

Memo

To: Cleaner Air Oregon Regulatory Reform Advisory Committee
From: DEQ and OHA
Date: October 5, 2016, 2016
Subject: Applicability

Request for Advisory Committee Members

The Oregon Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA) have identified six discussion topics for the advisory committee meetings. The following document describes one discussion topic, with three related program elements. DEQ and OHA are seeking Advisory Committee input on the following questions:

- 1) What should DEQ and OHA be considering in relation to applicability when choosing an approach for Cleaner Air Oregon?
- 2) Are there additional elements, other than the ones listed, that DEQ and OHA should consider?
- 3) Are there other air toxics permitting programs that provide unique examples not described in this discussion paper?

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Introduction

The Cleaner Air Oregon rulemaking is a partnership between OHA and DEQ to develop a new regulatory system for managing air toxics emissions from industrial sources. The new rules will be based on the potential risk to human health and will allow DEQ and OHA to carry out their respective missions of cleaner air while protecting and promoting health in Oregon. In developing this new regulatory approach,

the two agencies will begin looking at individual sources of industrial emissions across the state in relation to public health.

After receiving input on the different aspects of a risk-based air toxics permitting program from the Technical Workgroup, the Regional Forums, and the Advisory Committee, DEQ and OHA will draft proposed rules. All interested parties will have a chance to comment on the proposed rules during the public notice period in 2017.

DEQ and OHA have evaluated air toxics permitting programs in Louisville, Kentucky; New Jersey; New York; Rhode Island; South Coast Air Quality Management District, California; and Washington. These programs were recommended as being innovative, representing a range of diverse approaches to air toxics permitting programs. In addition, Washington's program was included because it is often compared to DEQ's. Key elements of these air toxics programs were summarized and discussed at Technical Workgroup meetings in June and July 2016. Documentation of Technical Workgroup discussions and background information for Oregon, along with elements to consider are presented below.

DEQ and OHA will be asking for Advisory Committee input for each discussion topic and if there are any additional topics that should be considered.

A glossary of terms can be found at this link:
<http://www.oregon.gov/deq/RulesandRegulations/Advisory/8Glossary.pdf>

Purpose

This discussion paper addresses the key elements of applicability: Which sources should be included in the risk-based air toxics permitting program and why or why not? Determining which sources should be subject to DEQ's air toxics risk-based permitting program will be key to the effectiveness of the program. Will the sources that are posing the highest risk be included? Are small sources that pose very low risk screened out of the program up front?

For detailed information on the six air toxics permitting programs that DEQ and OHA researched, please see the Appendix below.

[The Technical Workgroup](#) provided an evaluation of other state's approaches to human health risk-based air toxics programs for industrial facilities and answered technical questions in support of rulemaking, as requested by DEQ and OHA. The workgroup was tasked with providing focused and specific input to help DEQ prepare policy issues for discussion at Regional Forums and Advisory Committee meetings in the fall of 2016. The workgroup was not a decision-making body. The Technical Workgroup included individuals with expertise in toxicology, modeling, pollution prevention, and representatives of other state air toxics programs.

[The Regional Forums](#) occurred in the months of September and October in all diverse regions of the state to provide an opportunity for informal community input.

[The Advisory Committee](#) includes a variety of representatives from community level organizations, advocacy groups to city/county government representatives to small businesses and large businesses.

Program Element 1: Include existing sources in program, or not?

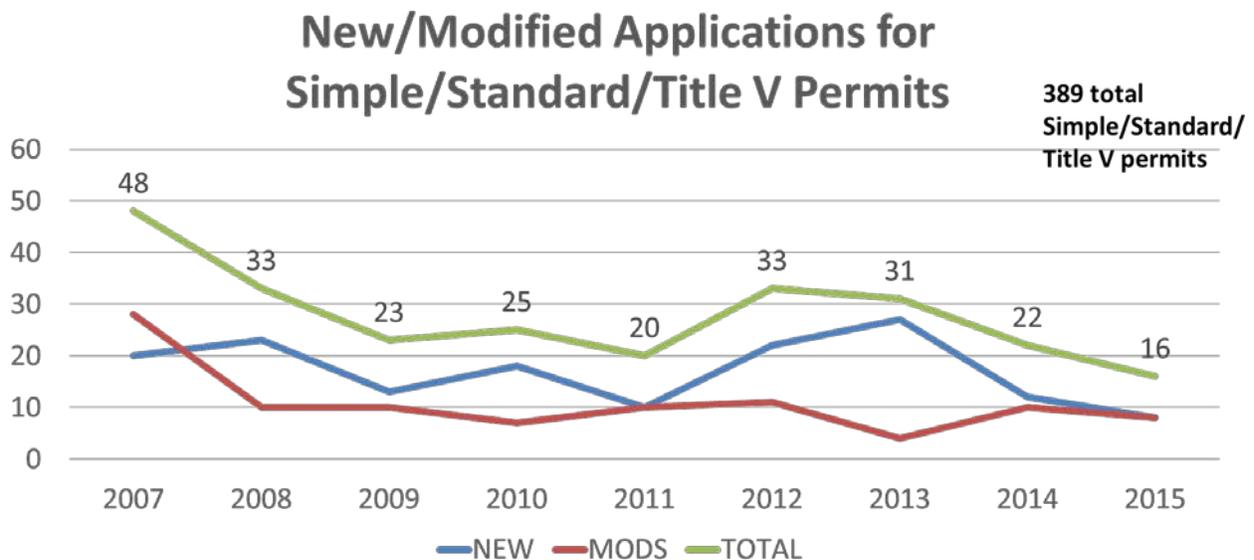
One air toxics program reviewed regulates only new and modified emissions units/processes while five programs include existing sources. For the purposes of this paper, a source is defined as a building, structure, facility, or installation that emits or is capable of emitting air toxics. A "new source" is one that is not yet constructed at the time the regulation is implemented. A "modified source" is a source that either changes physically or changes its method of operation that results in an increase in the potential to emit any regulated pollutant on an hourly basis. The source must apply for a permit modification for such

