

ORSANCO Staff Water Quality Criteria Compilation

2/14/2018

ORSANCO's Ad Hoc Committee on Water Quality Standards Implementation requested Commission staff to conduct a high level compilation of ORSANCO's criteria, the USEPA's recommended criteria and ORSANCO's main stem state member's criteria. The compilation was completed in December of 2015.

Considerations:

- The attached compilation consolidated 5 different types of Human Health and Aquatic Life Criteria into one simplified spreadsheet and should only be utilized for a very broad/high-level comparison.
- Each States' water quality standards must be approved by USEPA. All are currently approved, even with noted differences. Information for this compilation was taken from state websites in 2015 and are very time sensitive due to regular updating by the States and USEPA. The States and ORSANCO utilize USEPA's recommended criteria as the basis for their Standards. Although, USEPA does not review or approve ORSANCO's water quality standards, to avoid resource duplication, ORSANCO has historically adopted USEPA's recommended criteria in subsequent Pollution Control Standards Updates for most contaminants.
- Article VI of ORSANCO's Compact states that "It is recognized by the signatory States that no single standard for the treatment of sewage or industrial wastes is applicable in all parts of the District due to such variable factors as size, flow, location, character, self-purification, and usage of waters within the District. The guiding principle of this Compact shall be that pollution by sewage or industrial wastes originating within a signatory State shall not injuriously affect the various uses of the interstate waters as hereinbefore defined". Or, in other words, ORSANCO recognized in 1948 that states may be different.
- Standards are only one component that are reviewed through the states' National Pollutant Discharge Elimination System (NPDES) along with discharge flow and the discharger's reasonable potential to impact ambient water quality criteria when determining human health and environmental protection.
- Several parameters were not included in the compilation including Aesthetics, Ammonia, Bacteria, Boron, Color, Diocylphthalate, Total Dissolved Gases, Hardness, Nitrosamines and Nutrients because these are either expressed in narrative or are seasonally variable making them very difficult to include.
- Although parameters may be numerically higher or lower, this does not on its own mean that a parameter is more or less stringent since several other factors are considered in the setting of discharge limits.

Comparison of Minimum Water Quality Criteria vs ORSANCO's 122 Minimum Criteria (12/3/2015)

State/USEPA	Total Number of Parameters Regulated by the State Agency or Recommended by the USEPA	No. of Parameters for Which ORSANCO has criteria but the Agency does not	No. of Parameters for which the Agency has Criteria but ORSANCO does not	No. of Parameters for Which the Agencies' Criteria are Less Stringent Than ORSANCO (more than 10% difference)	No. of Parameters for Which the Agencies' and ORSANCO's Criteria are Equivalent (less than 10% Difference)	No. of Parameters for Which the Agencies' Criteria are More Stringent than ORSANCO (more than 10% difference)	Number of Standards Compared
Illinois	238	44	160	38	5	35	78
Indiana	90	50	18	53	10	9	72
Kentucky	137	13	28	10	94	5	109
Ohio	155	12	44	88	14	5	107
Pennsylvania	140	20	38	7	73	22	102
West Virginia	95	38	11	33	38	11	84
USEPA	154	11	43	23	17	67	111
Totals	1009	188	342	252	251	154	663

Key Assumptions/Factors Utilized in Preparation of Comparison

- 1) The most stringent criterion for any parameter is utilized for this comparison regardless of differences in the intended protected use.
- 2) The comparison removes the separation of standards by criteria type: eg. "Human Health" and "Aquatic Life".
- 3) Comparison shows where ORSANCO Pollution Control Standards require discharge permits on the Ohio River to be more stringent than the state would allow on other bodies of water.
- 4) Some parameters are not included in this comparison. These pollutants include Aesthetics, Ammonia, Bacteria, Boron, Color, Diocetylphthalate, Total Dissolved Gases, Hardness, Nitrosamines, Nutrients.
- 5) Parameters included in this summary are taken from the individual State Agency's Website and do not reflect individual State's inclusion of ORSANCO Standards through other means such as adoption of ORSANCO standards by reference, through individual permit issuance or other means.
- 6) There may be other assumptions/combinations/arrangements that staff is not aware of at this time.