

Drinking Water Laboratory Approval and Accreditation Requirements



Drinking Water Advisory Work
Group

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Overview

- Drinking Water Lab Approval
- Analytical Methods
- Laboratory Accreditation
- When and How to Request Approval
- Lab Approval Form
- FAQs

Drinking Water Lab Approval



- Water Supply Division requirement for drinking water compliance sample analysis
- Encompass various 30 TAC rules:
 - 290.119(a) – Analytical Procedures
 - 290.117(h)(2) – Water Quality Parameters
 - 290.121(b) – PWS Monitoring Plan

Drinking Water Lab Approval



- Applies to:
 - a) **Public water systems (PWSs)**
 - Field analyses, residual samples, treatment plants
 - b) **Treatment Plant Labs**
 - c) **Commercial labs**
 - d) **Other entities**
 - Operating companies

Drinking Water Lab Approval



- Field measurements
 - pH, Temperature
 - Chlorine residuals (Free/Total)
- WQPs
 - Alkalinity, Calcium, Orthophosphate, Silica, Conductivity
- Others
 - Chlorine Dioxide, Chlorite (entry point)
 - Turbidity, Total organic carbon (TOC)
 - Specific ultraviolet absorbance (UV254)

Analytical Methods



- What is an analytical method?
 - Procedures used to measure particular drinking water contaminants
 - Collect, preserve, and store the sample
 - Measure for potential contaminants
 - Meet quality control criteria
 - Demonstrate compliance
 - Developed by
 - EPA or other government organizations
 - Consensus method organizations
 - Universities, Water Labs, Vendors
- TCEQ adopts 40 CFR 141 methods
- Listed in Table 1 of Lab Approval Form



Analytical Methods

- Common examples:
 - pH – EPA 150.1
 - Temperature – SM 2550
 - Chlorite – SM 4500 ClO₂-E
 - Chlorine Dioxide – ChlordioXPlus
 - Total Chlorine – SM 4500 Cl G

Laboratory Accreditation



- WSD requires certain analyses to be run by accredited lab
 - Bacteriological
 - Bromate and Chlorite (in distribution system)
 - Lead and Copper
 - Certain WQPs - Chloride, Iron, Manganese, Sodium, Sulfate, TDS
- PWSs are not required to be Accredited

Laboratory Accreditation



- Accredited Lab List on TCEQ website
 - Coordinate DW samples with lab of choice
- TCEQ Lab Accreditation
 - Section of TCEQ
 - Rules found in 30 TAC Chapter 25
 - Inspections, Assessments, Proficiency Test
 - NELAP Standards for In-State and Out-of-State labs
 - Specific questions: (512) 239-3754

When to Request Lab Approval



- If PWS is required to sample for
 - WQPs
 - Chlorine Residuals (all PWSs in TX)
- New or Added treatment
 - i.e. Chlorine dioxide, Chlorite
- New instrument(s)
 - Most PWS lab approvals are for 3 years

How to Request Lab Approval



- Complete and submit Lab Approval Form (TCEQ-10450)
 - Fillable PDF
 - Includes Table of Approved Methods
- Where to find Lab Approval Form
 - Download from TCEQ website
 - https://www.tceq.texas.gov/drinkingwater/monitoring_plans/monitoring_plans.html
 - Email: PDWS@tceq.texas.gov
 - Call: (512) 239-4691

Lab Approval Form



- Fillable PDF
 - Contains instructions
 - Table of Approved Methods, Calibrations, and Accuracies
- List all applicable information
 - Instrument(s)
 - Approved method(s)
 - See instrument manual or contact manufacturer
 - Calibration methods, frequencies
 - Accuracy (Precision)
 - Contract Lab(s) used

Lab Approval Form



- Example:

Drinking Water Lab Approval Form									
Laboratory or Plant Name		Water System Plant			Contact Name		John Doe		
PWS ID (TCEQ issued)		TX0000123			E-mail				
Lab ID No		NA			Phone		(555) 212-5544		
Address		123 Main St			Date form completed		November 6, 2017		
City/State		Anywhere, TX			Does this lab perform analyses for other Public Water Systems?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Zip									
Analytes and Methods									
Analyte	Analytical Method ²	Instrument Name ³	Accuracy ⁴		Calibration Frequency ⁵	Calibration Method ⁶	NELAP Accredited ⁷	PT Study ⁸	
Turbidity	EPA 180.1	Hach 2100N	±	0.05 NTU					
pH	SM 4500-H+B	Hach	±	0.01 pH unit	Daily	Primary Standards			
Temperature	SM 2550	Thermometer	±	0.5 °C	Annually	NIST thermometer			
TOC			±	mg/L					
UV ₂₅₄	Contract Lab	ABC Lab	±	cm ⁻¹			Yes	Yes	Yes
Alkalinity	Contract Lab	ABC Lab	±	mg/L			Yes	Yes	Yes
Free Chlorine ⁹			±	mg/L					
Total Chlorine ⁹	SM 4500-Cl G	Hach Pocket Colorimeter	±	0.1 mg/L	Every 90 days	Solution of known conc.			
Chlorine Dioxide ¹⁰			±	mg/L					
POE Chlorite ¹⁰			±	mg/L					
Calcium ¹			±	mg/L					
Phosphate ¹			±	mg/L					
Conductivity ¹			±	µmho/cm					
Silica ¹			±	mg/L					
Lab Analyst or Operator Validation									
I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, this information is true, complete and accurate.									
Lab Analyst or Operator's Name and Title		John Doe							
Lab Analyst or Operator's Signature									
TCEQ Official Use Only									
Date Received:			Reviewed by:			Lab ID No:			

- We will contact you if updates/information needed
- Provide a printout for records upon approval

FAQs



- I am not a lab, do I submit a Lab approval form?
 - If you are affiliated with a PWS that submits compliance data (chlorine residuals) a form must be maintained
- Do I need approval for all WQPs?
 - Approval is not offered for chloride, iron, manganese, sodium, sulfate, and TDS

FAQs



- Does my instrument follow an approved method?
 - Check the manual or contact manufacturer
- If my lab is accredited, do I need to be approved?
 - Yes, the TCEQ Fields of Accreditation (FOA) does not include all fields of approval (i.e. temp, chlorine dioxide, TOC, orthophosphate)

QUESTIONS



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