



## The Basics of CWA & NPDES with an Eye on PFAS

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## It all starts with Water Quality Standards (Defined State WQ Policy)

- **Three Components**
  - **Designated Uses: Aquatic Life, Recreation, Water Supply**
  - **Criteria – Narrative and Numeric**
  - **Antidegradation Policy for New and Expanding Sources**
- **Criteria are not MCLs; Customized to each State**
  - **Narratives: General Criteria Statements: *Surface waters shall be free, at all times, from the harmful effects of substances that originate from artificial sources of pollution...***
  - **Numerics: Specific Magnitude, Duration and Frequency of Concentration that Still Supports Designated Uses**
- **Reviewed Every Three Years**
- **When Not Achieved, Triggers 303d Actions**
- **TMDLs Reset Loadings to Restore WQS**
- **Neither WQS or TMDLs are Self-Implementing**

## Implementation Occurs through NPDES Permitting Program

- **47 out of 50 States have Delegated Authority (Primacy)**
- **But Not For All Parts of NPDES...**
  - **Wastewater (Municipal, Industrial, Animal Agricultural, Maritime Vessel, Pesticide Application)**
  - **Stormwater (Municipal and Industrial)**
  - **Pre-Treatment (Municipal Programs and “Upstream” Industrial Dischargers [Indirect])**
  - **Biosolids**
- **Permits Condition the Discharge of Pollutants to Waters of the US from Point Sources**
- **Point Sources Deliver Wastewater or Stormwater via Pipe, Conduit, Ditch, etc.**
- **Reviewed Every Five Years**
- **Identify Outfalls, Type of Operation and Receiving Water**
- **Effluent Limitations and Monitoring Requirements**
- **Stormwater Focuses on Management Practices**
- **Supplemental and Special Conditions and Schedules of Compliance**

## Science Drives the Recommended Criteria, Other Considerations May Exist When Permitting Discharges

- **Criteria pertain to the Condition of the Receiving Water**
- **Permit Limits pertain to Expected Concentrations Leaving the WWTP to Meet Instream Concentrations**
- **For Some Categories of Industries; EPA Establishes Effluent Limit Guidelines**
  - **Permits Condition the Discharge of Pollutants to Waters of the US from Point Sources**
  - **Point Sources Deliver Wastewater or Stormwater via Pipe, Conduit, Ditch, etc.**
- **Water Quality Based Limits Trump ELGs When Receiving Waters Threatened**
- **Permits Condition the Discharge of Pollutants to Waters of the US from Point Sources**
- **Point Sources Deliver Wastewater or Stormwater via Pipe, Conduit, Ditch, etc.**
- **Reviewed Every Five Years**
- **Identify Outfalls, Type of Operation and Receiving Water**
- **Effluent Limitations and Monitoring Requirements**
- **Stormwater Focuses on Management Practices**
- **Supplemental and Special Conditions and Schedules of Compliance**

## But, There are Constraints on What CWA Can Control

- **What Isn't a Permitted Point Source Is an Unregulated (for Most) Non-Point Source**
- **Agricultural Runoff**
- **Irrigation Return Flows**
- **Septic Field Seepage**
- **Small Town Stormwater**
- **Natural Contributions**
- **Managed Through Incentives for Structural or Behavior Practices**
- **No Regulatory Repercussions**

## EPA Strategies for PFAS Reduction Over 2022-24

### Publish Final Recommended Ambient Water Quality Criteria for PFAS

- Human Health Criteria for Drinking Water Consumption and Fish Consumption
- Aquatic Life Protection

### EPA released draft Aquatic Life Protection Criteria for PFOA and PFOS May 3, 2022

- Comment period closed June 2 originally, was extended through July 2

Criteria Component	Acute Water Column (CMC) <sup>1</sup>	Chronic Water Column (CCC) <sup>2</sup>	Invertebrate Whole-Body	Fish Whole-Body	Fish Muscle
<b>PFOA Magnitude</b>	49 mg/L	0.094 mg/L	1.11 mg/kg ww	6.10 mg/kg ww	0.125 mg/kg ww
<b>PFOS Magnitude</b>	3.0 mg/L	0.0084 mg/L	0.937 mg/kg ww	6.75 mg/kg ww	2.91 mg/kg ww
<b>Duration</b>	1-hour average	4-day average	Instantaneous <sup>3</sup>		
<b>Frequency</b>	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in ten years, on average		

<sup>1</sup> Criterion Maximum Concentration.

<sup>2</sup> Criterion Continuous Concentration.

<sup>3</sup> Tissue data provide instantaneous point measurements that reflect integrative accumulation of PFOA or PFOS over time and space in aquatic life population(s) at a given site.

## KDHE Efforts As a Fledgling State

- **Consider Draft Ambient WQS Criteria for PFOA and PFOS**
- **Initiate Monitoring of Influent, Effluent and Biosolids from Mechanical POTWs – Topeka, Garden City, and Dodge City**
- **Stay Abreast of EPA Initiatives to Control PFAS via Pre-Treatment**
- **Monitoring Rivers Running through Urban Areas or Serving as Water Supply**
- **Stand Up KHEL Capacity for PFAS Analysis**
- **Cross Check Results from Kansas Wastewater, Ambient, Drinking Water, and Groundwater PFAS Sampling**
- **Evaluate Challenges of PFAS Control on Wastewater Reuse Opportunities**
- **Monitor other states' initiatives and actions related to PFAS**

## Thank you/Questions

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