

A wide-angle photograph of a desert landscape. A paved road stretches from the foreground into the distance, leading towards several large, flat-topped butte formations. The sky is a clear, pale blue with some light, wispy clouds. The ground is covered in dry, yellowish-brown vegetation. On the left side of the road, there is a green mile marker sign that reads "MILE 13".

Regulation of Private Water Operators in the US

AquaFed

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Reminder: 2 combined ways to regulate private operators in water sector

1) Private water operators regulated by national regulators



2) Private water operators regulated by contracts set between public and private water businesses (= **PPP** – **P**ublic **P**rivate **P**artnerships)

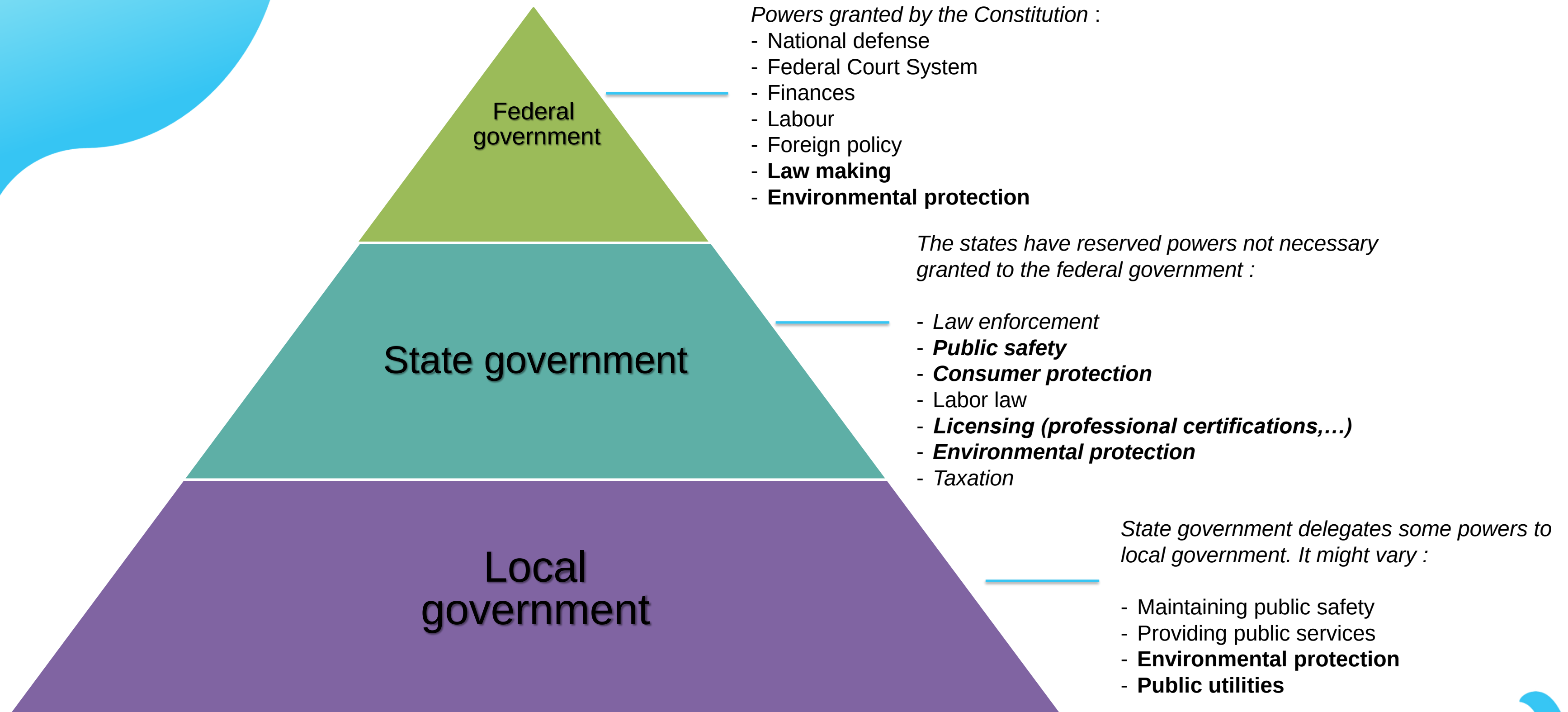
Note:

