Memo

To: DEQ WQ Program

From: Water Quality Permitting and Program Development

Date: 11/03/2020

Subject:
Revised Quantitation Limit List for Individual NPDES Permittees

State of Oregon
Department of
Environmental
Quality

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Permittees are required by 40 CFR 122 to collect data that is "sufficiently sensitive" to meet NPDES permit requirements. In order to meet the criteria of "sufficiently sensitive" the data must meet the following criteria (note that "minimum level" is synonymous with method reporting limit (MRL or RL)):

(A) The method minimum level (ML) is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter; or

(B) The method ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

(C) The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

In 2007 DEQ Laboratory and Environmental Assessment Division (LEAD), at the request of the DEQ WQ Permitting Program, developed a list of "sufficiently sensitive" Quantitation Limits (QLs) to ensure that permittees were meeting the "sufficiently sensitive" criteria. This list was last revised in 2015. In 2016, a Method Update Rule (MUR) issued by EPA revised how detection limits were to be calculated to include method blanks. These revisions may increase some detection limits able to be achieved by laboratories, and thus will also increase the associated MRLs reported by laboratories for many analytes. Please note that QL in this case is synonymous with MRL, ML, and RL.

With the adoption of the changes by laboratories in the MUR, DEQ's WQ Permitting Program is re-evaluating the approach used to incorporate "sufficiently sensitive" requirements into NPDES permits and revising the QLs. Revisions to the QLs have incorporated the following sources:

- Oregon's Water Quality Criteria (WQC) (Tables 30, 31, and 40)
- QLs from other states
- MRLs from DEQ LEAD
- Data submitted by individual permittees to DEQ as part of their NPDES permit monitoring requirements since January 1st, 2018

These information taken together were used to establish revised QLs (see table below).

The DEQ WQ Permitting Program is providing a revised QL limit list as guidance for permit holders and laboratories (see Table 1). These QLs will no longer be included within NPDES permits as enforceable requirements. As permits are revised, QL tables and requirements will be removed. For current and administratively expired permits with

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QL tables and requirements, please see the "Enforcement recommendations for Quantitation Limits currently included within permits" memo. This is due to the changing, performance based nature of MRLs over the course of a permit cycle (5 years). Permittees will still be required to meet the "sufficiently sensitive" rules, and may face resampling requirements or enforcement if these rules are not met.

Due to the performance based nature of MRLs, the QL list will be re-evaluated annually and any changes will be published along with the July update of the NPDES Permit Template.

Table 1: Revised Quantitation Limits (QLs in red are above current water quality criteria)

Pollutant Parameter	**CAS Number**	**Original QL (ug/L unless otherwise stated)**	**New proposed QL (ug/L unless otherwise stated)**	**Direction of Revision**
Nitrate-Nitrite (as N)	14797-55-8	100	100	No Change
Hardness (Total as CaCO3)	--	--	--	
Antimony (total recoverable)	7440-36-0	0.5	0.5	No Change
Arsenic (total recoverable)	7440-38-2	0.5	0.5	No Change
Arsenic (Inorganic)	7440-38-2 (I)	1.0	1.0	No Change
Arsenic (total inorganic + dissolved)	74403-82-I (D)	1.0	1.0	No Change
Beryllium (total recoverable)	7440-41-7	0.1	0.5	Increase
Cadmium (total recoverable)	7440-43-9	0.1	0.25	Increase
Cadmium (dissolved)	7440-43-9 (D)	0.1	0.25	Increase
Chromium (total recoverable)	7440-47-3	0.4	2.0	Increase
Chromium (dissolved)	7440-47-3 (D)	2.0	2.0	No Change
Chromium III (dissolved)	16065-83-1	Calc	Calc	No Change
Chromium VI (dissolved)	18540-29-9 (D)	2.0	2.0	No Change
Copper (total recoverable)	7440-50-8	2.0	2.0	No Change
Copper (dissolved)	7440-50-8 (D)	2.0	2.0	No Change
Iron (total recoverable)	7439-89-6	100	100	No Change
Lead (total recoverable)	7439-92-1	1.0	1.0	No Change
Lead (dissolved)	7439-92-1 (D)	1.0	1.0	No Change
Mercury (total)	7439-97-6	0.005/0.001	0.001	Decrease
Methyl Mercury	22967-92-6	0.00002	0.00002	No Change
Nickel (total recoverable)	7440-02-0	10	10	No Change
Nickel (dissolved)	7440-02-0 (D)	10	10	No Change
Selenium (total recoverable)	7782-49-2	1.0	1.0	No Change
Selenium (dissolved)	7782-49-2 (D)	1.0	1.0	No Change
Silver (total recoverable)	7440-22-4	0.1	0.1	No Change
Silver (dissolved)	7440-22-4 (D)	0.1	0.1	No Change
Thallium (total recoverable)	7440-28-0	0.1	0.1	No Change
Zinc (total recoverable)	7440-66-6	5.0	5.0	No Change
Zinc (dissolved)	7440-66-6 (D)	5.0	5.0	No Change
Cyanide (total)	57-12-5	5.0	5.0	No Change
Cyanide (free)	57-12-5 (F)	5.0	7.2	Increase
Total phenolic compounds	NA	10	50	Increase
Bromide	24959-67-9	100	100	No Change
Fluoride	16984-48-8	200	200	No Change
Sulfate	14808-79-8	500	500	No Change