changes. Staff representing the one program reviewed that does not regulate existing sources, thought this was a deficit of their program and recommended DEQ regulate existing sources. For the programs that regulate new, modified, and existing sources, two programs, Louisville and New York, apply a single set of rules to all facilities regardless of whether they are new, modified, or existing sources, while three programs use the following different approaches:

Program	New/Modified Sources	Existing Sources
New Jersey	Requires state-of-the art control techniques for new or modified sources emitting over emission thresholds.	Requires a risk assessment at renewal for existing Title V sources.
Rhode Island	Requires construction permit for new and modified sources with emissions greater than minimum quantities.	Registration for existing sources, unless agency requests an air toxics permit be obtained.
South Coast Air Quality Management District (CA)	Requires different risk values for new/modified sources than for existing sources.	

Oregon Information

The following information presents data on how many applications DEQ receives annually, along with the number of permitted sources in Oregon. This information is intended to help inform decisions on what sources (i.e., new, modifications, existing) should be subject to proposed Cleaner Air Oregon regulations.



The graph above shows how many new source and modification applications DEQ receives annually for Simple, Standard and Title V permits (see below for an explanation of permit types). The sum of new and modification applications ranges from 4% to 12% of the approximate total of the Simple, Standard, and Title V permits.

Permit Type	Number	Examples
Title V	109	Pulp mills, steel mills, wood products, power generation, landfills, fiberglass
Standard ACDP	133	Energy facilities, bio fuel producers, high-tech manufacturers
Simple ACDP	147	Data centers, bakeries, printers, manufactured homes
General ACDP	2083	Gas stations, dry cleaners, asphalt plants, rock crushers, coffee roasters
Basic ACDP	104	Autobody shops, crematories, small surface coaters
TOTALS	2576	

The table above provides detail on the different types of DEQ air permits issued by the Agency, examples of permitted source and number of current active permits.

Title V permits are the most complex and come with the highest allowable levels of emissions of either criteria pollutants (nitrogen oxides, volatile organic compounds, particulate matter, PM10, PM2.5, sulfur dioxide, carbon monoxide, and lead) or hazardous air pollutants. Sources that do not emit at Title V permit thresholds are on Air Contaminant Discharge Permits (ACDPs). The most complex of these permits are Standard ACDPs, the simplest are Basic ACDPs. Sources that have chosen certain emission limits in order to avoid Title V permitting are approved for Standard ACDPs, as are other sources that are too complex for Simple ACDPs. Sources on Simple ACDPs do not qualify for General ACDPs or Basic ACDPs. Only sources that fit in to one of the specific categories of General and Basic ACDPs can get these types of permits.

Summary of Technical Workgroup Input

- Existing facilities are likely to emit more, have older technology, and may not have the capital to upgrade. Not including existing sources may also lead to a fairness issue. For example, why should a new source be held to a higher standard than an existing source? Concentrations of toxics present in ambient air are not dependent upon whether the facilities emitting them are new or existing.
- Washington has statutory authority to regulate only new and modified equipment/processes of air toxics. The program cannot regulate equipment/processes at existing facilities that remain the same or are modified. Program staff feel that this is a major shortcoming of their program because the expectation that all sources will eventually be modified has not been actualized.
- New/modified emissions units are a great starting point for an air toxics program because emission controls are incorporated into the design of the facility and these applications are submitted as needed.
- There are economic concerns that should be evaluated, such as potentially driving businesses out of state.

