

THIS POLICY DOES NOT HAVE THE FORCE OF LAW.

## **Fluoride Proficiency Test for Drinking Water Laboratories**

Division: DDAGW  
Number: LAB-01-001  
Status: Final  
Issued: September 20, 1999

### **I. PURPOSE:**

This document will outline revised fluoride proficiency test procedures for certified drinking water laboratories in Ohio. The regulations this document clarifies are found in rules 3745-89-03 (A)(3)(d) & (A)(5)(b), 3745-89-05 and 3745-89-06(A)(3) of the Ohio Administrative Code (OAC).

### **II. BACKGROUND:**

About 200 public water systems (PWS) in Ohio fluoridate their water. PWS laboratories are required to accurately determine the amount of fluoride added to their water supplies. Primary and secondary maximum contaminant levels for fluoride are based on its health risk. Sometime after 1974-75, when the chemical laboratory certification program began, PWS laboratories were directed to supplement their normal quality control procedures (a daily two standard calibration) with a split sample that was to be sent by the PWS laboratory to the state primary laboratory (Ohio Department of Health laboratory) for analysis. PWS laboratories were to analyze the split sample and report their result to the Ohio Department of Health (ODH) laboratory. The ODH laboratory would then send a summary to the Ohio EPA Water Quality Unit. PWS laboratory results that did not match ODH's results within 15% were investigated and any deviations from standard procedures required correction.

The USEPA requires a twice yearly proficiency test (PT) (this is the same as what was formerly known as a performance evaluation or PE) sample for fluoride. Ohio's PT program is more stringent than the USEPA's requirement in that a monthly PT is required by Ohio.

In March 1996 the guidance was revised to include specific reporting requirements. The state primary drinking water laboratory at the time was The Ohio Department of Health, Bureau of Public Health Laboratories (ODH). The Ohio EPA also contracted with ODH to conduct the laboratory certification program. In 1997, both primacy and the laboratory certification program were transferred to the Ohio EPA Division of Environmental Services (DES). The fluoride split sample program remained with ODH since DES, which was the new primacy laboratory, was not capable of running this program due to lack of personnel, instrumentation and space.

As of July 1, 1999 it is anticipated that the ODH laboratory will be closed. PWS laboratories may no longer be able to submit split samples. In the absence of having the ODH

laboratory analyze split samples, the following policy is being adopted to ensure compliance with rules 3745-89-03(A)(3)(d) & (A)(5)(b) and 3745-89-05 of the OAC.

### **III. POLICY:**

Some laboratories currently certified for fluoride analysis are not PWS laboratories. This revised guidance will be applicable to all certified drinking water laboratories, including commercial laboratories, industry laboratories and government laboratories certified for fluoride analysis. All laboratories currently certified for fluoride must begin, as of July 1, 1999, to analyze a proficiency test sample each month.

The proficiency test sample must be in a range of 0.5 – 1.5 mg/L fluoride. The proficiency test samples must be obtained from an Ohio EPA approved PT sample provider. In the interim time period when there are no Ohio EPA approved PT suppliers, laboratories may use a National Institute of Standards and Testing (NIST) approved PT supplier or a PT supplier that has applied for NIST approval.

Certified laboratories are responsible for the cost of the proficiency test. Laboratories are required to record proficiency test sample results (including the supplier's values) on a form supplied by the Ohio EPA. Records are to be maintained in the laboratory in the proficiency test log. The laboratory's test results for the proficiency test sample must be within plus or minus 10% of the true value as stated by the PT supplier. If the results are not within plus or minus 10%, the laboratory must discover the cause and correct the problem. If the certified laboratory cannot determine satisfactorily why the results deviated more than 10%, they must contact the Ohio EPA laboratory certification section for guidance. To prevent endangering certification, laboratories that have chronic problems may be visited by Ohio EPA laboratory certification staff so that technical assistance can be provided to correct the problem.

### **IV. HISTORY**

This policy was finalized on September 20, 1999.