→ Two types of business for private water operators

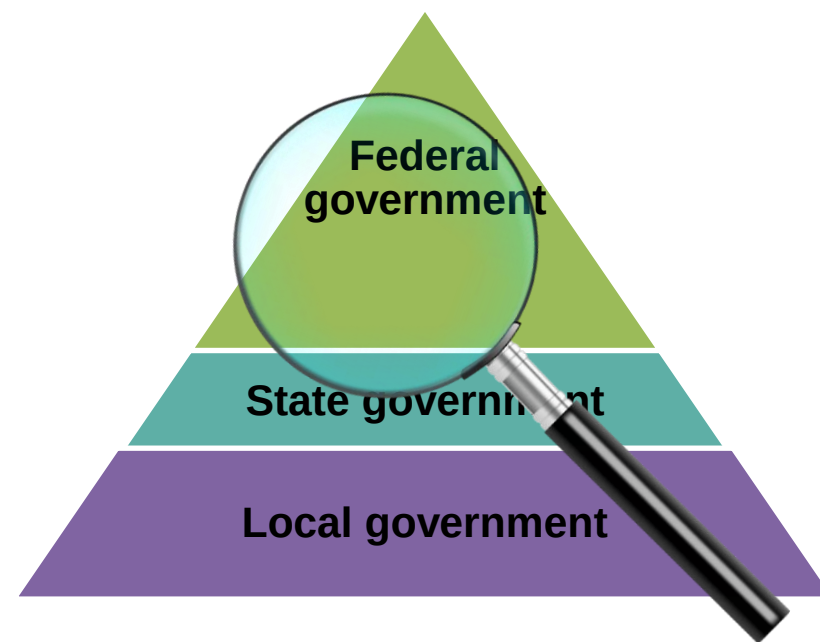
- **Private operators** manage water utility through a contract signed between local authorities and private water companies (contract operations)
- **Regulated business** (or regulated water) – the private companies own the asset (entire process: water system, pipes, water and wastewater plants, tanks, ...)