- Is there a way to introduce incentives at the same time as tighter regulation? For example, South Coast Air Quality Management District (CA) provided funding for dry cleaners to phase out the use of perchloroethylene. DEQ had a tax credit program for sources that installed pollution control equipment. However, due to lack of funding, this program was phased out in 2000.

Summary of considerations for whether to regulate new/modified/existing sources

This is preliminary information DEQ and OHA have gathered in discussions with the Technical Workgroup and from experience in the air program. This information offered as a starting point for Advisory Committee discussion and input.

- Ambient air monitoring near an existing facility has highlighted a gap in DEQ's current air permitting program for air toxics emissions from existing sources. Other existing facilities in Oregon that may be emitting air toxics at levels that negatively impact human health and the environment. If existing sources are not included in the program, any facility that currently emits air toxics at levels that pose potentially unacceptable risk may continue to do so.
- Health impacts can occur regardless of whether harmful emissions are from an existing, new, or modified facility.
- Historically, the total of new and modification permit applications ranges from 4% to 12% of the approximate total number of permits issued. If DEQ and OHA do not include existing sources in the program:
 - New air toxics requirements would apply only to the small percentage of new sources and existing sources that modify their operations, to the degree they need a modified permit; and
 - Some facilities might not modify their operations, and therefore, would never be subject to new air toxics requirements. Hogged fuel (wood waste) boilers are an example of one such source category. In 1970, DEQ adopted particulate matter rules that applied to existing and new emissions units that burn fuel. "New" sources were defined as those installed, constructed or modified after June 1, 1970 and had to meet more stringent standards than "existing" sources. When this rule was updated in 2014, DEQ discovered boilers that were installed as early as 1939 that were never modified. As a result, the rules adopted in 1970 were never applied to these boilers. If the existing, unmodified facility emits air toxics at levels that pose unacceptable impacts to health, this situation could continue.
- Regulation of existing sources in addition to new and modified sources will create a much larger workload for DEQ than just regulating new and modified sources.
- Existing facilities are more likely to have older technology and may emit more than newer sources.
- Retrofitting some existing facilities with pollution control equipment may present technical difficulties.
- Due to the cost of compliance, new facilities may not consider locating their businesses in Oregon. Further, existing facilities may relocate or go out of business due to the additional costs updating old equipment or adding pollution control equipment.
- Setting different standards for existing, new, and modified sources might create a fairness issue.
- DEQ has the authority to regulate new, modified, and existing sources.

Potential elements for whether to regulate new/modified/existing sources

The following are potential elements for which DEQ and OHA are seeking additional discussion and input from the Advisory Committee. If there are additional elements not included below, please raise them.

Potential Elements
A. Regulate only new and modified sources?
B. Regulate new, modified and existing sources?
C. Regulate new/modified/existing sources and provide incentives to reduce air toxic emissions?
D. Regulate sources currently not required to have air permits?
E. Placeholder for elements developed by advisory committee members

Program Element 2: Regulating pieces of equipment in a facility versus regulating the whole facility

All air toxics programs reviewed regulate air toxics emitted by new or modified piece of equipment. Two programs, New Jersey and New York, regulate the whole facility at permit renewal. South Coast Air Quality Management District and Rhode Island regulate whole facilities and both programs begin with sources posing the highest risk to public health.

Oregon Information

DEQ's current air quality permits contain requirements for the whole facility and separate requirements for individual pieces of equipment or processes. Plant Site Emission Limits, also commonly referred to as PSELS, are unique to Oregon and provide a facility-wide cap on emissions (i.e., tons per year for each of the six criteria pollutants and greenhouse gases).

Other examples of facility-wide permit conditions require sources to prevent fugitive dust¹ from leaving the property, not cause a nuisance, and implement an operation and maintenance plan to minimize emissions. Permits also contain emission limits on individual pieces of equipment such as the requirement to have a pollution control device and periodic testing of that control device, a particulate matter emission limit, or a requirement to only burn natural gas in a boiler.

Summary of Technical Workgroup Input

- Concentrations of toxics present in ambient air are not dependent upon where emissions originate from, whether the whole facilities or from individual pieces of equipment within the facility. If an air toxics program is being evaluated, one must assess all air toxics from all equipment, in other words, the facility as a whole.
- South Coast Air Quality Management District (CA), permits are equipment-based, so thresholds apply to individual pieces of equipment. Existing sources must look at facility wide emissions, minus

¹ Emissions of any air contaminant which escape to the atmosphere from any point or area that is not identifiable as a stack, vent, duct, or equivalent opening.

motor vehicles. Some pollution control technologies create their own air toxics, such as combustion or selective catalytic reduction. Therefore, there might be a tradeoff of one pollutant for another.

