**Section 611.648 Phase II, Phase IIB, and Phase V Synthetic Organic Contaminants**

Analysis of the Phase II, Phase IIB, and Phase V SOCs for the purposes of determining compliance with the MCL must be conducted as follows:

a) Definitions. As used in this Section, the following terms will have the following meanings:

"Detect" or "detection" means that the contaminant of interest is present at a level greater than or equal to the "detection limit".

"Detection limit" means the level of the contaminant of interest that is specified in subsection (r).

BOARD NOTE: This is a "trigger level" for Phase II, Phase IIB, and Phase V SOCs inasmuch as it prompts further action. The use of the term "detect" or "detection" in this Section is not intended to include any analytical capability of quantifying lower levels of any contaminant, or the "method detection limit".

b) Required Sampling. Each supplier must take a minimum of one sample at each sampling point at the times required in subsection (q).

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

c) Sampling Points

1) Sampling Points for GWSs. Unless otherwise provided in a SEP, a GWS supplier must take at least one sample from each of the following points: each entry point that is representative of each well after treatment.

2) Sampling Points for an SWS or Mixed System Supplier. Unless otherwise provided in a SEP, an SWS or mixed system supplier must sample from each of the following points:

A) Each entry point after treatment; or

B) Points in the distribution system that are representative of each source.

3) The supplier must take each sample at the same sampling point unless the Agency issues a SEP that designates another location as more representative of each source, treatment plant, or within the distribution system.

4) If a system draws water from more than one source, and the sources are combined before distribution, the supplier must sample at an entry point during periods of normal operating conditions when water is representative of all sources being used.

BOARD NOTE: Subsections (b) and (c) derive from 40 CFR 141.24(h)(1) through (h)(3).

d) Monitoring Frequency

1) Each CWS and NTNCWS supplier must take four consecutive quarterly samples for each of the Phase II, Phase IIB, and Phase V SOCs during each compliance period, beginning in the three-year compliance period starting in the initial compliance period.

2) Suppliers serving more than 3,300 persons that do not detect a contaminant in the initial compliance period must take a minimum of two quarterly samples in one year of each subsequent three-year compliance period.

3) Suppliers serving fewer than or equal to 3,300 persons that do not detect a contaminant in the initial compliance period must take a minimum of one sample during each subsequent three-year compliance period.

e) Reduction to Annual Monitoring Frequency. A CWS or NTNCWS supplier may apply to the Agency for a SEP releasing the supplier from the requirements of subsection (d). A SEP from the requirement of subsection (d) may last for only a single three-year compliance period.

f) Vulnerability Assessment. The Agency must issue a SEP from the requirements of subsection (d) based on consideration of the factors set forth at Section 611.110(a).

g) If one of the Phase II, Phase IIB, or Phase V SOCs is detected in any sample, then the following must occur:

1) The supplier must monitor quarterly for the contaminant at each sampling point that resulted in a detection.

2) Annual Monitoring

A) A supplier may request that the Agency issue a SEP reducing the monitoring frequency to annual.

B) A request for a SEP must include the following minimal information:

i) For a GWS, two quarterly samples.

ii) For an SWS or mixed system supplier, four quarterly samples.

C) The Agency must issue a SEP allowing annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

D) When issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently below the MCL" determination was based. Any SEP allowing less frequent monitoring based on an Agency "reliably and consistently below the MCL" determination must include a condition requiring the supplier to resume quarterly monitoring under subsection (g)(1) if it detects any Phase II SOC.

3) Suppliers that monitor annually must monitor during the quarters that previously yielded the highest analytical result.

4) Suppliers that have three consecutive annual samples with no detection of a contaminant at a sampling point may apply to the Agency for a SEP with respect to that point, as specified in subsections (e) and (f).

5) Monitoring for Related Contaminants

A) If monitoring results in detection of one or more of the related contaminants listed in subsection (g)(5)(B), subsequent monitoring must analyze for all the related compounds in the respective group.

B) Related Contaminants

i) First Group

aldicarb

aldicarb sulfone

aldicarb sulfoxide

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

ii) Second Group

heptachlor

heptachlor epoxide.

h) Quarterly Monitoring Following MCL Violations

1) Suppliers that violate an MCL for one of the Phase II, Phase IIB, or Phase V SOCs, as determined by subsection (k), must monitor quarterly for that contaminant at the sampling point where the violation occurred, beginning the next quarter after the violation.

