

Human Health Toxics Water Quality Standards

Background

The U.S. Environmental Protection Agency approved Oregon's proposed water quality standards for toxic pollutants affecting human health on Oct. 17, 2011. These standards establish goals for Oregon's surface waters, including protecting sources of drinking water and helping ensure that fish from Oregon's waters are safe to eat. The Oregon Environmental Quality Commission approved DEQ's proposed revised standards through a rulemaking earlier in 2011.

These standards may affect industrial facilities and larger municipal sewage treatment facilities operating under wastewater discharge permits in Oregon.

DEQ's revised water quality standards incorporate a fish consumption rate that reflects the range of fish consumed by Oregonians. DEQ developed this rate after an extensive review of relevant fish consumption studies by a panel of public health professionals and through conducting public workshops.

The fish consumption rate is an important factor for developing human health standards. The more fish, shellfish and water people consume containing toxic pollutants, the more they're at risk for developing illnesses such as cancer, cardiovascular disease, neurological and behavioral disorders and kidney disease. The revised standards reflect pollutant levels that are considered safe to consume.

Approved standards' revisions

The EPA-approved standards include three significant revisions:

- A revised variance provision for situations where a city or business operating under a water quality permit cannot meet discharge limits for a pollutant
- A new site-specific background pollutant criteria provision that will be used to account for background pollutants under certain circumstances.



New water quality criteria will be protective of the majority of Oregonians

The revised standards address EPA's June 2010 disapproval of DEQ's previous human health standards based on a fish consumption rate of 17.5 grams per day. EPA disapproved those criteria because they did not protect populations in Oregon who are known to eat more fish.

Additional rule revisions

In conjunction with revisions to the human health standards, DEQ revised certain water quality rules to clarify procedures and create new tools for implementing the standards. The revisions also addressed DEQ's coordination with the state Departments of Agriculture and Forestry in carrying out the agencies' roles related to nonpoint sources of pollution. These revisions are discussed below.

Agriculture and forestry

Toxic pollutants come from a variety of sources, including pollutants carried in runoff from cities,



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wq/standards/humanhealthrule.htm](http://www.deq.state.or.us/wq/standards/humanhealthrule.htm)

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agricultural fields and forestry activities. As part of its rulemaking to establish the revised standards, DEQ worked with stakeholders to revise regulatory language to clarify that forestry and agricultural activities regulated under the Oregon Forest Practices Act and state Agriculture Water Quality Management Act must meet water quality standards and can be subject to Total Maximum Daily Load allocations where adequate data exists. These revisions do not provide DEQ with additional authority over agricultural and forestry land uses.

Additional revisions clarified and formalized processes between DEQ and the Oregon Departments of Agriculture (ODA) and Forestry (ODF) in situations where pollution reduction practices do not meet pollution load limits set forth in a Total Maximum Daily Load or in the water quality standards.

Who will be affected?

Municipal and industrial permit holders

Cities most likely to be affected by the revised standards have larger municipal sewage treatment facilities, defined as those that discharge more than 1 million gallons per day of treated wastewater. Such facilities (about 50 in Oregon) typically serve populations greater than 10,000. Smaller cities may be affected if they're known to discharge pollutants covered by the state's human health criteria. Cities and industries that dispose of wastewater by evaporation or land application are *not* affected by the revised standards.

The extent to which industries will have more stringent requirements will depend on the industrial category and pollutants that are typically found in its waste streams. Generally, "primary" industrial facilities (about 20 facilities in Oregon) are more likely to have revised discharge limits than industrial facilities classified as "non-primary." Primary industries include businesses such as pulp and paper operations and electronics manufacturing.

Permits for affected municipal and industrial facilities will not change until they are renewed, which is scheduled to occur every five years. At that time, DEQ will evaluate available information to determine whether new or more stringent permit limits are warranted. If data is

insufficient to make this determination, DEQ will include expanded monitoring for toxic pollutants in the renewed permit. DEQ anticipates the required monitoring will take facilities up to three years to complete and will then be used to determine if more stringent permit limits are warranted in the next permit. Permit holders will have the remainder of the permit cycle to explore options for complying with the more stringent limits. Some of these options are described below under *Implementation tools*.

Agriculture and forestry

Rule changes and revised standards will not generally affect farmers and foresters as long as they're meeting the environmental outcomes in their Area Plans and Rules or practices specified in the Forest Practices Act. These outcomes and practices are developed to achieve compliance with water quality standards. DEQ will work with ODA and ODF to revise these plans if they do not meet water quality standards.

Implementation tools

DEQ has several existing and new tools to help cities and businesses implement the human health criteria:

Compliance schedules. If a permit holder needs time to upgrade its treatment facility to comply with a more stringent permit limit, DEQ may incorporate a timeline into the permit for coming into compliance with the requirements.

Intake credits. If a pollutant is present in the water that a city or business takes out of a river for use in an industrial or other process (commonly called a "background" pollutant), that entity will not be held responsible for removing that pollutant to a lower level than what was initially present. Instead, the permit holder will qualify for what is known as an intake credit. As long as the permit holder does not increase the mass or concentration of the pollutant found in its intake water, the permit holder is in compliance.

Site-specific background pollutant provision

Similar to intake credits, this tool can be used to account for background pollutants under certain circumstances. The provision can be used for cancer-causing pollutants and must also meet

other specified conditions to ensure that any increase in background pollutant concentration in a permit holder's wastewater is small and does not present an unacceptable risk to human health. This provision allows DEQ to establish an alternate, site-specific criterion for the water body. Its sole purpose is to develop a discharge limit. The site-specific criterion will not be used to identify impaired waters or develop total maximum daily loads. Use of this provision for individual permits is subject to public notice and review.

Variations

A permit holder that cannot meet a permit limit due to one or more reasons stated in the variance rule – such as when available treatment technologies are prohibitively expensive or when human-caused or naturally-occurring pollutant levels preclude meeting water quality standards – can apply for a variance.

For DEQ to grant a variance, a city or business must develop a pollutant reduction plan describing how the facility will continue to make progress toward meeting the water quality standards. Pollutant reduction plans may include alternatives to traditional end-of-pipe treatment (e.g. pollution prevention or source control) to reduce pollution and improve water quality. Use of this provision for individual permits is subject to public notice and review.

What happens next?

- DEQ is developing internal management directives for variances, the site-specific background pollutant provision and TMDLs to provide guidance to DEQ staff for implementing the revised standards and rules. DEQ will provide both internal and external training to further promote understanding of the revisions and their effects on affected parties.
- In selected cases, human health water quality criteria for toxic pollutants may not be appropriate for certain water bodies. In other cases, the water body's designated use may not be correct. In these cases, DEQ may pursue site-specific revisions to ensure that correct water quality standards apply.

- In February 2013 and February 2015, DEQ will report to the Oregon Legislature on the status of the human health toxics rulemaking, including specific information on the use of variances.
- DEQ will continue to work with ODA and stakeholders regarding roles and responsibilities for implementing state and federal water quality laws. DEQ expects to update its memoranda of agreements with ODA and ODF.

For more information

Background materials, documents associated with the standards rulemaking, and additional implementation information may be found at: <http://www.deq.state.or.us/wq/standards/humanhealthrule.htm>. DEQ will post updates on its human health toxics website as materials are developed.

Alternative formats

Alternative formats of this document (such as Braille or large type) can be made available. Contact DEQ's Office of Communications and Outreach, Portland, for more information at 503-229-5696. Hearing-impaired persons may call 711.