- Washington State assesses emissions from individual pieces of equipment that are being installed or modified. If an existing facility modifies or installs only one piece of equipment, the increased risks posed by that unit are evaluated. For a new facility with multiple units, the increased risks posed by the whole facility are evaluated for individual air toxics. If required to go beyond the screening approach, the risks from all air toxics and all equipment are summed. Washington also has an “offsetting” option that provides an incentive for the facility to reduce emissions in one area while allowing increased emissions from new or modified equipment. This “offsetting” approach provides flexibility to industry to determine how to meet the standard(s).
- Maximum Achievable Control Technology (MACT) standards already regulate on an emissions units (equipment) basis. An additional layer of rules to regulate whole facilities might not provide effective emission reductions from a regulatory perspective.
- If existing equipment is included in the program, that equipment needs to be considered differently than new equipment. New equipment should be controlled upon installation.
- For large, complex facilities, ambient impacts depend on the locations of the exhaust stacks of all the equipment. The impacts from a whole facility can be dramatically different than the impacts from a single piece of equipment because computer modeling takes into account the location of each exhaust stack.
- Prescribing regulations to a piece of equipment does not encourage the facility to look at how best to reduce emissions overall, especially in regard to pollution prevention. The more holistic approach encourages making the whole process better, not just emissions from one piece of equipment.

Summary of considerations for individual pieces of equipment versus the whole facility

This is preliminary information DEQ and OHA have gathered in discussions with the Technical Workgroup and from experience in the air program. This information should be considered the starting point for further Advisory Committee discussion and input.

- Health impacts can occur regardless of whether harmful emissions are from individual pieces or the entire facility.
- Individual permits for individual pieces of equipment may increase the cost of compliance for industry and would require more costly or resource intensive tracking for DEQ.
- Regulating a whole facility rather than individual equipment gives sources more flexibility in complying with new air toxics requirements, particularly in the opportunities in pollution prevention.
- Oregon’s current program permits the whole facility, so using this approach for air toxics would be in alignment with current practice.
- DEQ has statutory authority to regulate individual pieces of equipment and/or whole facilities.

Potential elements for individual pieces of equipment versus the whole facility

The following are potential elements for which DEQ and OHA are seeking additional discussion and input from the Advisory Committee. If there are additional elements not included below, please raise them.

Potential Elements
A. Regulate air toxics from new/modified individual pieces of equipment
B. Regulate air toxics from new/modified whole facility
C. Regulate air toxics from existing individual pieces of equipment
D. Regulate air toxics from existing whole facility
E. Any combination of the above elements
F. Placeholder for elements developed by advisory committee members

Program Element 3: Categorical exemptions

Categorical exemptions refer to categories of sources that are exempt from permitting requirements because emissions are negligible, or at levels that are unlikely to impact public health. All of the programs reviewed in depth include applicability criteria; that is, if the source’s listed or specified emissions criteria are exceeded, the source in question is subject to regulation. In these instances the source must obtain a permit or register and must comply with the regulations that limit emissions. All of the rules reviewed have categorical exemptions, usually with upper bounds where permitting would be required. There is some variability in how those exemptions are expressed (or implied). The table below includes the alternatives for the exemptions used by the program reviewed:

Exemption	Alternatives	
Facility/activity	Entire facility (e.g., gasoline transfer stations)	Activities (e.g., maintenance activities at oil refineries).
Explicitly/Implicitly	Explicitly, by listing the types of sources that are exempt (e.g., small combustion sources, small coffee roasting equipment).	Implicitly, by listing the types of sources that are regulated, and by inference, any sources that are not listed are exempt.
Pollutants	Exempt for air toxics	Exempt for all pollutants, including air toxics

Oregon Information

DEQ’s current rules list the types of sources that are regulated with, in some cases, specified “cut-offs” for facilities with smaller production levels. However, there is no list of exemptions. When DEQ developed the Oregon Title V Operating Permit program rules, it included a list of activities whose emissions are considered “categorically insignificant” for criteria pollutants, and thus are not included in Title V permits.

Summary of Technical Workgroup Input

- The air toxics permitting programs must include exemptions because some sources pose too low a risk to justify the cost of regulation.
- There are different levels of exclusions. For example, some programs only require gas stations to register and report throughput. This keeps the process simple for these types of small businesses. Tracking of emissions is still required.

- Categorical exemptions provide consistency and ease of use, but there needs to be a way to regulate sources within these categories, if needed. DEQ and OHA need to have an on-ramp to treat categorical facilities differently because of unexpected circumstances that could adversely impact public health. For example, a school that allowed a company to install a cell tower next to a classroom may generate adverse health impacts to children if its emergency engine, usually considered categorically exempt, goes on during power outages. Agencies need to be careful with how categories are crafted and how on-ramps and off-ramps are set up.
- Diesel particulate matter emissions caused an exceptional workload for Washington because diesel PM is a regulated air toxic with a stringent health-protective emission threshold. Thus, stationary diesel emergency generators were required to go through the risk assessment process, which was costly and time consuming. It made sense where large backup generators were present, but many small sources had to spend substantial money and time to obtain what turned out to be a marginal public health benefit. Washington needs a different approach for these sources.