2) Annual Monitoring

A) A supplier may request that the Agency issue a SEP reducing the monitoring frequency to annual.

B) A request for a SEP must include, at a minimum, the results from four quarterly samples.

C) The Agency must issue a SEP allowing annual monitoring at a sampling point if it determines that the sampling point is reliably and consistently below the MCL.

D) When issuing the SEP, the Agency must specify the level of the contaminant upon which the "reliably and consistently below the MCL" determination was based. Any SEP allowing less frequent monitoring based on an Agency "reliably and consistently below the MCL" determination must include a condition requiring the supplier to resume quarterly monitoring under subsection (h)(1) if it detects any Phase II SOC.

E) The supplier must monitor during the quarters that previously yielded the highest analytical result.

i) Confirmation Samples

1) If any of the Phase II, Phase IIB, or Phase V SOCs are detected in a sample, the supplier must take a confirmation sample as soon as possible, but no later than 14 days after the supplier receives notice of the detection.

2) Averaging is as specified in subsection (k).

3) The Agency must delete the original or confirmation sample if it determines that a sampling error occurred, in which case the confirmation sample will replace the original or confirmation sample.

j) This subsection (j) corresponds with 40 CFR 141.24(h)(10), an optional USEPA provision relating to compositing of samples that USEPA does not require for state programs. This statement maintains structural consistency with USEPA rules.

k) Compliance with the MCLs for the Phase II, Phase IIB, and Phase V SOCs must be determined based on the analytical results obtained at each sampling point. If one sampling point is in violation of an MCL, the supplier is in violation of the MCL.

1) For a supplier that monitors more than once per year, compliance with the MCL is determined by a running annual average at each sampling point.

2) A supplier that monitors annually or less frequently whose sample result exceeds the regulatory detection level as defined by subsection (r) must begin quarterly sampling. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling.

3) If any sample result will cause the running annual average to exceed the MCL at any sampling point, the supplier is out of compliance with the MCL immediately.

4) If a supplier fails to collect the required number of samples, compliance will be based on the total number of samples collected.

5) If a sample result is less than the detection limit, zero will be used to calculate the annual average.

l) This subsection (l) corresponds with 40 CFR 141.24(h)(12), which USEPA removed and reserved. This statement maintains structural consistency with the federal regulations.

m) Analysis for PCBs must be conducted as follows using the methods in Section 611.645:

1) Each supplier that monitors for PCBs must analyze each sample using either USEPA 505 (95) or USEPA 508 (95).

2) If PCBs are detected in any sample analyzed using USEPA 505 (95) or USEPA 508 (95), the supplier must reanalyze the sample using USEPA 508A (89) to quantitate the individual Aroclors (as decachlorobiphenyl).

3) Compliance with the PCB MCL must be determined based upon the quantitative results of analyses using USEPA 508A (89).

n) This subsection (n) corresponds with 40 CFR 141.24(h)(14), an obsolete provision that relates to the initial compliance period from 1993 through 1995. This statement maintains consistency with the federal regulations.

o) The Agency must issue a SEP increasing the number of sampling points or the frequency of monitoring if it determines that this is necessary to detect variations within the PWS due to such factors as fluctuations in contaminant concentration due to seasonal use or changes in the water source.

BOARD NOTE: At 40 CFR 141.24(h)(15), the factors are non-limiting examples of circumstances making additional monitoring necessary.

p) This subsection (p) corresponds with 40 CFR 141.24(h)(16), a USEPA provision relating to reserving enforcement authority to the State that would serve no useful function as part of the State's rules. This statement maintains structural consistency with USEPA rules.

q) Each supplier must monitor, within each compliance period, at the time designated by the Agency in a SEP.

r) "Detection" means greater than or equal to the following concentrations for each contaminant:

1) For PCBs (Aroclors), the following:

|  |  |
| --- | --- |
| Aroclor | Detection Limit (mg/L) |
|  |  |
| 1016 | 0.00008 |
| 1221 | 0.02 |
| 1232 | 0.0005 |
| 1242 | 0.0003 |
| 1248 | 0.0001 |
| 1254 | 0.0001 |
| 1260 | 0.0002 |

