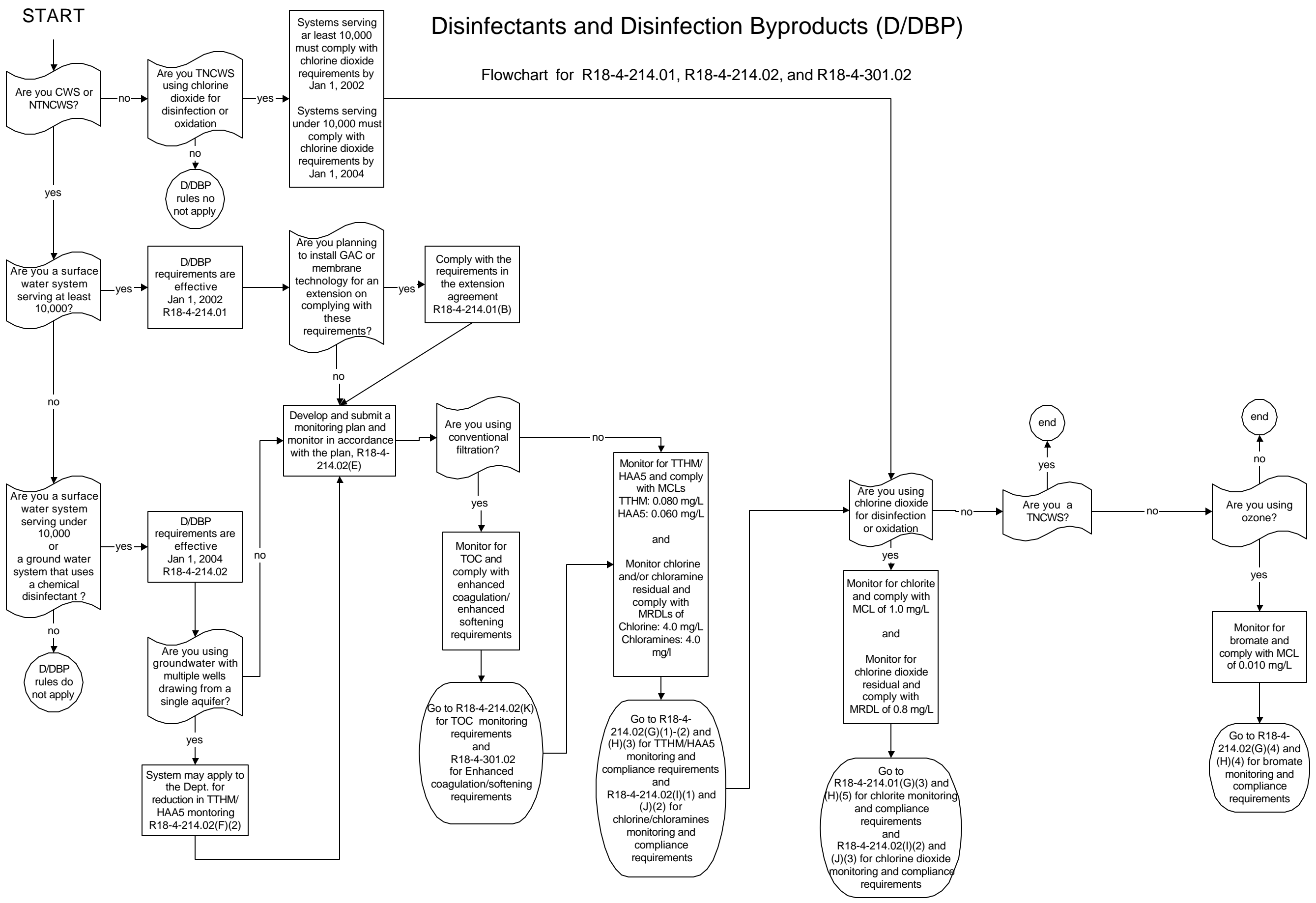# Disinfectants and Disinfection Byproducts (D/DBP)

Flowchart for R18-4-214.01, R18-4-214.02, and R18-4-301.02

START

Are you CWS or NTNCWS? — no → Are you TNCWS using chlorine dioxide for disinfection or oxidation — yes → Systems serving ar least 10,000 must comply with chlorine dioxide requirements by Jan 1, 2002

Systems serving under 10,000 must comply with chlorine dioxide requirements by Jan 1, 2004

Are you TNCWS using chlorine dioxide for disinfection or oxidation — no → D/DBP rules no not apply

Are you CWS or NTNCWS? — yes → Are you a surface water system serving at least 10,000?

