

The Standardized Monitoring Framework: A Quick Reference Guide

Overview of the Framework

Title*	The Standardized Monitoring Framework (SMF), promulgated in the Phase II Rule on January 30, 1991 (56 FR 3526).
Purpose	To standardize, simplify, and consolidate monitoring requirements across contaminant groups. The SMF increases public health protection by simplifying monitoring plans and synchronizing monitoring schedules leading to increased compliance with monitoring requirements.
General Description	The SMF reduces the variability within monitoring requirements for chemical and radiological contaminants across system sizes and types.

*This document provides a summary of federal drinking water requirements; to ensure full compliance, please consult the federal regulations at 40 CFR 141 and any approved state requirements.

Additional Requirements

The SMF outlined on these pages summarizes existing systems' ongoing federal monitoring requirements only. Primacy agencies have the flexibility to issue waivers, with EPA approval, which take into account regional and state specific characteristics and concerns. To determine exact monitoring requirements, the SMF must be used in conjunction with any EPA approved waiver and additional requirements as determined by the primacy agency.

New water systems may have different and additional requirements as determined by the primacy agency.

SMF Benefits

Implementation of the SMF results in . . .

- ▶ Increased public health protection through monitoring consistency.
- ▶ A reduction in the complexity of water quality monitoring from a technical and managerial perspective for both primacy agencies and water systems.
- ▶ Equalizing of resource expenditures for monitoring and vulnerability assessments.
- ▶ Increased water system compliance with monitoring requirements.

Regulated Contaminants

Inorganic Contaminants (IOCs)	Fifteen (15) (Nitrate, Nitrite, total Nitrate/ Nitrite, and Asbestos are exceptions to SMF)
Synthetic Organic Contaminants (SOCs) & Volatile Organic Contaminants (VOCs)	Fifty-One (51)
Radionuclides	Four (4)

Utilities Covered

All PWSs	Nitrate Nitrite
CWSs	IOCs SOCs VOCs Radionuclides
NTNCWSs	IOCs SOCs VOCs

For additional information:

Call the Safe Drinking Water Hotline at 1-800-426-4791; visit the EPA web site at <http://water.epa.gov/drink> or contact your primacy agency's drinking water representatives.

See 40 CFR 141.23 regarding IOCs; 40 CFR 141.24 regarding VOCs and SOCs; and 40 CFR 141.26 regarding Radionuclides.

STANDARDIZED MONITORING FRAMEWORK

		Second Cycle									Third Cycle								
		1st Period			2nd Period			3rd Period			1st Period			2nd Period			3rd Period		
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Inorganic Contaminants (IOCs) ¹	Groundwater (Below Trigger Level)																		
	Waiver ²	*						*						*					
	No Waiver	*			*			*			*			*			*		
	Surface Water (Below Trigger Level)																		
	Waiver ²	*									*								
	No Waiver	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Groundwater and Surface Water (Above Trigger Level) ³																		
	Reliably and Consistently ≤ MCL for Groundwater Systems	*			*			*			*			*			*		
	Reliably and Consistently ≤ MCL for Surface Water Systems	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
> MCL or Not Reliably and Consistently ≤ MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	
Synthetic Organic Contaminants (SOCs)		02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
	Population >3,300 (Below Trigger Level)																		
	Waiver	X			X			X			X			X			X		
	< Detect and No Waiver	**			**			**			**			**			**		
	Population <3,300 (Below Trigger Level)																		
	Waiver	X			X			X			X			X			X		
	< Detect and No Waiver	*			*			*			*			*			*		
	Above Trigger Level																		
	Reliably and Consistently ≤ MCL ⁴	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
≥ Detect or Not Reliably and Consistently ≤ MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	
Volatile Organic Contaminants (VOCs)		02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
	Groundwater (Below Trigger Level)																		
	< Detect, Vulnerability Assessment, and Waiver ⁵	*						*						*					
	No Waiver ⁶	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Surface Water (Below Trigger Level)																		
	< Detect, Vulnerability Assessment, and Waiver ⁷	X			X			X			X			X			X		
	No Waiver ⁸	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Above Trigger Level																		
	Reliably and Consistently < MCL ⁴	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
≥ Detect or Not Reliably and Consistently ≤ MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	

