

NORTH CAROLINA WATER TREATMENT FACILITY OPERATORS CERTIFICATION BOARD
 Rating Values for Classification & Reclassification of Water Treatment Systems (15A NCAC 18D .0203 - .0205)

SYSTEM NAME: _____ **PWSID:** _____ **DATE:** _____

PWSS Region: _____ **Type (CWS, NTNC, TNC):** _____ **New or Changed Class (N-C-NO):** _____

System Treatment Classification (A, B, C, D): _____ **Source (Surface or Well):** _____

Class C (1-50 points), Class B (51-110 points), Class A (over 110 points) **Purchase Y/N** _____ **If yes, Supplemental Treatment Y/N** _____
 Class D-Well for non-community systems with hypochlorite solution as the only treatment applied to the water.

Distribution System Classification (A,B,C,D): _____ (Greater of treatment vs. service connection/fire protection class)

Service Connections: _____ **Fire Protection (Y/N):** _____
 Class D (100 or fewer service connections, no fire protection), Class C (101 to 1,000 service connections, no fire protection)
 Class B (1,001 to 3,300 connections or fewer than 1,001 connections with fire protection), Class A (more than 3,300 connections)

Cross-Connection-Control Classification Required (Y/N): _____
 (Five or more testable backflow prevention assemblies required within the distribution system)

| <u>PARAMETER</u> | <u>RATING VALUE</u> | <u>POINTS</u> |
|--|---------------------|---------------|
| (1) Surface Water Source | | |
| (A) flowing stream----- | 5 | _____ |
| (B) flowing stream with impoundments----- | 7 | _____ |
| (C) raw water treatment (CuSO4, etc.)----- | 3 | _____ |
| (2) Ground Water Source | | |
| (A) first five wells----- | 5 | _____ |
| (B) add 1point per 5 wells or fraction thereof over 5----- | 1 | _____ |
| (3) Coagulation | | |
| (A) aluminum sulfate, ferric chloride, etc.----- | 10 | _____ |
| (B) polymer----- | 5 | _____ |
| (4) Mixing | | |
| (A) baffle----- | 2 | _____ |
| (B) mechanical----- | 4 | _____ |
| (C) air----- | 3 | _____ |
| (5) Oxidation (pre-treatment) | | |
| (A) ClO ₂ ----- | 5 | _____ |
| (B) ozone----- | 5 | _____ |
| (C) KMnO ₄ ----- | 3 | _____ |
| (D) Cl ₂ ----- | 3 | _____ |
| (6) Carbon Treatment----- | 2 | _____ |
| (7) Aeration | | |
| (A) mechanical draft----- | 3 | _____ |
| (B) coke tray/splash tray----- | 2 | _____ |
| (C) diffused----- | 3 | _____ |
| (D) packed tower (VOC reduction)----- | 10 | _____ |
| (8) pH Adjustment (primary) | | |
| (A) caustic NaOH----- | 10 | _____ |
| (B) lime/ soda ash----- | 3 | _____ |
| (C) acid (H ₂ SO ₄ , HCl, etc.)----- | 10 | _____ |
| (9) Sedimentation | | |
| (A) standard rate----- | 5 | _____ |
| (B) tube settlers----- | 3 | _____ |
| (C) upflow----- | 8 | _____ |
| (D) pulsators and plates, etc. ----- | 5 | _____ |
| (10) Contact Tank----- | 1 | _____ |
| (11) Filtration | | |
| (A) pressure | | |
| (i) sand/ anthracite----- | 8 | _____ |
| (ii) synthetic media (birm)----- | 8 | _____ |
| (iii) granular activated carbon (GAC)----- | 9 | _____ |
| (B) gravity | | |
| (i) sand----- | 10 | _____ |
| (ii) anthracite (mixed)/ GAC----- | 12 | _____ |
| (iii) with surface wash or air scour----- | 2 | _____ |
| (C) membrane (microfiltration, ultrafiltration) ----- | 10 | _____ |
| (12) Ion Exchange | | |
| (A) softener, Na cycle----- | 5 | _____ |
| (B) softener, H cycle----- | 7 | _____ |
| (C) Fe and Mn (greensand)----- | 9 | _____ |
| (D) mixed bed or split stream----- | 9 | _____ |

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| <u>PARAMETER</u> | <u>RATING VALUE</u> | <u>POINTS</u> |
|---|---------------------|---------------|
| (13) Lime Softening | | |
| (A) spiractors----- | 10 | _____ |
| (B) clarifier with coagulation----- | 12 | _____ |
| (C) fuel burner (recarbonation)----- | 5 | _____ |
| (14) Phosphate (sequestering agent)----- | 5 | _____ |
| (15) Stabilization | | |
| (A) acid feed----- | 10 | _____ |
| (B) phosphate----- | 2 | _____ |
| (C) caustic (NaOH)----- | 10 | _____ |
| (D) lime/ soda ash----- | 3 | _____ |
| (E) contact units (calcifier, etc.)----- | 5 | _____ |
| (16) Reverse Osmosis (nanofiltration), Electrodialysis----- | 15 | _____ |
| (17) Disinfection | | |
| (A) gas Cl ₂ ----- | 10 | _____ |
| (B) hypochlorite solution----- | 7 | _____ |
| (C) ClO ₂ (chlorine dioxide)----- | 13 | _____ |
| (D) ozone----- | 13 | _____ |
| (E) ammonia and Cl ₂ ----- | 12 | _____ |
| (F) ultraviolet light (uv)----- | 5 | _____ |
| (18) Fluoridation | | |
| (A) saturator----- | 8 | _____ |
| (B) dry feed----- | 8 | _____ |
| (C) solution (acid)----- | 10 | _____ |
| (19) Pumping | | |
| (A) raw----- | 3 | _____ |
| (B) intermediate----- | 1 | _____ |
| (C) finished----- | 3 | _____ |
| (D) system booster----- | 2 | _____ |
| (20) Storage | | |
| (A) raw----- | 1 | _____ |
| (B) treated ground level tank----- | 1 | _____ |
| (C) elevated in system (each extra tank 1 pt)----- | 2 | _____ |
| (D) hydropneumatic----- | 2 | _____ |
| (21) Population Served | | |
| 1 point per 1,000 persons served----- | 50 max. | _____ |
| (22) Plant Capacity | | |
| 1 point per 1 MGD capacity----- | 25 max. | _____ |
| (23) On-Site Quality Control | | |
| (A) bacteriological | | |
| (i) MPN/MF----- | 5 | _____ |
| (ii) HPC----- | 2 | _____ |
| (iii) MMO-MUG (Colilert)----- | 2 | _____ |
| (B) pH | | |
| (i) meter----- | 2 | _____ |
| (ii) test kit----- | 1 | _____ |
| (C) flouride | | |
| (i) meter----- | 3 | _____ |
| (ii) colorimetric----- | 3 | _____ |
| (D) chlorine | | |
| (i) titrator----- | 3 | _____ |
| (ii) colorimeter/ spec.----- | 2 | _____ |
| (iii) test kit----- | 1 | _____ |
| (E) iron----- | 1 | _____ |
| (F) hardness----- | 1 | _____ |
| (G) alkalinity----- | 1 | _____ |
| (H) turbidity----- | 1 | _____ |
| (I) manganese----- | 1 | _____ |
| (J) others (1 pt. Each)----- | 1 | _____ |
| (K) A.A. Spec, or G.C. Unit----- | 5 each | _____ |

Signature: _____

Total Points

(Printed Name: _____, _RO/PWSS)