sup>-5</sup> µg/m<sup>3</sup></li> </ul>	No default toxicity value	No default toxicity value	No default toxicity value		None
	<b>7</b> Risk based concentration averaging times	<ul style="list-style-type: none"> <li>Annual</li> <li>24-hour</li> <li>8-hour</li> <li>1-hour</li> </ul>	<ul style="list-style-type: none"> <li>Annual</li> <li>24-hour</li> <li>8-hour</li> <li>1-hour</li> </ul>	<ul style="list-style-type: none"> <li>Annual</li> <li>1-hour</li> </ul>	<ul style="list-style-type: none"> <li>Annual</li> <li>24-hour</li> <li>1-hour</li> </ul>	<ul style="list-style-type: none"> <li>Annual</li> <li>8-hour</li> <li>1-hour</li> </ul>	<ul style="list-style-type: none"> <li>Annual</li> <li>24-hour</li> <li>1-hour</li> </ul>		<ul style="list-style-type: none"> <li>Annual</li> <li>24-hour</li> </ul>

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Cumulative Risks and Background	<b>8</b> Cumulative risk from multiple air toxics from a single facility	Cumulative risk for multiple TACs for all equipment: <ul style="list-style-type: none"> <li>For new equipment is 3.8 in 1 million.</li> <li>For existing equipment is 7.5 in 1 million</li> </ul> No guidance on cumulative risk from multiple contaminants for non-cancer risk.	Considers only risks and hazards related to individual chemicals.	Risk for individual chemicals assessed in screening step using Annual Guideline Concentrations; requires calculation of multi-chemical cumulative risk. Summing of risks required for pollutants emitted from process emission points	Cumulative effects of emissions of two or more air toxics that affect same organ system (i.e., indicates non-cancer effects) may be unacceptable even if Ambient Air Levels for the individual substances are not exceeded.	New/Modified: 1 in 1 million cumulative cancer risk from single equipment	10 in 1 million	Other than categorical rules for gasoline distribution and colored art glass manufacturing, no equipment or facility-specific air toxics regulations beyond federal program.	New source: 10 in 1 million, HI 1  Existing source: 25 in 1 million, HI 1 or ANRAL up to 10
	<b>9</b> Cumulative risk from multiple sources within an area?	10.0 in 1 million cancer risk & HQ of 1 for individual TAC	Not included	Included in modeling to determine Environmental Rating	Not included	Included in Clean Communities Plan (not regulatory)	Included in modeling as informational only		<ul style="list-style-type: none"> <li>75 in 1 million</li> <li>HI of 3 or ANRAL up to 10, whichever is higher</li> </ul>
	<b>10</b> Use of background/ambient concentrations in the assessment of risk?	Not included	Not included	Background included when approaching annual guideline concentrations	Not included	Background included if monitoring data is available	Background		Included for informational purposes only
	<b>11</b> Cross-media exposure pathways	Yes	No	Yes	Yes	Yes	No		Yes
	<b>12</b> Past exposure to air toxics risk	No	No	No	No	Described qualitatively	No		No
Setting and Administering	<b>13</b> Setting the initial screening level for allowable cancer and non-cancer risk	1 in 1 million cancer risk & hazard quotient of 1 for individual equipment & individual TAC; HQ of 1 for all equipment & individual TAC	1 in 1 million cancer risk & hazard quotient of 1	1 in 1 million cancer risk & hazard quotient of 1	1 in 1 million cancer risk & hazard quotient of 1	1 in 1 million cancer risk and hazard index of 1 for chronic and acute	1 in 1 million cancer risk & hazard quotient of 1	Other than categorical rules for gasoline distribution and colored art glass manufacturing, no equipment or facility-specific air toxics	RBCs based on 1 in 1 million cancer risk and hazard index of 1 for chronic and acute

