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DEQ Toxics Reduction Strategy:

DRAFT Summary of Actions



State of Oregon
Department of
Environmental
Quality

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I. Overview of Toxics Reduction Strategy Development

One of the Oregon Department of Environmental Quality's (DEQ) strategic directions is to "protect Oregonians from toxic pollutants." Individual DEQ programs have responsibility for assessing and regulating certain toxic pollutants generated and released in the state. In recent years, DEQ's involvement in managing toxics has increased through implementation of federal and state requirements designed to protect specific environmental media (i.e., air, water, land). Given that toxic chemicals and pollutants readily move from one environmental media to another, DEQ determined that a more integrated and strategic approach was needed to most efficiently and effectively reduce toxics in the environment. In 2009, with support from the Environmental Quality Commission, DEQ embarked on an effort to develop a Toxics Reduction Strategy to help set priorities and guide the agency's future toxics reduction work.

The first primary task in developing the Toxics Reduction Strategy was to establish an initial "Focus List" of priority toxic chemicals to be the primary focus of the agency's Strategy actions. The Focus List (see Table 1) was developed using existing state or regional toxic chemical and pollutant priority lists for regulatory, pollution prevention or monitoring activities. Those chemicals on three or more program priority lists used by at least two DEQ Divisions (i.e. Air, Water and Land Quality) were designated as the initial Focus List chemicals and grouped into the seven categories shown in Table 1. The list includes 51 chemicals or groups of chemicals (e.g., PCBs). The intention was to focus on toxic chemicals that most DEQ programs already considered a priority, rather than develop a priority list from scratch. In addition, this is not intended to be a static list, as DEQ expects chemicals to be removed and added over time. DEQ also collected basic information and data on the Focus List chemicals to support the development of specific reduction actions and the prospective implementation plans for those actions.

Soon after this list was developed, DEQ began compiling potential toxics reduction actions to be assessed and considered for inclusion in the Strategy. These options were identified through both internal and external sources in multiple ways. DEQ sponsored a public workshop in November, 2009 intended to generate toxics reduction ideas that could be considered for inclusion in the Strategy. This workshop involved over 150 participants representing a broad range of interests including industry, local and state government, community and environmental organizations, EPA, tribes and agricultural and forestry representatives.

In addition, individual members of the Toxics Stakeholder Group, formed to provide input on the strategy development process, provided DEQ with toxics reduction options to consider. Similarly, reduction ideas were generated from sub-groups and individuals participating in the stakeholder group for the Water Quality Human Health Toxics Standards Rulemaking. Within DEQ, a cross-program team of individuals was assembled to guide the development of the toxics strategy. This team met on a regular basis to develop the foundational elements of the strategy, as well as review and evaluate

various options. In the course of conducting reviews of existing DEQ toxics programs, members of the team solicited input from staff from all of DEQ's programs on toxics reduction needs and opportunities. Through this review of programs, additional toxics reduction ideas were generated.

II. Considerations for Selecting Draft Recommended Reduction and Assessment Actions

The DEQ cross-program toxics team developed a set of considerations to use in selecting actions for inclusion in the Toxics Reduction Strategy. These considerations were discussed with the Toxics Stakeholder Group, and then further refined by DEQ. The DEQ toxics team used two initial screening considerations to narrow the list of options down to a viable set of options that could be more thoroughly assessed using additional considerations. The screening considerations were the following:

How effective would the action be in reducing Focus List chemicals in the environment or people?

This is based on: how directly the option addresses specific chemicals or families of chemicals, whether the action will address chemicals at the appropriate point in their life cycles, and the likelihood of reducing chemicals in a meaningful and measurable way.

How practically implementable is the action?

Several factors could affect whether an action can be practically implemented, including: agency expertise and infrastructure, existing regulatory authority, technological feasibility, whether key external elements are in place (e.g., willing partners for a collaborative initiative).

After this initial screen, the remaining toxics reduction and assessment options were evaluated by DEQ's toxics team using these additional considerations:

Does the action reduce toxic pollutants at the source?

Toxics reduction actions that reduce pollution at the source (i.e., before pollution is generated) are generally more efficient and effective than those that require some type of management after the chemicals have become pollutants.

Is the action cost-effective?

Implementation costs for state government, businesses and for the public should be considered, as well as potential long-term cost savings resulting from the action, including reduced public health costs.

Will the action lead to an overall environmental benefit?

The potential cross-media transfers of pollutants from implementing a particular action should be taken into account. For example, it might not make sense to choose an action that would reduce toxic chemicals but increase demand for energy or water resources.

Will the action build on existing efforts?

There are many effective efforts at reducing pollution now underway, and is often more efficient to build on such action that are working well for both the public and private sector.

Does the action address multiple goals or chemicals?

An action that reduces multiple priority pollutants or meets multiple environmental goals results in greater environmental gain for the cost of implementation.

Does the action address impacts to vulnerable communities or sub-populations?

Toxic chemicals or pollutants may disproportionately impact one or more communities or sub-populations in Oregon, and these impacts should be considered even if they're determined not to be statewide concerns.

How flexible is the action?