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Pollutant Parameter	CAS Number	Original QL (ug/L unless otherwise stated)	New proposed QL (ug/L unless otherwise stated)	Direction of Revision
Sulfide (Total)	18496-25-8	100	100	No Change
Surfactants (MBAS)	NA	50	50	No Change
Aluminum, (total recoverable)	7429-90-5	50	50	No Change
Barium (total recoverable)	7440-39-3	0.1	0.1	No Change
Boron, (total recoverable)	7440-42-8	50	50	No Change
Cobalt, (total recoverable)	7440-48-4	5.0	5.0	No Change
Magnesium, (total recoverable)	7439-95-4	250	250	No Change
Molybdenum, (total recoverable)	7439-98-7	10	10	No Change
Manganese, (total recoverable)	7439-96-5	10	10	No Change
Tin, (total recoverable)	7440-31-5	10	10	No Change
Titanium, (total recoverable)	7440-32-6	10	10	No Change
Acrolein	107-02-8	5.0	5.0	No Change
Acrylonitrile	107-13-1	5.0	5.0	No Change
Benzene	71-43-2	0.5	0.5	No Change
Bromoform	75-25-2	0.5	0.5	No Change
Carbon Tetrachloride	56-23-5	0.5	0.5	No Change
Chlorobenzene	108-90-7	0.5	18.0	Increase
Chlorodibromomethane	124-48-1	0.5	0.5	No Change
Chloroethane	75-00-3	0.5	2.0	Increase
2-chloroethylvinyl ether	110-75-8	10.0	10.0	No Change
Chloroform	67-66-3	0.5	4.8	Increase
Dichlorobromomethane	75-27-4	0.5	0.5	No Change
1,2-Dichlorobenzene (o)	95-50-1	0.5	7.6	Increase
1,3-Dichlorobenzene (m)	541-73-1	0.5	7.6	Increase
1,4-Dichlorobenzene (p)	106-46-7	0.5	8.0	Increase
1,1-dichloroethane	75-34-3	0.5	14.1	Increase
1,2-dichloroethane	107-06-2	0.5	0.5	No Change
1,2-trans-dichloroethylene	156-60-5	0.5	4.8	Increase
1,1-dichloroethylene	75-35-4	0.5	8.4	Increase
1,2-dichloropropane	78-87-5	0.5	0.5	No Change
1,3-dichloropropene	542-75-6	0.5	0.5	No Change
Ethylbenzene	100-41-4	0.5	21.6	Increase
Methyl Bromide (Bromomethane)	74-83-9	1.0	1.0	No Change
Methyl chloride (Chloromethane)	74-87-3	1.0	1.0	No Change
Methylene Chloride	75-09-2	2.0	8.4	Increase
1,1,2,2-tetrachloroethane	79-34-5	0.5	0.5	No Change
Tetrachloroethylene	127-18-4	0.5	0.5	No Change
Toluene	108-88-3	0.5	18.0	Increase
1,1,1-trichloroethane	71-55-6	0.5	11.4	Increase
1,1,2-trichloroethane	79-00-5	0.5	0.5	No Change
Trichloroethylene	79-01-6	0.5	0.5	No Change
Vinyl Chloride	75-01-4	0.5	0.5	No Change
bis(chloromethyl) ether	542-88-1	0.5	0.5	No Change
dichlorodifluoromethane	75-71-8	1.0	1.0	No Change
trichlorofluoromethane	75-69-4	0.5	0.5	No Change
p-chloro-m-cresol	59-50-7	1.0	9.0	Increase
2-chlorophenol	95-57-8	1.0	9.9	Increase
2,4-dichlorophenol	120-83-2	1.0	8.1	Increase