2) For other Phase II, Phase IIB, and Phase V SOCs, the following:

|  |  |
| --- | --- |
| Contaminant | Detection Limit (mg/L) |
|  |  |
| Alachlor | 0.0002 |
| Aldicarb | 0.0005 |
| Aldicarb sulfoxide | 0.0005 |
| Aldicarb sulfone | 0.0008 |
| Atrazine | 0.0001 |
| Benzo(a)pyrene | 0.00002 |
| Carbofuran | 0.0009 |
| Chlordane | 0.0002 |
| 2,4-D | 0.0001 |
| Dalapon | 0.001 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.00002 |
| Di(2-ethylhexyl)adipate | 0.0006 |
| Di(2-ethylhexyl)phthalate | 0.0006 |
| Dinoseb | 0.0002 |
| Diquat | 0.0004 |
| Endothall | 0.009 |
| Endrin | 0.00001 |
| Ethylene dibromide (EDB) | 0.00001 |
| Glyphosate | 0.006 |
| Heptachlor | 0.00004 |
| Heptachlor epoxide | 0.00002 |
| Hexachlorobenzene | 0.0001 |
| Hexachlorocyclopentadiene | 0.0001 |
| Lindane | 0.00002 |
| Methoxychlor | 0.0001 |
| Oxamyl | 0.002 |
| Picloram | 0.0001 |
| Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl) | 0.0001 |
| Pentachlorophenol | 0.00004 |
| Simazine | 0.00007 |
| Toxaphene | 0.001 |
| 2,3,7,8-TCDD (dioxin) | 0.000000005 |
| 2,4,5-TP (silvex) | 0.0002 |

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

s) Laboratory Certification

1) Analyses under this Section must only be conducted by a laboratory in one of the categories listed in Section 611.490(a) that has been certified according to the conditions of subsection (s)(2).

2) To receive certification to conduct analyses for the Phase II, Phase IIB, and Phase V SOCs, the laboratory must do the following:

A) Analyze PE samples provided by the Agency under 35 Ill. Adm. Code 183.125(c) that include these substances; and

B) Achieve quantitative results on the analyses performed under subsection (s)(2)(A) that are within the following acceptance limits:

|  |  |
| --- | --- |
| SOC | Acceptance Limits |
|  |  |
| Alachlor | ± 45% |
| Aldicarb | 2 standard deviations |
| Aldicarb sulfone | 2 standard deviations |
| Aldicarb sulfoxide | 2 standard deviations |
| Atrazine | ± 45% |
| Benzo(a)pyrene | 2 standard deviations |
| Carbofuran | ± 45% |
| Chlordane | ± 45% |
| Dalapon | 2 standard deviations |
| Di(2-ethylhexyl)adipate | 2 standard deviations |
| Di(2-ethylhexyl)phthalate | 2 standard deviations |
| Dinoseb | 2 standard deviations |
| Diquat | 2 standard deviations |
| Endothall | 2 standard deviations |
| Endrin | ± 30% |
| Glyphosate | 2 standard deviations |
| Dibromochloropropane (DBCP) | ± 40% |
| Ethylene dibromide (EDB) | ± 40% |
| Heptachlor | ± 45% |
| Heptachlor epoxide | ± 45% |
| Hexachlorobenzene | 2 standard deviations |
| Hexachlorocyclopentadiene | 2 standard deviations |
| Lindane | ± 45% |
| Methoxychlor | ± 45% |
| Oxamyl | 2 standard deviations |
| PCBs (as decachlorobiphenyl) | 0-200% |
| Pentachlorophenol | ± 50% |
| Picloram | 2 standard deviations |
| Simazine | 2 standard deviations |
| Toxaphene | ± 45% |
| 2,4-D | ± 50% |
| 2,3,7,8-TCDD (dioxin) | 2 standard deviations |
| 2,4,5-TP (silvex) | ± 50% |

BOARD NOTE: See the Board note appended to Section 611.311(c) for information relating to implementation of requirements relating to aldicarb, aldicarb sulfone, and aldicarb sulfoxide.

t) A new system supplier or a supplier using a new source of water must demonstrate compliance with the MCL within a period of time specified by a permit issued by the Agency. The supplier must also comply with the initial sampling frequencies specified by the Agency to ensure the supplier can demonstrate compliance with the MCL. Routine and increased monitoring frequencies must be conducted in accordance with the requirements in this Section.

BOARD NOTE: This Section derives from 40 CFR 141.24(h).

(Source: Amended at 47 Ill. Reg. 16486, effective November 2, 2023)