The ability to make adjustments or modifications to a program during the implementation phase can lower costs and improve efficiencies relative to those that require long or complicated processes to fine tune.

The evaluation process was not a quantitative exercise involving weighted criteria and numerical scores. Rather, a qualitative process was followed in which the DEQ toxics team discussed the actions relative to the considerations outlined above, and then attempted to reach consensus or select the reduction actions that received support from the majority of team members. The draft recommended actions were then reviewed and further refined by DEQ's Executive Management Team.

III. Overarching Themes of Draft Recommended Actions

A summary of the draft recommended Toxics Reduction Strategy actions is provided in Table 2 below, and a companion document provides more specific descriptions of each one of these actions. A significant number of the actions summarized in Table 2 require the involvement of multiple agencies and organizations to ensure effective implementation. This collaboration element of the strategy reflects a recognition that one agency cannot address the myriad of challenges posed by toxic chemicals in the environment, and that greater environmental and human health gains can be achieved when multiple entities are pursuing common goals. In addition, sharing the costs of implementing an action lowers the burden on any one agency or organization, thus making it a more feasible and manageable effort to undertake.

With regard to the specific types of chemicals addressed by the draft recommended actions, most of the actions apply to all types of chemicals. There are unique needs and opportunities for reducing specific types of Focus List chemicals, but one of the objectives of the Strategy is to identify source reduction actions that can address multiple chemicals and families of chemicals. In other instances, the draft action may potentially apply to all Focus List chemicals, but a prioritization effort will occur in the development of implementation plans to narrow the scope, if appropriate.

In addition to the overarching collaborative and multi-chemical themes of the Strategy, other common elements associated with multiple draft recommended actions were identified. The categories of common elements provide a useful organizational format to present the actions. Table 2 organizes the draft recommendations by these four categories:

- Improving integration and prioritization of toxics reduction activities
- Enhancing effective existing toxics reduction efforts
- Addressing identified toxics reduction needs

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- Assessing and characterizing toxics in Oregon

Some actions could be placed in multiple categories, but are organized by the category that is most relevant to the objectives associated with the action. In addition, there are connections between some recommended actions, yet these connections do not constitute redundancy. Rather, this presents an opportunity to leverage resources to accomplish multiple objectives.

IV. Next Steps For Finalizing and Implementing Strategy

After discussing the draft recommended Toxics Reduction Strategy actions with the Environmental Quality Commission at their December, 2011 meeting, DEQ will conduct a public involvement process to receive input on the recommendations from Oregonians in early 2012. DEQ plans to return to the Commission in June, 2012 to present the final Strategy and seek the Commission's support for implementing the actions. Implementation of some of the actions will begin during the summer of 2012, while others will require the development of more detailed implementation plans with partnering agencies and organizations. For some actions, DEQ will play more of a supporting role in implementation and, therefore, the implementation plans will be initiated and facilitated by other agencies or organizations.

DEQ has indicated the priority level for short-term implementation of each draft recommended action in Table 2 by using different colors in the far left column:

- Green = High priority for short-term implementation activity, involving possible re-prioritization of resources
- Yellow = Short-term development or implementation with existing resources (i.e., no additional resources allocated)
- Red = Longer-term implementation priority

As with the actions themselves, the designated level of short-term implementation priority in this draft table could change based on input received from the Commission, implementing partners, and other interested stakeholders. Although several of these actions are intended to improve efficiencies and can be implemented with existing resources, DEQ recognizes that others will require additional resources that aren't currently available. Therefore, before implementation begins for certain actions, new resources will need to be identified and secured by DEQ or other implementing partners. This constraint makes the implementation time frame uncertain for those actions.

Table 1: DEQ TOXICS FOCUS LIST (2010-2011)

CHEMICAL CATEGORY	CHEMICAL S				
Combustion & Petroleum By-Products:	Polycyclic Aromatic Hydrocarbons (PAHs)	Dioxins and Furans	Napthalenes		
Consumer Product Constituents:	Phthalates	Triclosan	4-Nonyphenol (and Nonyphenol Ethoxylates)	Bisphenol A	DEET
Current Use Pesticides:	Diazinon	Chlorpyrifos	Atrazine	Trifluralin	Chlorothalonil
	Malathion	Permethrin	Carbaryl	Pentachlorophenol	Diuron
	Glyphosate	Hexachlorocyclohexane (HCH), gamma- (Lindane)	2,4-D	Propoxur (Baygon)	Pendamethalin
Flame Retardants and Industrial Intermediates:	Polybrominated Diphenyl Ethers (PBDEs)	Polychlorinated Biphenyls (PCBs)	Ammonia		
Legacy Pesticides:	Dieldrin	DDT (and metabolites)	Chlordane (and metabolites)	Aldrin	Methoxychlor
	Heptachlor (& Heptachlor epoxide)	Hexachlorocyclohexane, beta- (beta-BHC)	Hexachlorobenzene	Hexachlorocyclohexane, alpha- (alpha-BHC)	
Metals:	Mercury (and methylmercury)	Copper	Cadmium	Chromium	Arsenic
	Lead	Nickel	Manganese	Silver	
Volatile Organic Compounds (VOCs):	Tetrachloroethylene	Benzene	Ethylbenzene	Trichloroethylene	Dichlorobenzene, 1,4- (Dichlorobenzene-p)
	Toluene	Formaldehyde			