Different levels of regulators in the US



Regulatory structure-simplified view

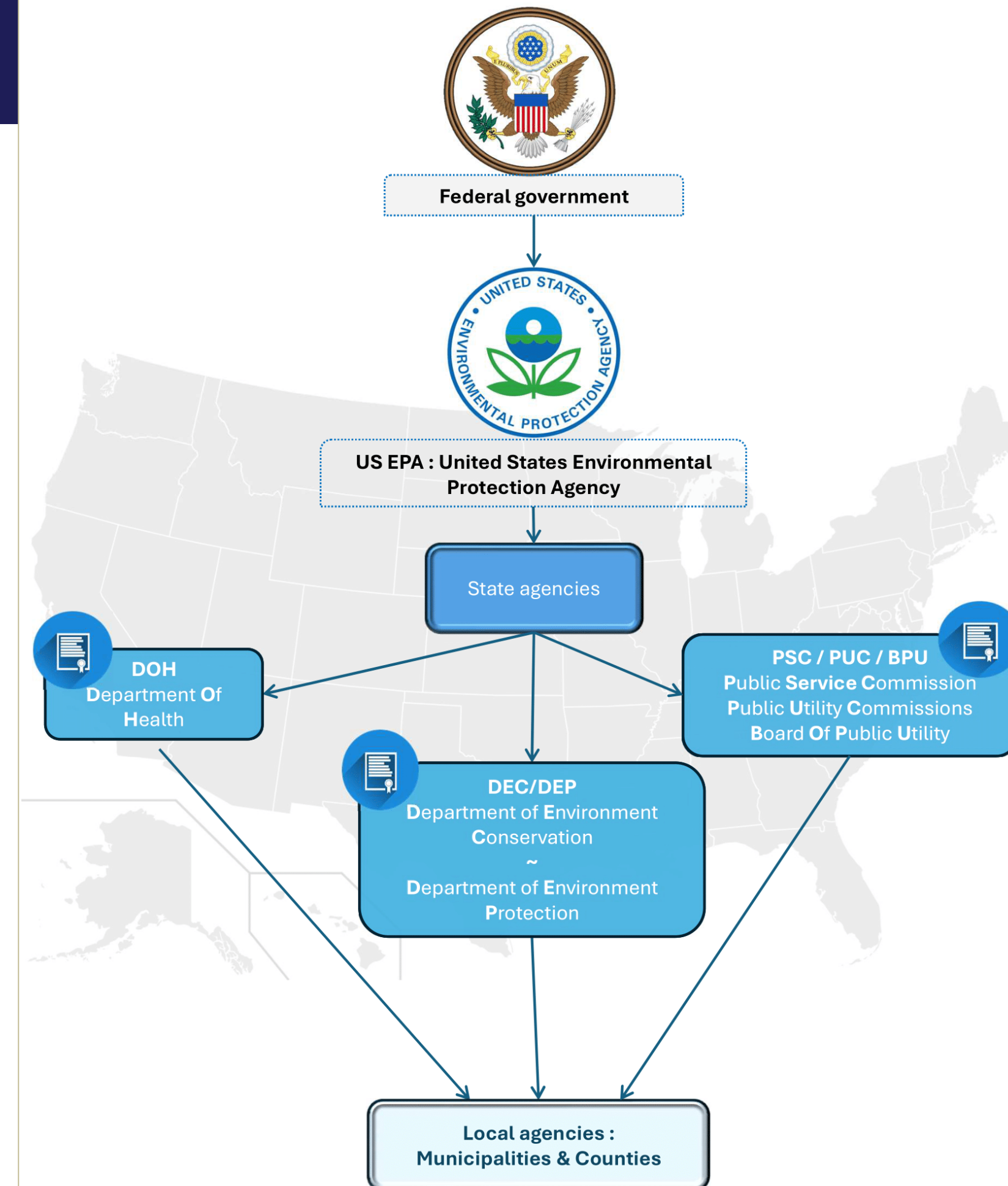


Federal government

State government

Local government

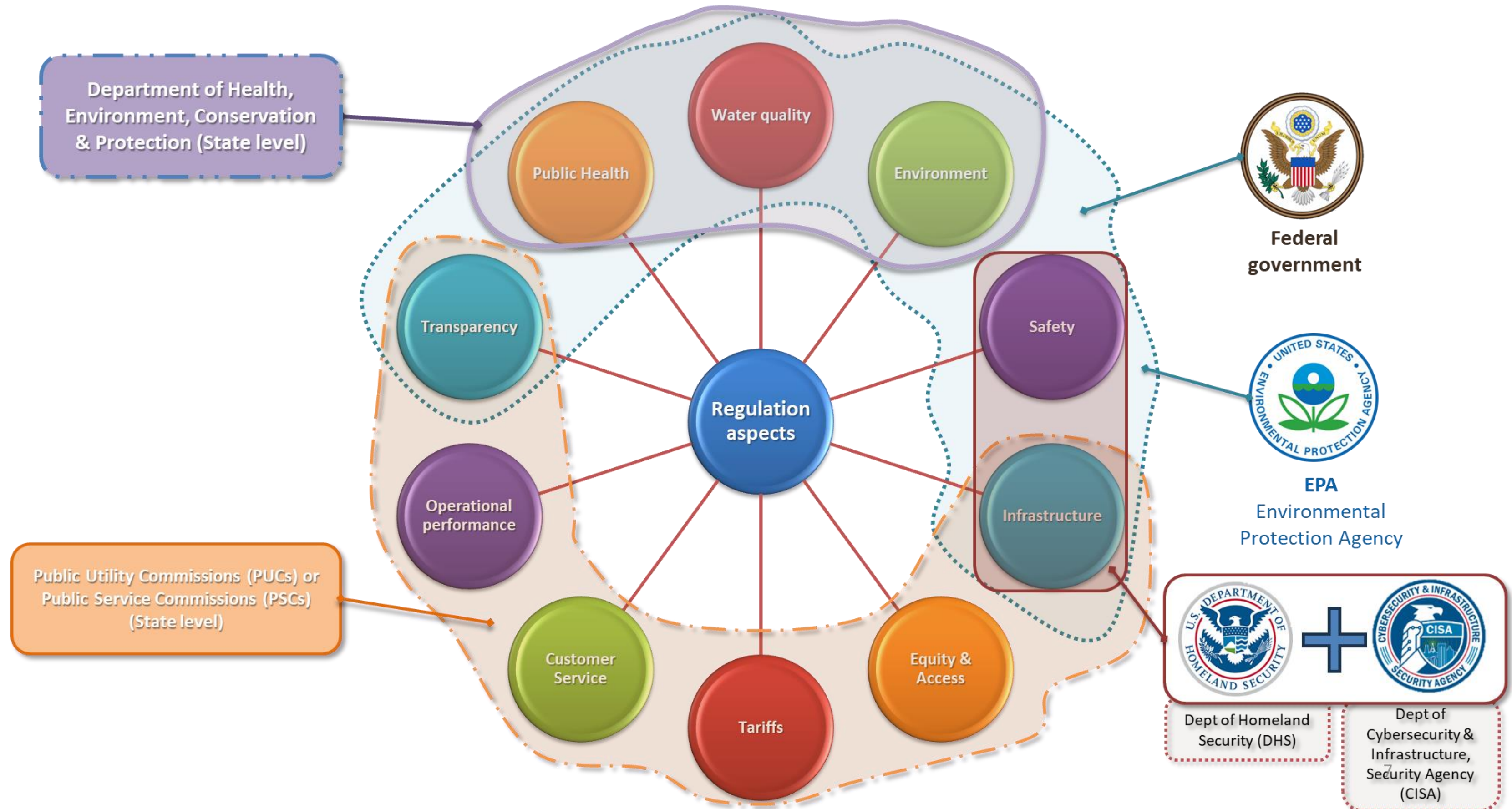
US REGULATIONS OF PRIVATE OPERATORS



Water regulations – general framework



Water regulations – general framework



Roles and responsibilities : **Federal level (1/2)**



Federal government

Establishes national water policies, sets drinking water standards through EPA, enforces Clean Water Act and Safe Drinking Water Act, and oversees interstate water management.

Funds infrastructure: Provide financial support for large scale water projects and infrastructure improvements.

Conducts water research, provides technical assistance, coordinates disaster response, and ensures water security and resilience.

Protects water resources/watersheds, manages wetlands, ensures safe drinking water supply, and monitors public health impacts.



United States Environmental Protection Agency (US EPA)

Protect and regulate: Develop and enforce environmental regulations.

Research and educate: Conduct scientific studies and inform the public on environmental issues.

Collaborate and respond: Work with various entities to prevent pollution and address environmental emergencies.



Roles and responsibilities : **Federal level (2/2)**



Cybersecurity & Infrastructure, Security Agency (CISA)

Cybersecurity guidance : Provide expertise and resources to protect water utilities from cyber threats and attacks.

Risk assessment : Identify vulnerabilities in water infrastructure and assist in developing mitigation strategies.