Are you a surface water system serving at least 10,000? — yes → D/DBP requirements are effective Jan 1, 2002 R18-4-214.01 → Are you planning to install GAC or membrane technology for an extension on complying with these requirements? — yes → Comply with the requirements in the extension agreement R18-4-214.01(B)

Are you planning to install GAC or membrane technology for an extension on complying with these requirements? — no → Develop and submit a monitoring plan and monitor in accordance with the plan, R18-4-214.02(E)

Are you a surface water system serving at least 10,000? — no → Are you a surface water system serving under 10,000 or a ground water system that uses a chemical disinfectant ?

Are you a surface water system serving under 10,000 or a ground water system that uses a chemical disinfectant ? — yes → D/DBP requirements are effective Jan 1, 2004 R18-4-214.02 → Are you using groundwater with multiple wells drawing from a single aquifer?

Are you a surface water system serving under 10,000 or a ground water system that uses a chemical disinfectant ? — no → D/DBP rules do not apply

Are you using groundwater with multiple wells drawing from a single aquifer? — no → Develop and submit a monitoring plan and monitor in accordance with the plan, R18-4-214.02(E)

Are you using groundwater with multiple wells drawing from a single aquifer? — yes → System may apply to the Dept. for reduction in TTHM/HAA5 montoring R18-4-214.02(F)(2)

Develop and submit a monitoring plan and monitor in accordance with the plan, R18-4-214.02(E) → Are you using conventional filtration?

Are you using conventional filtration? — yes → Monitor for TOC and comply with enhanced coagulation/ enhanced softening requirements → Go to R18-4-214.02(K) for TOC monitoring requirements and R18-4-301.02 for Enhanced coagulation/softening requirements

Are you using conventional filtration? — no → Monitor for TTHM/HAA5 and comply with MCLs TTHM: 0.080 mg/L HAA5: 0.060 mg/L

and

Monitor chlorine and/or chloramine residual and comply with MRDLs of Chlorine: 4.0 mg/L Chloramines: 4.0 mg/l

→ Go to R18-4-214.02(G)(1)-(2) and (H)(3) for TTHM/HAA5 monitoring and compliance requirements and R18-4-214.02(I)(1) and (J)(2) for chlorine/chloramines monitoring and compliance requirements

Are you using chlorine dioxide for disinfection or oxidation — yes → Monitor for chlorite and comply with MCL of 1.0 mg/L

and

Monitor for chlorine dioxide residual and comply with MRDL of 0.8 mg/L

→ Go to R18-4-214.01(G)(3) and (H)(5) for chlorite monitoring and compliance requirements and R18-4-214.02(I)(2) and (J)(3) for chlorine dioxide monitoring and compliance requirements

Are you using chlorine dioxide for disinfection or oxidation — no → Are you a TNCWS?

Are you a TNCWS? — yes → end

Are you a TNCWS? — no → Are you using ozone?

Are you using ozone? — no → end

Are you using ozone? — yes → Monitor for bromate and comply with MCL of 0.010 mg/L → Go to R18-4-214.02(G)(4) and (H)(4) for bromate monitoring and compliance requirements

Enhanced Filtration Requirements

Flowchart for new requirements under R18-4-301, R18-4-302, R18-4-303, and R18-4-403

START

Are you a surface water system serving at least 10,000 people? —yes→ Provide 2-log removal of Cryptosporidium R18-4-301(A)(3)

no ↓

Enhanced filtration rules do not apply

Did you perform profiling under IESWTR? —no→ Are you using either conventional or direct filtration?

yes ↓

Consult with the Dept. before making any changes to the disinfection process R18-4-303(D)

Are you using either conventional or direct filtration? —yes→ Meet CFE of 0.3 NTU on 95% of monthly measurements and never exceed 1 NTU R18-4-302(B)(2) → Record turbidity of individual filters every 15 minutes R18-4-403

no ↓

Are you using conventional filtration, direct filtration, slow sand, or diatomaceous earth? —yes→ end

no ↓

Demonstrate to the Dept. 2-log Crypto removal through pilot studies or other means R18-4-302(E)(3) ↓ end

Did turbidity exceed 1.0 NTU in two consecutive results? —yes→ Produce filter profile with in 7 days

no ↓

Did turbidity exceed 0.5 NTU in two consecutive results, 4hrs after being backwashed or taken off-line? —yes→ Produce filter profile with in 7 days

no ↓

Did turbidity exceed 1.0 NTU in two consecutive results, in each of three consecutive months? —yes→ Conduct self-assessment of filter within 14 days

no ↓

Did turbidity exceed 2.0 NTU in two consecutive results, in two consecutive months? —yes→ Arrange for CPE within 30 days and schedule completion within 90 days ↓ end

no ↓

end