Pollutant Parameter	CAS Number	Original QL (ug/L unless otherwise stated)	New proposed QL (ug/L unless otherwise stated)	Direction of Revision
2,4-dimethylphenol	105-67-9	5.0	8.1	Increase
4,6-dinitro-o-cresol	534-52-1	2.0	4.6	Increase
2,4-dinitrophenol	51-28-5	5.0	31	Increase
2-nitrophenol	88-75-5	2.0	10.8	Increase
4-nitrophenol	100-02-7	5.0	7.2	Increase
Pentachlorophenol	87-86-5	1.0	1.0	No Change
Phenol	108-95-2	1.0	4.5	Increase
2,4,5-trichlorophenol	95-95-4	2.0	165	Increase
2,4,6-trichlorophenol	88-06-2	1.0	1.0	No Change
Acenaphthene	83-32-9	1.0	5.7	Increase
Acenaphthylene	208-96-8	1.0	10.5	Increase
Anthracene	120-12-7	1.0	5.7	Increase
Azobenzene	103-33-3	5.0	20	Increase
Benzidine	92-87-5	50	10	Decrease
Benzo(a)anthracene	56-55-3	0.5	0.5	No Change
Benzo(a)pyrene	50-32-8	0.5	0.5	No Change
Benzo(b)fluoranthene	205-99-2	0.5	0.5	No Change
Benzo(ghi)perylene	191-24-2	1.0	12.3	Increase
Benzo(k)fluoranthene	207-08-9	1.0	0.5	Decrease
Bis (2-chloroethoxy) methane	111-91-1	2.0	15.9	Increase
Bis(2-chloroethyl)ether	111-44-4	1.0	1.0	No Change
Bis(2-chloroisopropyl)ether	108-60-1	2.0	17.1	Increase
Bis (2-ethylhexyl)phthalate	117-81-7	1.0	7.25	Increase
4-bromophenyl phenyl ether	101-55-3	1.0	5.7	Increase
Butylbenzyl phthalate	85-68-7	1.0	7.5	Increase
2-chloronaphthalene	91-58-7	1.0	5.7	Increase
4-chlorophenyl phenyl ether	7005-72-3	1.0	12.6	Increase
Chrysene	218-01-9	0.5	0.5	No Change
Di-n-butyl phthalate	84-74-2	1.0	7.5	Increase
Di-n-octyl phthalate	117-84-0	1.0	7.5	Increase
Dibenzo(a,h)anthracene	53-70-3	0.5	0.5	No Change
3,3-Dichlorobenzidine	91-94-1	2.0	1.0	Decrease
Diethyl phthalate	84-66-2	1.0	5.7	Increase
Dimethyl phthalate	131-11-3	1.0	4.8	Increase
2,4-dinitrotoluene	121-14-2	1.0	1.0	No Change
2,6-dinitrotoluene	606-20-2	1.0	5.7	Increase
1,2-diphenylhydrazine (as azobenzene)	122-66-7	5.0	5.0	No Change
Fluoranthene	206-44-0	2.0	6.6	Increase
Fluorene	86-73-7	1.0	5.7	Increase
Hexachlorobenzene	118-74-1	1.0	1.0	No Change
Hexachlorobutadiene	87-68-3	2.0	2.0	No Change
Hexachlorocyclopentadiene	77-47-4	2.0	4.0	Increase
Hexachloroethane	67-72-1	1.0	1.0	No Change
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	0.5	No Change
Isophorone	78-59-1	5.0	6.6	Increase
Napthalene	91-20-3	1.0	4.8	Increase
Nitrobenzene	98-95-3	1.0	5.7	Increase