Information sharing : Facilitate communication between water sector stakeholders and government agencies to improve overall security posture.



Department of Homeland Security (DHS)

Protect critical infrastructure : Safeguard water treatment facilities, dams, and distribution systems from physical and cyber threats.

Emergency preparedness : Develop and coordinate response plans for water-related disasters or terrorist attacks.

Enhance sector resilience : Work with water utilities to improve their ability to withstand and recover from potential disruptions or contamination events.



Roles and responsibilities : **State level (1/2)**

Depending on States, the DOH can regulate water quality



- Ensure drinking water safety: Set and enforce standards for public water systems to protect public health.
- Monitor waterborne diseases: Track and respond to outbreaks of illnesses related to water contamination.
- Educate on water hygiene: Provide public information and guidance on safe water practices and potential health risks.

DEP and DEC = Identical roles

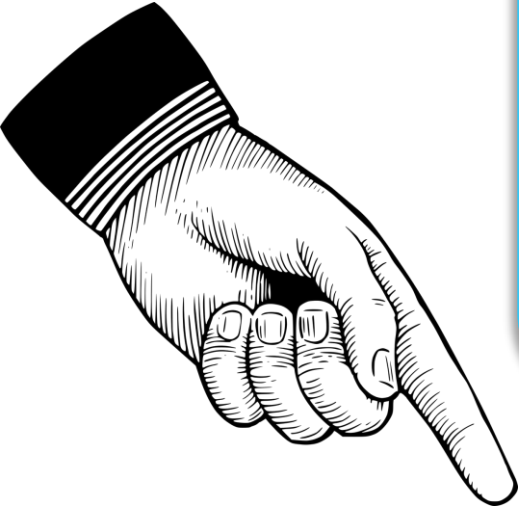
Most of cases, these organizations are combined



- Safeguard water quality: Monitor and regulate water sources to ensure safe drinking water and healthy aquatic ecosystems.
- Manage water resources: Oversee water allocation, conservation efforts, and sustainable use of water supplies.
- Control water pollution: Enforce regulations on wastewater treatment, stormwater management, and industrial discharges into water bodies.



