DRAFT for Discussion Purposes Only:

“Background Pollutants” Issues

For the purpose of this discussion paper:

“Background pollutants” means pollutants in the ambient water upstream of a discharge, which could come from natural or upstream sources.

Arsenic, iron and manganese are naturally occurring earth metals present in many Oregon waters at concentrations greater than the water quality criteria.

Mercury, PCBs and DDT are pollutants known to be in Oregon waters at background concentrations above the criteria. These pollutants may come from a variety of sources, including air deposition, nonpoint source, legacy sources and current discharges.

Problem statement 1: Some point sources in Oregon take water in from and discharge wastewater back into water bodies that have ambient pollutant levels that exceed the water quality criteria. In this situation, no dilution is available to help the facility meet the water quality criteria. Rather the facility must meet its water quality based effluent limit (WQBEL) at the “end-of-pipe. “ Some facilities add no mass load of the pollutant through their process, but because they use the water for non-contact cooling, they increase the concentration of the pollutant above the ambient river concentration. This happens because they reduce the volume of water through evaporation and thus the same mass is mixed in a smaller volume of water, increasing concentration. These sources are then not able to meet a water quality based effluent limit (WQBEL) for their discharge. In Oregon, most facilities recycle their cooling water, using it multiple times before discharging. Multi-pass cooling allows the facility to conserve water and, therefore, withdraw less water from the river. It also allows them to discharge less heat back into the river. For these reasons it is environmentally preferable over single pass cooling. However, it does lead to a greater concentration of conservative pollutants such as metals in the effluent.

For facilities that increase neither the mass nor the concentration of a pollutant above their intake water levels, an “intake credit” provision (modeled after that used in the Great Lakes) could provide relief. The source would not be responsible for removing the pollutants they took in via their intake water and did not add through their process. However, for facilities that increase the concentration of the pollutant through evaporative cooling, even though they do not increase the mass and do not add the pollutant through their process, the intake credit provision would not apply. The facility would be required to treat their wastewater to remove the background (natural or legacy) pollutants that were in the river water.

Desired Outcomes:

1. A facility that does not add a pollutant through their process and does not increase the mass of the pollutant discharged above the amount they received from the river in their intake water should not be responsible for removing those pollutants, which are coming from natural or upstream sources, even if they concentrate the pollutant by reducing the water volume through evaporative cooling.

2. Facilities should meet all technology based requirements.

3. Sources should be responsible for providing data on their intake water and for characterizing the ambient water quality in the vicinity of their discharge.

General Principles for Solutions:

1. Where the problem is widespread and not facility specific, solve the problem and the “highest” or most systemic administrative level possible rather than facility by facility in order to be efficient with public resources.

2. Minimize economic impacts to sources that do not produce environmentally meaningful results.

2. Protect the beneficial use, in this case human health, wherever possible.

3. Look “upstream” as much as possible, favoring source reduction over wastewater treatment.

Solution Options:

1. Include a provision that allows a “no measurable” or *de minimis* increase above the human health criteria in the water quality standards for toxic pollutants.

* Define what the allowed increment would be, how it would be derived, and where the compliance point would be (i.e. after “rapid and complete mixing”).
* Show how the water quality standard, with such a provision included would still protect human health.
* Specify that this provision would apply only to the background pollutant mass in a facility’s intake water that is being concentrated by the facility, but does not apply to any pollutant mass load added by the facility.