Summary of considerations for including categorical exemptions

This is preliminary information DEQ and OHA have gathered in discussions with the Technical Workgroup and from experience in the air program. This information should be considered the starting point for further Advisory Committee discussion and input.

- Categorical exemptions are important to streamline the process and eliminate sources that do not pose significant health risks, but there needs to be a mechanism to regulate these sources if needed.
- DEQ already has categorical exemptions for criteria pollutants, but DEQ may need a different list to exempt sources of air toxics.
- The scope of pollutants included in the program is a consideration. For example, if a Michigan-type approach of an open-ended scope of regulated pollutants is used, more exemptions may be appropriate than if the air toxics list is shorter.
- DEQ has the authority to include categorical exemptions for smaller sources of air toxics since it already does so for Title V sources.

Potential elements for including categorical exemptions

The following are potential elements for which DEQ and OHA are seeking additional discussion and input from the Advisory Committee. If there are additional elements not included below, please raise them.

Potential Elements
A. Use categorical exemptions from one or all of the programs reviewed in depth
B. Use categorical exemptions with on-ramps back into the regulatory program for extenuating circumstances
C. Evaluate whether DEQ's Title V categorical exemptions list is appropriate to use for air toxics
D. Do not use categorical exemptions
E. Placeholder for elements developed by advisory committee members

APPENDIX

This appendix contains OHA and DEQ’s research on other air toxics industrial permitting programs. This information was presented to the Technical Workgroup.

1. What size business and types of emitters could be included? What criteria have other states/locals used to include a source in the program?

Program	Program Description
Louisville, Kentucky	<p>The Louisville (Kentucky) Metro Air Pollution Control District regulates new, modified and existing processes or process equipment in their Strategic Toxic Air Reduction program. The program covers all Title V sources and most synthetic minor sources (sources that accept limits on emissions to avoid Title V permitting). There is a general duty clause that the Louisville program can pull in any source or any chemical. The Louisville program is enforceable locally, not by the state or EPA.</p>
New Jersey	<p>The New Jersey Department of Environmental Protection regulates new or modified permit units in its air toxics program. It has just begun to evaluate existing Title V sources at renewal if no risk assessment has ever been done for previous permitting actions. If a risk assessment has been done and nothing has changed, a new risk assessment is not required.</p> <p>Applications for new or modified sources of air contaminant emissions emitting over state-of-the-art (SOTA) emission thresholds must be evaluated using state-of-the-art (SOTA) control techniques, including performance limits that are based on air pollution control technology, pollution prevention methods, and process modifications or substitutions that will provide the greatest criteria pollutant emission reductions that are technologically and economically feasible. As indicated above, for each regulated air pollutant, New Jersey regulations set forth de minimis levels below which a permit applicant would not be required to document SOTA [SOTA thresholds for minor facilities are listed in Appendix I Table B of N.J.A.C. 7:27-8 (187 chemicals). SOTA thresholds for major facilities are referenced in N.J.A.C. 7:27-22.35</p> <p>Any source operation at a minor facility which meets the criteria of “significant source” (see NJAC 7:27-8.2(c)) must obtain an air pollution control permit. In the air permit application, any air toxics emitted above reporting thresholds must be listed.</p>
New York	<p>The New York Department of Environmental Conservation regulates new process operations and modifications to existing process operations. Process operations do not include incineration or combustion (regulated and permitted separately). Existing facilities are also evaluated at permit renewal or modification. If the process operations at the facility have annual emissions more than the High Toxicity Air Contaminant emission rate in pounds per year (62 chemicals), the facility owner has two options: reduce emissions to meet the mass emission rate or be subject to the mandatory control requirements found in the air toxics regulation. The EPA National Emission Standards for</p>