Roles and responsibilities : State level (2/2)



Public Utility
Commission
(PUC)
=
Public Service
Commission
(PSC)
=
Board Public
Utility
(BPU)

Rate regulation : PUCs are responsible for reviewing and approving water rates proposed and approving water rates proposed by utilities, to ensure the tariff fair and reasonable for consumers, while allowing utilities to recover their costs and earn a reasonable return on investment.

Service quality oversight: They monitor and enforce standards for water quality, reliability, and customer service, ensuring that water utilities provide safe and dependable service to their customers.

Infrastructure planning: PUCs often review and approve long-term infrastructure plans and investments proposed by water utilities to maintain and improve water systems.

Consumer protection: They handle customer complaints, mediate disputes between consumers and utilities, and enforce regulations to protect consumers' rights.

Environmental compliance: PUCs may work with environmental agencies to ensure water utilities comply with relevant environmental regulations and conservation measures.

Water tariffs in the United States are regulated through a decentralized system that varies by state and locality:

1.State-Level Regulation:

- Public Utility Commissions (PUCs) or similar state agencies oversee water rates, they review and approve tariff changes proposed by water utilities

2.Local Government Control:

- For municipally-owned utilities, local governments often set water rates
- City councils or water boards typically approve these tariffs

3.Federal Oversight:

- EPA sets water quality standards that indirectly influence costs and tariffs

→ This system results in significant variation in water pricing and regulatory approaches across different states and municipalities in the US.