STANDARDIZED MONITORING FRAMEWORK

		Second Cycle									Third Cycle								
		1 st Period			2 nd Period			3 rd Period			1 st Period			2 nd Period			3 rd Period		
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nitrate	CWSs & NTNCWSs																		
	≥ 1/2 MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****
	Groundwater Reliably and Consistently < MCL ⁹	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	Surface Water with 4 Quarters of Results < 1/2 MCL ⁹	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	TNCWSs																		
	Standard Monitoring	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Nitrite		02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
	< 1/2 MCL	#									#								
	Reliably and Consistently < MCL ⁹	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	≥ 1/2 MCL or not Reliably and Consistently < MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****
Radio-nuclides		02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
	< Detection Level			****				*						*					
	≥ Detection Level but ≤ 1/2 MCL			****				*						*					
	> 1/2 MCL but ≤ MCL	!		****				*						*					
	> MCL			****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****
Asbestos		02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
	Waiver	X			X			X			X			X			X		
	No Waiver, Reliably and Consistently ≤ MCL, or vulnerable to asbestos contamination ¹⁰	*									*								
	> MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****

Legend
* = 1 sample at each entry point to distribution system (EPTDS).
** = 2 quarterly samples at each EPTDS. Samples must be taken during 1 calendar year during each 3-year compliance period.
**** = 4 quarterly samples at each EPTDS within time frame designated by the primacy agency.
X = No sampling required unless required by the primacy agency.
= Systems must monitor at a frequency specified by the primacy agency.
! = When allowed by the primacy agency, data collected between June 2000 and December 6, 2003 may be grandfathered to satisfy the initial monitoring requirements due in 2004 for gross alpha, radium 226/228, and uranium.

- ¹Until January 22, 2006 the maximum contaminant level (MCL) for arsenic is 50 µg/L; on January 23, 2006 the MCL for arsenic becomes 10 µg/L.
- ²Based on 3 rounds of monitoring at each EPTDS with all analytical results below the MCL. Waivers are not permitted under the current arsenic requirements, however systems are eligible for arsenic waivers after January 23, 2006.
- ³A system with a sampling point result above the MCL must collect quarterly samples, at that sampling point, until the system is determined by the primacy agency to be reliably and consistently below the MCL.
- ⁴Samples must be taken during the quarter which previously resulted in the highest analytical result. Systems can apply for a waiver after 3 consecutive annual sampling results are below the detection limit.
- ⁵Groundwater systems must update their vulnerability assessments during the time the waiver is effective. Primacy agencies must re-confirm that the system is non-vulnerable within 3 years of the initial determination or the system must return to annual sampling.
- ⁶If all monitoring results during initial quarterly monitoring are less than the detection limit, the system can take annual samples. If after a minimum of 3 years of annual sampling with all analytical results less than the detection limit, the primacy agency can allow a system to take 1 sample during each compliance period. Systems are also eligible for a waiver.
- ⁷Primacy agencies must determine that a surface water system is non-vulnerable based on a vulnerability assessment during each compliance period or the system must return to annual sampling.
- ⁸If all monitoring results during initial quarterly monitoring are less than the detection limit, the system can take annual samples. Systems are also eligible for a waiver.
- ⁹Samples must be taken during the quarter which previously resulted in the highest analytical result.
- ¹⁰Systems are required to monitor for asbestos during the first 3-year compliance period of each 9-year compliance cycle. A system vulnerable to asbestos contamination due solely to corrosion of asbestos-cement pipe must take 1 sample at a tap served by that pipe. A system vulnerable to asbestos contamination at the source must sample at each EPTDS.