Program	Program Description
	<p>Hazardous Air Pollutants program takes precedence over the air toxics program unless the process emits a High Toxicity Air Contaminant, and then a Toxic Impact Assessment is required to demonstrate maximum impacts are less than annual guideline concentrations/short-term guideline concentrations and persistent and bioaccumulative triggers.</p> <p>The federal Volatile Organic Compound Reasonably Available Control Technology program, which controls 80-90% of VOCs, takes precedence over the air toxics program, except for speciated High Toxicity Air Contaminants which are part of the total VOC emissions.</p>
Rhode Island	<p>The Rhode Island Department of Environmental Management regulates new and modified sources with air contaminant emissions (262 substances) greater than the program's Minimum Quantity in pounds per year with permits to construct through the preconstruction permitting program. Registration is required for existing sources where no other permit is required if they emit more than the Minimum Quantity. These registrants are required to submit an annual emissions summary. Sources are not required to get an Air Toxics Operating Permit until requested to do so by Rhode Island. Certain industry sectors (chrome platers, hospitals, boat builders) have been required to get Air Toxics Operating Permits in the past because they were the most significant sources of the forty pollutants with acceptable ambient levels. Consideration of the following factors also helped prioritize source applications: neighborhood concern about odors and or/health impacts; proximity of the source to other sources emitting air toxics; proximity of the source to residential areas, schools or other sensitive receptors; uncertainty about emissions calculations; and elevated short-term emissions of a substance with a one-hour or 24-hour acceptable ambient levels. Rhode Island currently does not have a ranking system for the remaining sources.</p> <p>The following processes are exempt from Rhode Island's air toxics permitting program: application of any pesticide or herbicide; gasoline filling stations; fuel burning equipment where the emission of listed toxic air contaminants is solely from the combustion of fuel oil, propane or natural gas; perchloroethylene emissions from perchloroethylene dry cleaning facilities; sodium hydroxide emissions generated by the addition of sodium hydroxide to an air pollution control system or to a water pollution control/pretreatment system; asbestos abatement projects; lead paint hazard reduction projects; lead paint removal operations; and organic solvent cleaning operations.</p>
South Coast Air Quality Management District (CA)	<p>The South Coast Air Quality Management District permits new permit units, relocations, and modifications to existing permit units which emit toxic air contaminants. Permit units can be grouped together in a single permit (e.g., if multiple pieces of equipment exhaust to a single control device). Rule 1401 regulates new sources and has Maximum Individual Cancer Risk cumulative values from all toxic air contaminants set at 1 in 1 million (1.0×10^{-6}) at any receptor location if the permit unit is constructed without Best Available Control Technology for Toxics (T-BACT). The Maximum Individual Cancer Risk is ten in one million (1.0×10^{-5}) at any receptor location if the permit unit</p>

Program	Program Description
	<p>is constructed with T-BACT and a cancer burden greater than 0.5. The cumulative increase in total chronic or total acute hazard index from a new, relocated or modified unit will not exceed 1.0 at any receptor location.</p> <p>Existing sources (excludes diesel) are regulated on a facility-wide basis rather than a unit basis in Rule 1402. The Significant Risk Level is a Maximum Individual Cancer Risk of one hundred in one million (1.0×10^{-4}), or a total acute or chronic Hazard Index of five (5.0). The Action Risk Level is a Maximum Individual Cancer risk of twenty-five in one million (25×10^{-6}), cancer burden of 0.5, or a total acute or chronic Hazard Index of three (3.0) and the cancer burden is an Maximum Individual Cancer risk of greater than or equal to 1 in 1 million (1×10^{-6}).</p> <p>Emissions from new permit units are based on potential to emit while existing units report actual emissions.</p> <p>Under the Facility Prioritization Procedures for AB2588 Hot Spots Program, each toxic substance (182 chemicals) has a “Degree of Accuracy” that is a de minimis threshold emission level in pounds/year for the quadrennial emissions inventory reporting requirement. As a result, emissions of air toxics from the whole facility that are greater than one-half of their corresponding degree of accuracy must be inventoried and reported for prioritization. Conversely, total facility toxic emissions less than one-half of their corresponding degree of accuracy levels do not need to be reported and are not considered in the prioritization.</p>
Washington	<p>The Washington Department of Ecology air toxics program permits new and modified emissions units. Potential (worst case) emission increases from the new or modified emission units are compared to de minimis levels in units of pounds per hour, pounds per day or pounds per year (WAC 173-460-150) of air toxics of interest (398 chemicals). If sources emit more than the de minimis levels, they are required to do a first tier review to show their emissions are below acceptable source impact levels (for 5,056 chemicals – Southwest Clean Air Agency only) after T-BACT is installed. One way to show emissions are below acceptable source impact levels is to demonstrate that emissions are at or below the small quantity emission rates, also in units of pounds per hour, pounds per day or pounds per year. This approach is less cumbersome than it sounds and is meant to capture small changes in emissions. When a new facility is proposed, Ecology evaluates the combined emission of all emissions units.</p> <p>Ecology also has authority to define source specific Reasonably Available Control Technology to address an air quality problem with existing sources of toxic air pollutants. This is not specific to air toxics.</p> <p>http://app.leg.wa.gov/RCW/default.aspx?cite=70.94.154</p>

2. What are the advantages of these approaches?

Note: this is each state’s/local’s evaluation of their own program.