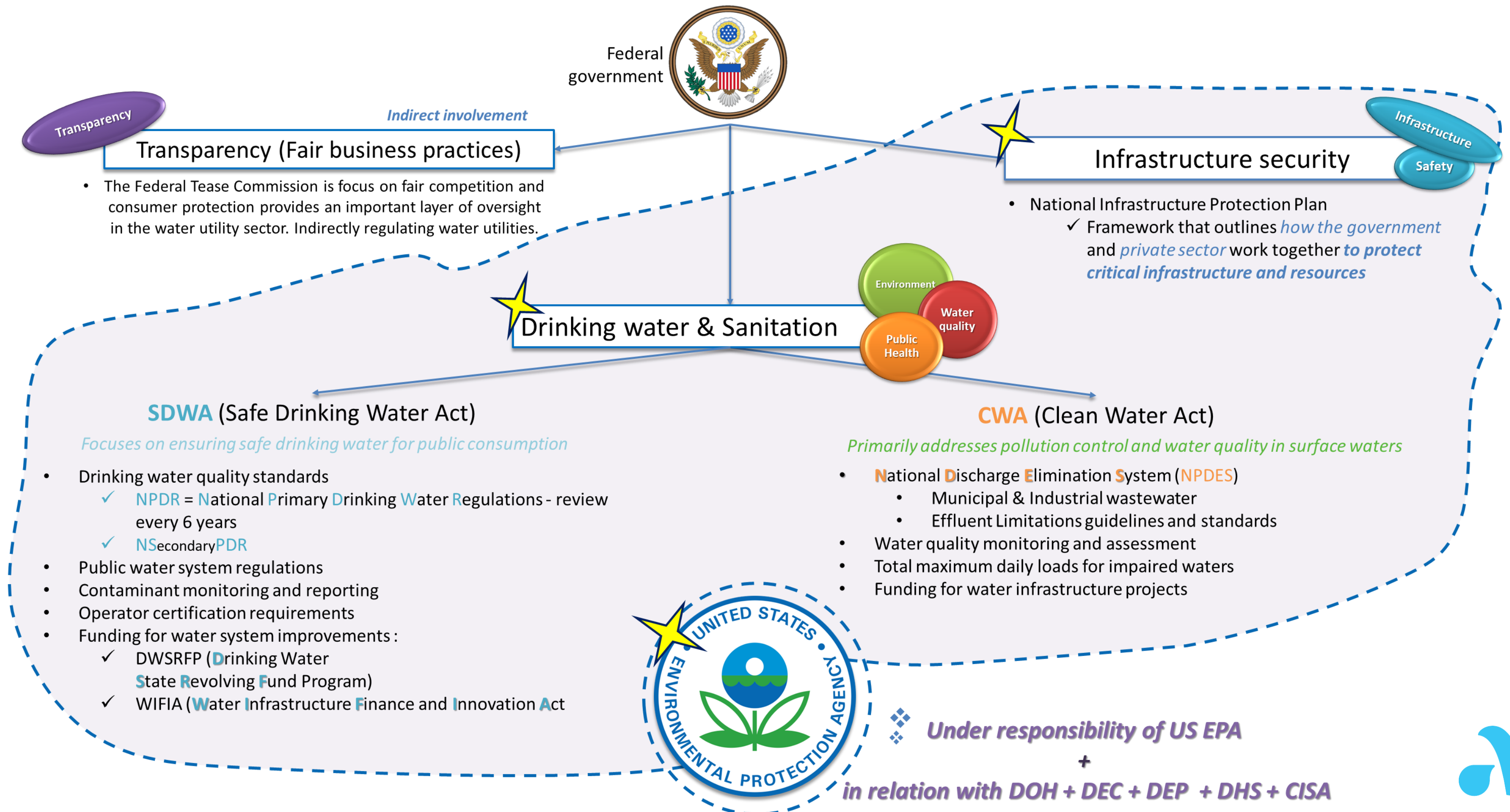


Roles and responsibilities : Local level

- Water Quality Control Boards
- **Water rates** = for *municipal owned utilities and they consult PUC/BPU for approval*
- Groundwater Management Agencies
- Municipal and County Water Departments
- Local Water Boards or Committees
- Watershed Management Organizations
- River Basin Commissions (inter-state level)
- Irrigation Districts
- Soil and Water Conservation Districts
- Local Engineer's offices



Spotlight on the EPA – Critical role in the US (Federal level)



Main regulations governing water supply and sanitation in the US (1/2)

- Safe Drinking Water Act (SDWA) of 1974 (amended in 1986 and 1996): This is the primary federal law ensuring the quality of drinking water. It authorizes the EPA to set national health-based standards for drinking water.
- Clean Water Act (CWA) of 1972: This act regulates the discharge of pollutants into U.S. waters and sets quality standards for surface waters.
- National Primary Drinking Water Regulations (NPDWRs): These are legally enforceable standards that apply to public water systems, set by the EPA under the authority of the SDWA.
- National Secondary Drinking Water Regulations (NSDWRs): These are non-enforceable guidelines regulating contaminants that may cause cosmetic or aesthetic effects in drinking water.
- Lead and Copper Rule: Part of the SDWA, this rule aims to control lead and copper in drinking water.
- Ground Water Rule: This rule aims to improve drinking water quality and provide protection from disease-causing microorganisms.
- Surface Water Treatment Rules: These rules specify treatment requirements for public water systems using surface water sources.
- Disinfectants and Disinfection Byproducts Rules: These rules regulate disinfectants and their byproducts in drinking water.
- Public Water System Supervision (PWSS) Program: This program gives states the authority to implement SDWA regulations.



Main regulations governing water supply and sanitation in the US (2/2)

- National Pollutant Discharge Elimination System (NPDES): Part of the CWA, this permit program controls water pollution by regulating point sources that discharge pollutants into U.S. waters.
- Biosolids Rule (40 CFR Part 503): This regulation governs the use and disposal of sewage sludge.
- Underground Injection Control (UIC) Program: This program regulates the construction, operation, permitting, and closure of injection wells that place fluids underground.
- Water Infrastructure Finance and Innovation Act (WIFIA): This program accelerates investment in water infrastructure by providing long-term, low-cost supplemental loans.
- State-level regulations: Each state has its own set of regulations that complement federal laws, often enforced by state environmental or health departments.
- Local ordinances: Municipalities and counties often have local regulations governing water supply and sanitation.
- Reduction of Lead in Drinking Water Act of 2011: This law amended the SDWA to reduce the amount of lead in pipes, pipe fittings, plumbing fittings, and fixtures.
- America's Water Infrastructure Act of 2018: This law addresses water infrastructure challenges and authorizes water resources projects.
- Water Resources Development Act (WRDA): Periodically reauthorized, this act provides for the conservation and development of water and related resources.
- Stormwater regulations: Part of the CWA, these regulations aim to prevent stormwater runoff from polluting U.S. waters.