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Pollutant Parameter	CAS Number	Original QL (ug/L unless otherwise stated)	New proposed QL (ug/L unless otherwise stated)	Direction of Revision
N-nitrosodimethylamine	62-75-9	2.0	1.0	Decrease
N-nitrosodi-n-propylamine	621-64-7	2.0	2.0	No Change
N-nitrosodiphenylamine	86-30-6	1.0	1.0	No Change
Pentachlorobenzene	608-93-5	1.0	1.0	No Change
Phenanthrene	85-01-8	1.0	16.2	Increase
Pyrene	129-00-0	1.0	5.7	Increase
1,2,4-trichlorobenzene	120-82-1	1.0	5.7	Increase
1,2,4,5-Tetrachlorobenzene	95-94-3	1.0	1.0	No Change
Aldrin	309-00-2	0.01	0.01	No Change
BHC-Technical	608-73-1	0.01	0.01	No Change
BHC-alpha	319-84-6	0.01	0.01	No Change
BHC-beta	319-85-7	0.01	0.01	No Change
BHC-delta	319-86-8	0.01	0.01	No Change
BHC-gamma (Lindane)	58-89-9	0.01	0.012	Increase
Chlordane	57-74-9	0.1	0.1	No Change
Chlorpyrifos	2921-88-2	0.01	0.05	Increase
Demeton	8065-48-3	2.0	2.45	Increase
DDD 4,4'	72-54-8	0.01	0.01	No Change
DDE 4,4'	72-55-9	0.01	0.01	No Change
DDT 4,4'	50-29-3	0.01	0.01	No Change
Dieldrin	60-57-1	0.01	0.01	No Change
Endosulfan alpha (Endo I)	959-98-8	0.01	0.042	Increase
Endosulfan beta (Endo II)	33213-65-9	0.01	0.012	Increase
Endosulfan Sulfate	1031-07-8	0.01	0.198	Increase
Endosulfan	115-29-7	0.01	0.01	No Change
Endrin	72-20-8	0.01	0.018	Increase
Endrin Aldehyde	7421-93-4	0.01	0.015	Increase
Guthion	86-50-0	1.0	1.75	Increase
Heptachlor	76-44-8	0.01	0.01	No Change
Heptachlor Epoxide	1024-57-3	0.01	0.01	No Change
Malathion	121-75-5	0.2	1.9	Increase
Methoxychlor	72-43-5	0.01	0.01	No Change
Mirex	2385-85-5	0.01	0.96	Increase
Parathion	56-38-2	10	0.95	Decrease
Toxaphene	8001-35-2	0.5	0.5	No Change
Total PCBs	1336-36-3	0.5	0.5	No Change
PCB- Aroclor 1016	12674-11-2	0.5	0.5	No Change
PCB- Aroclor 1221	11104-28-2	0.5	0.5	No Change
PCB- Aroclor 1232	11141-16-5	0.5	0.5	No Change
PCB- Aroclor 1242	53469-21-9	0.5	0.5	No Change
PCB- Aroclor 1248	12672-29-6	0.5	0.5	No Change
PCB- Aroclor 1254	11097-69-1	0.5	0.5	No Change
PCB- Aroclor 1260	11096-82-5	0.5	0.5	No Change
Barium (total recoverable)	7440-39-3	0.10	0.1	No Change
Chloride	16887-00-6	100	100	No Change
Hydrogen Sulfide (dissolved as S)	7783-06-4	100	100	No Change

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Pollutant Parameter	CAS Number	Original QL (ug/L unless otherwise stated)	New proposed QL (ug/L unless otherwise stated)	Direction of Revision
2,4,5-TP [2-(2,4,5-Trichloro-phenoxy) propanoic acid]d	93-72-1	1.0	1.0	No Change
2,4-D (2,4-Dichlorophenoxy) acetic acid)	94-75-7	1.0	1.0	No Change
Dioxin 2,3,7,8-TCDD	1746-01-6	0.00001	0.005	Increase
N-Nitrosodibutylamine	924-16-3	2.0	2.0	No Change
N-Nitrosodiethylamine	55-18-5	2.0	2.0	No Change
N-Nitrosopyrrolidine	930-55-2	2.0	2.0	No Change
Phosphorus, Elemental	7723-14-0	10.0	10.0	No Change
Alkalinity, Total	NA	5 mg/L	5 mg/L	No Change
tributyltin (TBT)	688-73-3	2.0	2.0	No Change
Total Suspended Solids			5 mg/L	New Parameter
Total Residual Chlorine			50.0	New Parameter
Oil and Grease			5,000	New Parameter
Total BTEX			2.0	New Parameter
Ammonia, Total (as N)			20.0	New Parameter