Program	Program Description
Louisville, Kentucky	The advantage of focusing on two categories, Title V and Synthetic Minor, was that the categories were known to exist and were well defined.
New Jersey	<p>Having diverse criteria of what is classified as “significant source” ensures that sources with the greatest amounts of air contaminant emissions will evaluate their emissions for health risks.</p> <p>Many source operations at both major and minor facilities now qualify for “General Permits.” General permits can be obtained on-line, have greatly streamlined the New Jersey Air Program, and provide a straightforward way to obtain air permits. “General Permits” were developed because of the Air Program’s knowledge of significant source operations and the methods in place to confirm that any source which obtains a General Permit will not cause a significant health impact.</p>
New York	New York revised Part 212 recently (summer 2015) so it is difficult to say what the advantages and disadvantages of the program are. When working on permit modifications, permit conditions are tightened up, which is an advantage.
Rhode Island	Because of limited resources, Rhode Island must delineate and prioritize which sources must get Air Toxics Operating Permits. Not having a ranking system gave them flexibility in choosing what industry sector to target.
South Coast Air Quality Management District (CA)	South Coast’s thresholds for permitting are sound and regulate the appropriate sources.
Washington	<p>One advantage to Ecology’s program is that sources whose emissions are close to the levels requiring a second tier risk assessment are willing to limit emissions in order to avoid doing a risk assessment, not necessarily to add pollution control equipment. This forces applicants to be realistic on what they intend to do rather than ask for unnecessarily high levels of emissions.</p> <p>Another advantage is that the de minimis levels are set very low so any modification must go through the screening process.</p> <p>When required, sources must evaluate Best Available Control Technology (T-BACT) for air toxics. In most cases, T-BACT for air toxics is the same as BACT for criteria pollutants. In some situations, additional controls are needed to satisfy the T-BACT requirement. For example, afterburners are installed to control air toxics, which would not be required for criteria pollutant BACT. Unfortunately, afterburners can be a significant source of NOx and potentially trigger Title V applicability for a source, which is a tradeoff.</p>

3. What are the disadvantages of these approaches?

Note: this is each state's/local's evaluation of their own program.

Program	Program Description
Louisville, Kentucky	The disadvantage of focusing on two categories, Title V and Synthetic Minor, was that it has the potential to capture some sources with significant emissions of criteria pollutants that do not emit toxic air contaminants.
New Jersey	Certain sources of air pollution, such as fugitives from storage piles and construction sites, are not regulated.
New York	<ul style="list-style-type: none"> • New York has an old definition of air contaminant that has not changed. It requires permitting trace amounts of air toxics beyond the list of High Toxicity Air Contaminants. New York is creating a guidance document that allows pre-control emissions to be excluded from the permit if emissions are low enough. • The rules do not address cumulative risk. Regions handle cumulative risk differently, some add up the risk and others do not. • The grain loading limits (the rate at which particles are emitted from a pollution source in the units of grains per cubic foot of gas emitted) have not changed in over 30 years. A source might be able to meet the 0.05 gr/dscf limit but it could be 100% arsenic. In that situation, the hazard ranking would need to be reevaluated. • New York chose to include filterable particulate and not condensable particulate in their rules. There were too many unresolved issues regarding condensable particulate at the time the rules were adopted. • T-BACT determinations need to address what is acceptable risk. If the acceptable risk is 1 in 1 million, what happens if the risk is 1.4 in one million? A conservative approach in addition to conservative models was used to establish risk so maybe a higher risk would be acceptable if T-BACT were installed.
Rhode Island	Without a ranking system or clear requirements on who was required to get an Air Toxics Operating Permit, industries that posed the highest risk were not targeted. The lack of a system also caused inconsistency because another industry sector that had similar emissions to a targeted sector may not have been required to get a permit.
South Coast Air Quality Management District (CA)	AB2588 controls fugitive emissions but they must first be quantified in order to determine risk levels. Fugitive emissions are hard to quantify and permit. The petroleum industry has characterized fugitive emissions well but industries such as metals grinding/melting, plating, aggregate/cement, auto body shops, wood working, and landfills have not.
Washington	One disadvantage of Washington Ecology's program is that it does not evaluate existing sources. When the program was first implemented, 25-28 years ago, the thought was that all sources would modify eventually but that has not happened in all cases. Existing sources could be accounted for in

Program	Program Description
	<p>background concentrations but the rules do not provide any guidance on how to do this.</p> <p>Ecology has not developed a method to include the toxicity or environmental threat of air toxics in the cost effectiveness of a T-BACT analysis, which could justify a higher economic impact in requiring T-BACT for a new or modified emissions unit.</p>

4. Does the approach result in overly conservative or not sufficiently conservative coverage? Does it include all appropriate facilities?

There are several program components that could make a DEQ program sufficiently conservative, such as what chemicals should be regulated, what is the toxicity of the regulated chemicals, what risk levels are acceptable, etc. Four states think their programs are sufficiently conservative. Only one state thought their program was overly conservative because of resource limitations. Also, the programs that only look at new or modified sources may not be conservative enough because they may miss existing sources that potentially emit significant air toxics.