Table 2: SUMMARY OF DRAFT TOXICS REDUCTION STRATEGY RECOMMENDATIONS

IMPROVING INTEGRATION AND PRIORITIZATION OF TOXICS REDUCTION ACTIVITIES		
Short-Term Implementation Priority*	Action	Chemical Category(s)
	I-1 DEQ programs will work together to address cross-media impacts of Focus List toxics, and to coordinate and integrate program requirements that address common objectives for Focus List chemicals	All
	I-2 Prioritize and direct business sector or geographic-based toxics use reduction technical assistance activities using Focus List chemical data, and integrate those individual assistance programs where appropriate	All
	I-3 Use existing rural planning and resource management programs to reduce loadings of Focus List toxics into Oregon waterbodies through natural resource agency collaboration	Metals, Legacy Pesticides, Current Use Pesticides
	I-4 Prioritize and direct efforts to meet new national ambient air quality standards and greenhouse gas reduction goals to maximize reductions in Focus List chemicals	Combustion By-Products, VOCs, Metals
ENHANCING EFFECTIVE EXISTING TOXICS REDUCTION ACTIVITIES		
Short-Term Implementation Priority*	Action	Chemical Category(s)
	E-1 Develop and implement a plan to fund and conduct regular agriculture pesticide waste collections in areas of Oregon with the greatest need	Legacy Pesticides
	E-2 Expand Pesticides Stewardship Partnerships and related technical assistance programs to encompass more watersheds, land use diversity, water media (e.g., groundwater), and additional assistance and outreach tools	Current Use Pesticides
	E-3 Provide assistance to small publicly owned treatment works (POTWs) in developing sewer use ordinances related to toxics and evaluate need for statewide pretreatment program for POTWs not subject to federal program	Metals, VOCs, , petroleum and combustion by-products
	E-4 Provide incentives for toxics reduction at facilities through innovative use of existing DEQ program tools where appropriate	All

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	E-5 Increase the use of, and demand for, less toxic alternative products through third party certification and recognition programs and tools	All
	E-6 Develop and implement a funding plan for customized or enhanced household and small business waste collections for Focus List chemicals or categories of chemicals	All
	E-7 Assess opportunities to improve management of Focus List chemicals through use of existing state product or chemical reporting, notification, registration, and licensing mechanisms	All
ADDRESSING IDENTIFIED TOXICS REDUCTION NEEDS		
Short-Term Implementation Priority*	Action	Chemical Category(s)
	N-1 Work with retailers and others in the supply chain to reduce Focus List chemicals in common consumer products	All**
	N-2 Collaborate with other states to develop and disseminate guidance on toxic chemical alternatives assessments, and identify and pursue alternatives assessment priorities for common uses of Focus List chemicals	All**
	N-3 Develop and implement risk reduction and outreach plans in areas determined to have high potential for human health exposure to Focus List chemicals through domestic drinking water wells	All
	N-4 Implement comprehensive state agency procurement initiative to acquire products and services that minimize or avoid the use of Focus List chemicals	All
	N-5 Increase understanding of the benefits of green chemistry among key Oregon decision-makers and gain commitment to adopt policies that foster green chemistry innovation	All**
	N-6 Create and support a green chemistry innovation “Hub” that catalyzes the use of green chemistry by Oregon businesses and fosters collaboration between public and private stakeholders	All**
	N-7 Increase information disclosure for products with Focus List constituents to allow for improved assessment and pollution prevention actions	All**
	N-8 Use the Focus List to help identify new opportunities for product stewardship initiatives	All**

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	ASSESSING AND CHARACTERIZING TOXICS IN OREGON	
Short-Term Implementation Priority*	Action	Chemical Category(s)
	A-1 Incorporate all Focus List chemicals into existing state environmental toxics monitoring or modeling initiatives, considering appropriate pathways	All
	A-2 Assess DEQ program data needs related to Focus List chemicals in environmental media or environmental treatment by-products	All
	A-3 Identify localized impact areas (“hot spots”) that could pose higher risks to people and ecological life due to exposure to multiple chemicals from multiple sources	All
	A-4 Use all available and credible internal and external sources of data to identify potential sources of Focus List toxics for all DEQ programs, and integrate toxics databases and source modeling information when feasible	All
	A-5 Establish ecological and human health indices to assess Focus List chemicals without regulatory standards and to provide context for communication of monitoring data	All
	A-6 Develop, fund and implement human biomonitoring program to track levels of Focus List chemicals in people over time	All

* Priority level for short-term (1-2 years) implementation activity:

Green = High priority for short-term implementation activity, involving possible re-prioritization of resources

Yellow = Short-term development or implementation with existing resources (i.e., no additional resources allocated)

Red = Longer-term implementation priority

** Potentially all chemical categories could be addressed, but the primary emphasis is on Consumer Product Constituents, metals, VOCs, flame retardants, petroleum by-products (i.e., those chemicals registered under the federal Toxics Substances Control Act)