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<p><b>14</b> Allowable risk levels</p> <p><b>15</b> Allow different risk levels for existing and new sources</p>	<p><b>New/Modified emissions unit:</b> 1 in 1 million &amp; HQ 1, per individual air toxic</p> <p><b>New source:</b> 3.8 in 1 million, cumulative for multiple air toxics</p> <p><b>Existing source:</b> 7.5 in 1 million, cumulative for multiple air toxics</p>	<p><b>New/modified emissions unit:</b> 100 in 1 million &amp; HQ 1 for all air toxics, case-by-case review by Risk Management Committee, permitted if risk acceptably minimized</p> <p><b>Existing sources:</b> 10 to 100 in 1 million, requires long term risk minimization strategy</p> <p>100 to 1,000 in 1 million, requires short term risk minimization strategy</p>	<p><b>New/modified emissions unit:</b> Meet required degree of cleaning or apply TBACT</p> <p><b>AND</b></p> <p>10 in 1 million &amp; HI 2, cumulative over all air toxics</p>	<p><b>New/Modified Source:</b> 1 in 1 million &amp; HQ 1 for each air toxic</p> <p><b>OR</b></p> <p>10 in 1 million and HQ 1 for each air toxic with LAER</p>	<p><b>New/Modified equipment:</b> 1 in 1 million &amp; HI 1</p> <p><b>New/Modified equipment with TBACT:</b> 10 in 1 million</p> <p><b>Existing source:</b> 25 in 1 million “action risk levels” &amp; organ-specific HI of 3</p> <p>100 in 1 million “significant risk levels” &amp; organ-specific HI of 5</p>	<p><b>New emissions unit:</b> 1 in 1 million</p> <p><b>New source:</b> 10 in 1 million</p> <p><b>Existing sources not included</b></p>	<p>regulations beyond federal program.</p>	<p><b>New source:</b> 10 in 1 million, HI 1</p> <p><b>Existing source:</b> 25 in 1 million, HI 1 or ANRAL up to 10</p>		
	<p><b>If risk higher than screening levels</b></p>	<p>Requires TBACT if risk levels not met, allows for higher risk level, ongoing improvement</p>	<p>&gt;1000 in 1 million enforcement, permit may be denied</p>	<p>Requires TBACT for new/mod sources if degree of cleaning not met, permit may be denied</p>	<p>Requires LAER, permit may be denied</p>	<p>Requires TBACT for new sources; requires Risk Reduction Plan for existing sources, permit may be denied</p>			<p>Requires TBACT for new/mod sources over de minimis, permit may be denied</p>	<ul style="list-style-type: none"> <li>Requires Risk Reduction Plan or TBACT Plan and Community Engagement Plan</li> <li>Permit may be denied if risk is too high</li> </ul>
	<p><b>Risk to environment</b></p>	<p>Included</p>	<p>Not included</p>	<p>Included</p>	<p>Not included</p>	<p>Included</p>			<p>Not included</p>	<p>Not included</p>
<p><b>Screening and Risk Assessment</b></p>	<p><b>16</b> Setting and using de minimis emission rates</p>	<p>de minimis emission rates</p>	<p>de minimis reporting threshold</p>	<p>Not included</p>	<p>Not included</p>	<p>de minimis used for reporting</p>	<p>Other than case by case potential under Safety Net Program, which has never been triggered, no required risk assessment or modeling for air toxics</p>	<p>Facilities can be de minimis if low risk</p>		
	<p><b>17</b> Setting and using significant emission rates</p>	<p>No explicit rates</p>	<p>Significant emission rates</p>	<p>Significant emission rates– cumulative for all process operations</p>	<p>Significant emission rates</p>	<p>Not included</p>		<p>Significant emission rates</p>	<p>Can use most conservative values from lookup table</p>	
	<p><b>18</b> Initial modeling Risk assessment and modeling once initial screening level is triggered</p>	<p>Factors and lookup tables to convert emissions to concentrations</p>	<p>Excel spreadsheet to estimate concentrations and risk</p>	<p>Sources ranked by toxicity of emission, location, and cumulative impact from nearby sources</p>	<p>Modeling</p>	<p>Multiple lookup tables of varying refinement and complexity</p>		<p>Modeling</p>	<p>Lookup table</p>	

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<b>19</b> Refined modeling Risk assessment and modeling once higher level of analysis is triggered	Yes	Yes	Yes	Yes	Yes	Yes		Yes	
	<b>Modeling Receptors</b> Fenceline-ambient air	Fenceline-ambient air	Residential- sensitive	Residential- sensitive + onsite if public has routine access	Residential- sensitive	Fenceline-ambient air		Chronic and acute exposure locations	
<b>Implementation</b>	<b>20</b> Phasing	New/mod/renewal	New/mod/renewal	New/mod/renewal	Industry type	Highest risk	Other than categorical rules for gasoline distribution and colored art glass manufacturing, no equipment or facility-specific air toxics regulations beyond federal program.	Yes	
	<b>21</b> Looking beyond current air permitting program for other sources of air toxics <sup>i</sup>	-	-	-	-	-		Yes	
	<b>22</b> Community engagement	-	-	-	-	-		Yes	
	<b>23</b> Compliance	-	-	-	-	-		Yes	
	<b>24</b> Capacity - regulatory costs and fee structure	Title V + STAR fee	Title V + application fees	Title V fees	Title V + application fees	<ul style="list-style-type: none"> <li>NSR Fees: fees for different types of equipment + special processing fees for health risk assessments</li> <li>Existing source fees: emissions + source category fees</li> </ul>		\$10,000 for 109 hours + \$95/hour	<ul style="list-style-type: none"> <li>Annual Program Fee</li> <li>Specific Activity Fees</li> </ul>
	<b>25</b> Evaluation	Toxics Release Inventory	NATA + monitoring	Emissions inventory, NATA, monitoring	Emissions inventory, NATA	Monitoring, emissions inventory, modeling		Emissions inventory	Emissions inventory

<sup>i</sup> Other air toxics programs were not asked questions 21, 22 and 23 in original interviews