**Section 465.390 General Quality Assurance Procedures**

a) A written description of the current laboratory quality control and quality assurance program shall be maintained and made available to analysts in an area of the laboratory where analytical work takes place. The quality assurance plan shall address all of the items listed in the Manual for the Certification of Laboratories Analyzing Drinking Water. The quality assurance plan shall be reviewed annually and updated as necessary. A record of analytical quality control tests and quality control checks on media, materials, and equipment shall be prepared and retained for five years.

b) Standard operating procedures for each parameter for which the laboratory is certified and for all required quality control procedures shall be maintained and made available to analysts in an area of the laboratory where analytical work takes place.

c) The following minimum requirements shall apply to analytical quality control tests for general laboratory practices and methodology:

1) Each laboratory shall successfully analyze at least one set of proficiency testing (PT) samples once every 12 months, for each method (For example, Colilert (18 hour) and Colilert (24 hour) would require a PT for each assay.) for which it is certified. When PT sample results indicate technical error, the Department will provide appropriate technical assistance to determine the cause and make suggestions for correction of the problem.

2) Each analyst approved for the total coliform count procedure by the membrane filter technique for source water samples (SWTR) shall verify monthly 10 colonies, including each type of atypical colony observed. Counts shall be adjusted based on percent verification.

3) Each analyst approved for the fecal coliform procedure by the membrane filter technique for source water samples (SWTR) shall verify a positive water sample monthly. At least 10 isolated colonies shall be chosen from membranes containing typical blue colonies and, if present, atypical colonies of different morphological types and shall be transferred to lauryl tryptose broth. Positive tubes shall be transferred to EC medium. The lauryl tryptose broth shall be incubated at 35.0º ± 0.5º C for 24 to 48 hours. The EC medium shall be incubated at 44.5º ± 0.2º C for 24 hours + 2 hours. Turbid growth with gas production indicates a positive result. Counts shall be adjusted based on percent verification.

4) If there is more than one analyst in the laboratory, at least once each month each analyst shall count the same heterotrophic plate count plate, total coliform membrane, and fecal coliform membrane (per certified method used to test source water samples under the SWTR). Colony counts between analysts shall agree within 10 percent. This requirement does not apply to SimPlate.

5) The standards for laboratory pure water specified in Section 465.380 shall be met.

d) The following quality control tests for heterotrophic plate count shall be used:

1) Sterility controls shall be poured for each bottle of sterile melted, tempered medium used. These controls shall be the last plate poured from each bottle used.

2) Pipets shall be checked for sterility during each series of samples plated. All affected samples shall be marked "laboratory accident", and results shall not be reported when the sterility check indicates that the pipets used within the series were not sterile.

3) Microbial density of the air during plating procedures shall be determined for each series of samples plated. The air control plate shall be the first plate set up and shall be located so that it is within the area of the plating activity. The agar shall be exposed to the air for 15 minutes as determined by the laboratory timer. The inside of the plate lid shall not be exposed. When 15 or more colonies appear on an exposed plate after a 15-minute exposure period and 48 hours of incubation at 35º C, corrective action shall be taken.

4) The sterility of dilution water, if used, shall be determined. All affected samples shall be marked "laboratory accident", and results shall not be reported when the sterility check indicates that the dilution water used within the series was not sterile.

5) Records of all sterility test results shall be maintained.

(Source: Amended at 46 Ill. Reg. 19150, effective November 17, 2022)