Summary of Six Air Toxics Health-Risk Based Permitting Programs 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)**
Applicability	**1** Inclusion of existing sources in program	New/modified/ existing	New/mod/existing	New/mod/existing	New/mod/existing	New/mod/existing	New/mod	None included
	2 Regulation of individual pieces of equipment and/or the whole facility	New/mod/existing equipment only	New/mod + existing whole facility upon notification	New/mod equipment only	New/mod + existing whole facility	New/mod + existing whole facility	New/mod equipment + whole facility	Other than categorical rules for gasoline distribution and colored art glass manufacturing, no equipment or facility-specific air toxics regulations beyond federal program
	3 Categorical exemptions	"Trivial" and "insignificant" activities Rule 2.16	insignificant sources Rule 7:27-8.2	exceptions Rule 212-1.4	exemptions Rule 22.2.2	exemption categories Rule 219	NSR categorical exemptions WAC 173-400-110	None
Pollutant Scope and Setting Concentration Levels	**4** Air toxics included in the program	• 18 Category 1 TAC • 19 Category 2 TAC • 17 Category 3 TAC • 136 Category 4 TAC	• 168 carcinogens, 133 chemicals with other long-term effects, • 64 with short-term effects	• 1,091 air toxics • 62 High Toxicity AC	258 air toxics	• 24 high risk pollutants • 150-200 permit pollutants • 450 Hot Spots chemicals • 187 HAPs	398 air toxics	None included in permitting program beyond federal program
	5 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 colored art glass manufacturing, no regulatory air toxics risk based concentrations used in permitting beyond federal program
	6 Default toxicity values	• When a chemical does not have readily available toxicity information: URF default value = 0.0004 µg/m3. • RfC default value = 0.04 µg/m3.	No default toxicity value	• not high toxicity default = 0.1 $\mu g/m^3$ • low toxicity default = 1 $\mu g/m^3$ • high toxicity = 2 $x10^{-5}$ $\mu g/m^3$	No default toxicity value	No default toxicity value	No default toxicity value	None
	7 Risk based concentration averaging times	• Annual • 24-hour • 8-hour • 1-hour	• Annual • 24-hour • 8-hour • 1-hour	• Annual • 1-hour	• Annual • 24-hour • 1-hour	• Annual • 8-hour • 1-hour	• Annual • 24-hour • 1-hour	Other than categorical rules for colored art glass manufacturing, no air toxics risk based concentrations used in permitting beyond federal program

Summary of Six Air Toxics Programs by Program Element (continued)

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Cumulative Risks and Background	**8** Cumulative risk from multiple air toxics from a single facility	Cumulative risk for multiple TACs for all equipment: • For new equipment is 3.8 in 1 million. • For existing equipment is 7.5 in 1 million 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	Cumulative risk: 10 in 1 million	Not addressed in air toxics permitting program.
	9 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	Not addressed in air toxics permitting program.
	10 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	Included in modeling as informational only	Not addressed in air toxics permitting program.
	11 Cross-media exposure pathways	Yes	No	Yes	Yes	Yes	No	Not addressed in air toxics permitting program.
	12 Past exposure to air toxics risk	No	No	No	No	Described qualitatively	No	Not addressed in air toxics permitting program.
Setting and Administering Allowable Risk Levels	**13** 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	Not addressed in air toxics permitting program.

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	14 Allowable risk levels **15** Allow different risk levels for existing and new sources	**New/Modified emissions unit:** 1 in 1 million & HQ 1, per individual air toxic	**New/modified emissions unit:** 100 in 1 million & HQ 1 for all air toxics, case-by-case review by Risk Management Committee, permitted if risk acceptably minimized	**New/modified emissions unit:** Meet required degree of cleaning or apply TBACT **AND** 10 in 1 million & HI 2, cumulative over all air toxics		**New/Modified emissions unit:** 1 in 1 million & HI 1 **New/Modified equipment with TBACT**: 10 in 1 million	**New emissions unit:** 1 in 1 million	Other than case by case potential under Safety Net Program, which has never been triggered, not addressed in air toxics permitting program.
		New source: 3.8 in 1 million, cumulative for multiple air toxics **Existing source:** 7.5 in 1 million, cumulative for multiple air toxics	**Existing sources:** 10 to 100 in 1 million, requires long term risk minimization strategy 100 to 1,000 in 1 million, requires short term risk minimization strategy		**New/Modified Source:** 1 in 1 million & HQ 1 for each air toxic **OR** 10 in 1 million and HQ 1 for each air toxic with LAER	**Existing source**: 25 in 1 million "action risk levels" & organ-specific hazard index of 3 100 in 1 million "significant risk levels" & organ-specific hazard index of 5	**New source:** 10 in 1 million	Not addressed in air toxics permitting program.
	If risk higher than screening levels	Requires TBACT if risk levels not met, allows for higher risk level, ongoing improvement	>1000 in 1 million enforcement, permit may be denied	Requires TBACT for new/mod sources if degree of cleaning not met, permit may be denied	Requires LAER, permit may be denied	Requires TBACT for new sources; requires Risk Reduction Plan for existing sources, permit may be denied	Requires TBACT for new/mod sources over de minimis, permit may be denied	Not addressed in air toxics permitting program.
	Risk to environment	Included	Not included	Included	Not included	Included	Not included	Not included
Screening and Risk Assessment	**16** Setting and using de minimis emission rates	de minimis emission rates	de minimis reporting threshold	Not included	Not included	de minimis used for reporting	de minimis	No de minimis for air toxics
	17 Setting and using significant emission rates	No explicit rates	Significant emission rates	Significant emission rates–cumulative for all process operations	Significant emission rates	Not included	Significant emission rates	No significant emission rates for air toxics
	18 Initial modeling. Risk assessment and modeling once initial screening level is triggered (AERSCREEN)	Factors and lookup tables to convert emissions to concentrations	Excel spreadsheet to estimate concentrations and risk	Sources ranked by toxicity of emission, location, and cumulative impact from nearby sources	Modeling	Multiple lookup tables of varying refinement and complexity	Modeling	Other than case by case potential under Safety Net Program, which has never been triggered, no required risk assessment or modeling for air toxics

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	19 Refined modeling. Risk assessment and modeling once higher level of analysis is triggered (AERMOD)	Yes	Yes	Yes	Yes	Yes	Yes	No
	Modeling Receptors	Fenceline-ambient air	Fenceline-ambient air	Residential- sensitive	Residential- sensitive + onsite if public has routine access	Residential- sensitive	Fenceline-ambient air	Other than case by case potential under Safety Net Program, which has never been triggered, no required risk assessment or modeling for air toxics
Implementation	**20** Phasing	New/mod/renewal	New/mod/renewal	New/mod/renewal	Industry type	Highest risk	New/mod	No air toxics permitting program beyond federal program.
	21 Looking beyond current air permitting program for other sources of air toxics	-	-	-	-	-	-	-
	22 Community engagement	-	-	-	-	-	-	-
	23 Compliance	-	-	-	-	-	-	-
	24 Capacity - regulatory costs and fee structure	Title V + STAR fee	Title V + application fees	Title V fees	Title V + application fees	• NSR Fees: fees for different types of equipment + special processing fees for health risk assessments • Existing source fees: emissions fees, source category fees	$10,000 for 109 hours + $95/hour	None for air toxics beyond federal program
	25 Evaluation	Toxics Release Inventory	NATA + monitoring	Emissions inventory, NATA, monitoring	Emissions inventory, NATA	Monitoring, emissions inventory, modeling	Emissions inventory	Monitoring in some locations