AquaFed's comments on US regulations (1/2)

- Do we think the legal, policy and regulatory framework in the US enables private operators to grow their businesses?

Yes, for both business models - Conops and Regulated water.

- ✓ For contract operations side : Lots of states recognize the contract operations work as a reference, and municipalities want to let the private companies do their work without any objections. Good press, good status, this is why the P3 acts are more and more used and implemented in different areas in the US.
- ✓ For regulated water part, is easier to drive change and to make recommendation at local level (less negotiations, freer to decide)
- ✓ Development and environmental rules improvement = expenses +++ for compliance = increase the business to meet federal, state and local levels requirements.

- What are the pros of the US system?

- ✓ Robust environmental rules in the US
- ✓ EPA based across the USA
- ✓ The States and local levels can set restrictive rules while complying with Federal state = enforcement laws
- ✓ Recognition of contract operations as a reference in every states of the US

- What are the cons of the US system?

- ✓ The regulatory system is very clear-cut and strict, and private operators can face a few disputes, which cost money to defend their rights. Companies can incur significant risks in all aspects of what they do with their work.



AquaFed's comments on US regulations (2/2)

- Is there enough consistency across the US or are arrangements in each state very different ?
 - ✓ Yes, real consistency across the US
- Innovations : barriers or regulatory incentives for innovation ?
 - ✓ Easy especially for regulated water = heavier for decision making, technical and expertise & know how and low risks for innovation.
 - ✓ For Contract operations side, little room for manoeuvre : it needs to be approved by the municipalities, the technology/innovation to implement is often adopted elsewhere. The main concern for this business is to find funds to create added-value and innovate. On the other hand, if municipalities are interested in implementing new technologies, this is also an opportunity to seize for private sector.
- Investment: barriers or not ?
 - ✓ Regulated water side (business model) = easier = + transparency, its business covers all costs = Stable + safe as its business is controlled
 - ✓ For contract operations side, little room for manoeuvre because in this case, private companies need to get money to implement projects.
- Do US regulators have efficient skills and capacity to be able to their job ?
 - ✓ Yes, but the DEC (Department of Environmental Conservation) is under staff (Eastern zone) => overload, leading to delays and dependence on Veolia's projects (on regulated water side)
 - ✓ Good regulators, it is important to maintain good relations between these professionals and the field staff.



Annexes

- Websites
- Timeline of Federal Water Pollution Control Acts and Programs
- Documents



Websites

- <https://www.epa.gov/>
- <https://www.gwiwaterdata.com/markets/countries/united-states#sector-structure-regulations-694>
- **EPA Administered Permit Program**
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-122>

State Program Requirements

<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-123>

Procedures for Decisionmaking

<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-124>

Criteria and Standards for the National Pollutant Discharge Elimination System

<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-125>

NPDES Electronic Reporting

<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-127>

Secondary Treatment Regulation <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-133>