Program	Program Description
Louisville, Kentucky	The STAR program includes a default value for non-carcinogens, which has been expanded for carcinogens. This makes the program easier to implement but also very stringent.
New Jersey	New Jersey's approach is sufficiently conservative because the significant source criteria has been developed and updated over many years and reflects the source operations with the highest potential air contaminant emissions.
New York	New York's approach is sufficiently conservative because it uses a conservative approach in toxicity ratings and also employs conservative models.
Rhode Island	Rhode Island's approach was overly conservative only because the state does not have the resources to review and/or permit all the 130 facilities that emit over the Minimum Quantity.
South Coast Air Quality Management District (CA)	South Coast's approach is sufficiently conservative because it regulates all the facilities that it should. The administrative aspect of tracking the thousands of facilities is the challenge.
Washington	Since the de minimis levels are so low, Ecology's approach is sufficiently conservative for the sources it regulates.

5. Would the program’s criteria cover types of industry found in Oregon?

All the programs reviewed regulate some sources that are similar to those located in Oregon. Only Rhode Island focused on regulating by industry type which will be changed in the future. All states also have both urban and rural industrial sources, so any of the programs could be implemented in Oregon.

Program	Program Description
Louisville, Kentucky	Large facilities: <ul style="list-style-type: none"> • Two coal-fired power plants (one switched to natural gas) • Two Ford Motor Assembly plants • GE Appliance Park • Rubbertown (a chemical manufacturing complex) • All other Title V sources and most synthetic minor sources
New Jersey	Title V permits ~300 Minor source permits (includes gas stations, dry cleaners, storage tanks etc.) Large facilities: <ul style="list-style-type: none"> • Chemical plants • Pharmaceutical companies • Resource recovery (trash burners) • Combined cycle natural gas electric generation facilities
New York	The New York program looks at processes, not industry type, so the process approach picks up everything. New York has asphalt plants, wood products facilities, cement plants, data centers, chip fabricators, chemical plants that make resin and a very large industrial sector near Niagara Falls (DuPont, 3M, etc.). <ul style="list-style-type: none"> • Title V permits ~200-250 process permits • Title V permits ~200 combustion permits (25 tons per year - Significant Emission Rate for volatile organic compounds and nitrogen oxides [severe ozone nonattainment area]) • State permits ~1,200 (process and combustion) • Registration ~5,000 dry cleaners in New York City alone
Rhode Island	There are approximately 600-700 facilities in Rhode Island, with 130 of them reporting over the Minimum Quantity. These facilities include boat manufacturers, platers, sewage sludge incinerators, power generation, and metal parts coating.
South Coast Air Quality Management District (CA)	South Coast has approximately 350 core industries and 25,000 total permittees. The industry-wide categories include: retail gasoline dispensing, perchloroethylene dry cleaning, auto body shops, fiberglass molding, printing, metal plating, and wood stripping /refinishing of which there are approximately a few thousand.
Washington	Oregon and Washington have similar sources, including wood products, electronics manufacturing, aerospace, and volatile organic compound sources.

6. Do state or local programs cover existing, new and modified sources? What are the approaches and how do they differ for new and modified sources versus existing sources? Why did state/local agencies choose the particular approach?

As stated above, one program regulates only new and modified emissions units/processes while five programs also include existing facilities in their air toxics programs. For the programs that regulate new, modified and existing sources, two programs use the same approach for all of these sources while three programs use different approaches.

Program	Program Description
Louisville, Kentucky	Louisville’s program regulates both new/modified and existing process and process equipment that are located at a stationary source. The different approach with respect to new/modified versus existing process and process equipment was to prevent new problems from occurring and, perhaps also, to require sources to continue to reduce emissions when they improve their facilities by adding new or modifying equipment (i.e., the source would not be grandfathered in at a cumulative risk goal of 7.5 in one million but would have to use the latest technology to further reduce risk over time to 3.8 in one million).
New Jersey	New Jersey has focused on new or modified permits; however, facility wide health risks of major facilities are being evaluated upon review of an Operation Permit renewal.
New York	New York uses the same approach for permitting new/modified sources and existing sources because they thought EPA’s NESHAP and NSPS programs do a good job on regulating new sources. The New York air toxics rules fill the gaps when EPA is delayed on doing residual risk rulemaking.
Rhode Island	Rhode Island uses the same approach for applicability by permitting new, modified and existing sources that emit over the Minimum Quantities.
South Coast Air Quality Management District (CA)	South Coast regulates new, modified and existing sources, but has different Maximum Individual Cancer Risk levels and cancer burden levels for new and existing sources.
Washington	As stated above, Ecology did not permit existing sources for air toxics when the program was implemented. Existing sources were grandfathered in because Ecology does not have the legislative authority to regulate them. The exception is that Ecology could use a Reasonably Available Control Technology process to address an existing source (or category of sources) if it was determined to pose a problem.