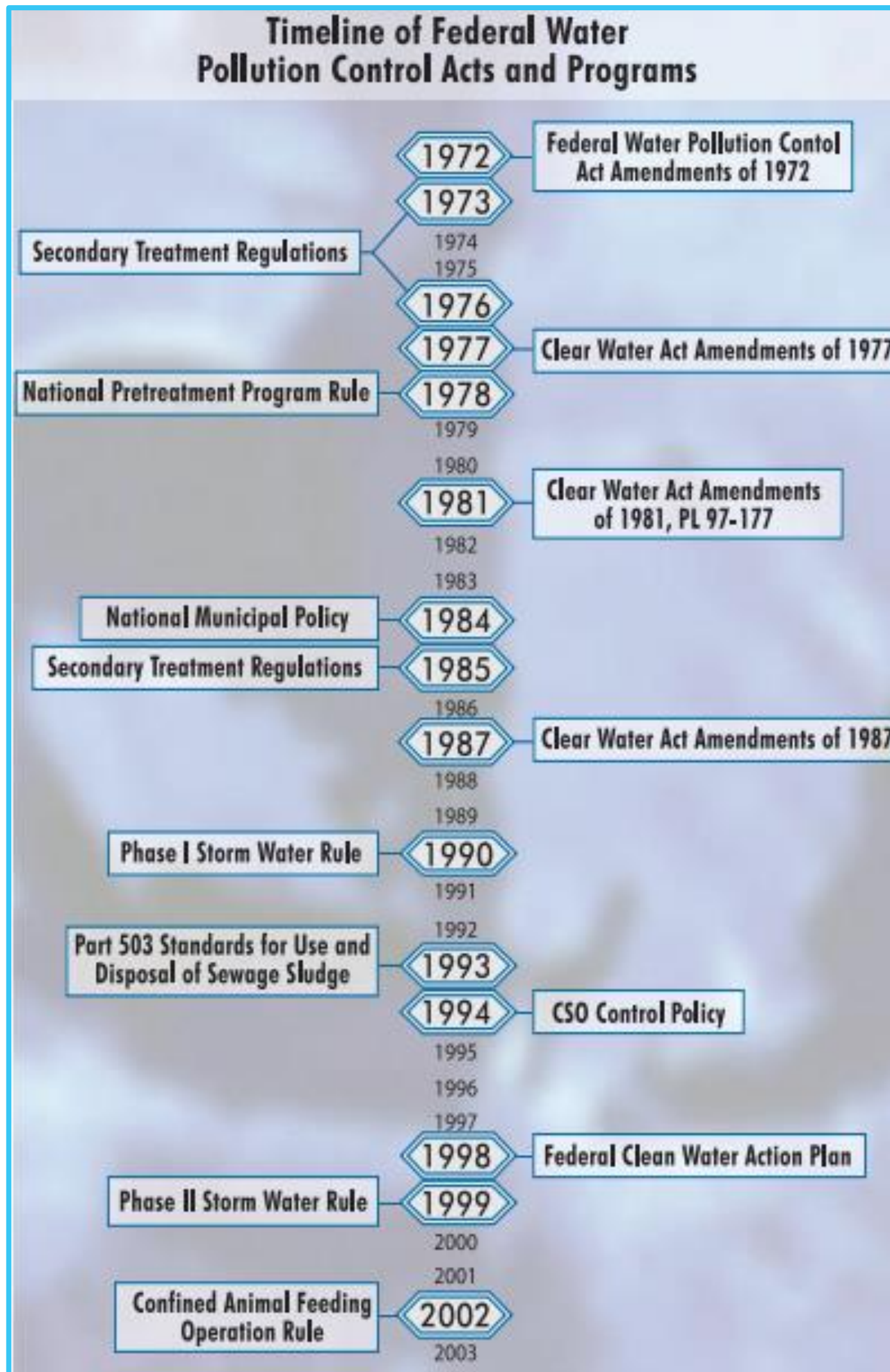
General Pretreatment Regulations for existing and new sources of pollution <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-N/part-403>

State sludge management program regulations <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-O/part-501>

Standards for the Use or Disposal of Sewage sludge <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-O/part-503>

- **DOH** - <https://www.health.ny.gov/>
- **DEP** - <https://www.nyc.gov/site/dep/index.page>
- **DEC** - <https://dec.ny.gov/>
- **PUC** - <https://www.electricchoice.com/public-utility-commissions/a>

Timeline of Federal Water Pollution Control Acts and Programs



- NIPP : [National Infrastructure Protection Plan](#)



Adobe Acrobat
Document

- SDWA



Adobe Acrobat
Document



Adobe Acrobat
Document



Adobe Acrobat
Document

- CWA



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Document

A few specifications...

SDWA authorizes the **US EPA** to **set national** health-based **standards** for **drinking water** to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. **US EPA, states, and water systems then work together** to make sure that these standards are met.

All EPA activities related to water security are carried out in consultation with DHS, CISA and the EPA's Water Sector partners.

