Texas

1. Definitions

- a. Produced Water Water brought to the surface during oil or gas well drilling, completion, and production operations, which may include formation water, injected water, and flowback water.
 - i. If your state defines the term "produced water," please provide that definition below.

Texas Natural Resources Code §91.1011(b) "Oil and gas waste" includes salt water, brine, sludge, drilling mud, and other liquid, semiliquid, or solid waste material.

Texas Natural Resources Code §122.001(2): "Fluid oil and gas waste" means waste containing salt or other mineralized substances, brine, hydraulic fracturing fluid, flowback water, produced water, or other fluid that arises out of or is incidental to the drilling for or production of oil or gas.

- b. Recycle/Reuse To process or treat produced water or its constituent substances for beneficial use.
 - i. If your state defines the term "recycle" or "reuse," please provide the definition(s) below.

16 Texas Administrative Code (TAC) §3.8(a)(43) Recycle--To process and/or use or re-use oil and gas wastes as a product for which there is a legitimate commercial use and the actual use of the recyclable product. 'Recycle,' as defined in this subsection, does not include injection pursuant to a permit issued under §3.46 (Fluid Injection into Productive Reservoirs) of this title.

16 TAC §3.8(a)(44) Treated fluid-Fluid that has been treated using water treatment technologies to remove impurities such that the treated fluid can be reused or recycled. Treated fluid is not a waste but may become a waste if it is abandoned or disposed of rather than reused or recycled.

16 TAC §3.8(a)(45) Recyclable product--A reusable material as defined in §4.204(12) of this title (relating to Definitions).

16 TAC §4.204(7) Legitimate commercial use--Use or reuse of a recyclable product as authorized or defined in a permit issued pursuant to this subchapter:

- (A) as an effective substitute for a commercial product or as an ingredient to make a commercial product; or
- (B) as a replacement for a product or material that otherwise would have been purchased; and
 - (C) in a manner that does not constitute disposal.

16 TAC §4.204(12) Recyclable product--A reusable material that has been created from the treatment and/or processing of oil and gas waste as authorized or permitted by a Commission permit and that meets the environmental and engineering standards established by the permit or authorization for the intended use, and is used as a legitimate commercial product. A recyclable product is not a waste, but may become a waste if it is abandoned or disposed of rather than recycled as authorized by the permit or authorization.

2. Ownership

- a. Please describe the authority (deed, lease, contract, statute, regulation, case law, common law etc..) and include any relevant citations under which any of the following occurs.
 - i. The right to produce water during well completion and oil and gas production operations.

Mineral owners and their lessees have the implied right to use as much of the surface estate, including groundwater, as is reasonably necessary to extract and produce oil and gas under the common law "Accommodation Doctrine." Under this doctrine, the mineral estate, as the dominant estate, allows the use of the surface to drill for and produce minerals. Management of the waste which is a byproduct of oil and gas production, is the obligation of the lessee under the existing regulatory framework.

ii. Ownership of produced water from oil or gas wells after it has been brought to the surface.

Generally in Texas, groundwater is part of the surface estate, owned by the surface owner as a vested property right. Groundwater is governed by the rule of capture, which grants landowners the right to capture the water beneath their property. The landowners do not own the water based on the rule of capture, but have a right only to pump and capture whatever water is available. The rule of capture was adopted by the Texas Supreme Court in 1904 in Houston & T.C. Ry. Co. v East, 81 S.W. 279 (Texas 1904).

The rule of capture has been followed by the courts ever since that 1904 decision.

The legal presumption in Texas is that all sources of groundwater are percolating waters as opposed to subterranean rivers. Consequently, the landowner is presumed to own underground water until it is conclusively shown that the source of supply is a subterranean river. The state of the law with respect to ownership of subterranean rivers is not settled in Texas. Both stream underflow and subterranean rivers have been expressly excluded from the definition of underground water in Section 52.001 of the Texas Water Code.

However, mineral owners and their lessees have the implied right to use as much of the surface estate, including groundwater, as is reasonably necessary to extract and produce oil and gas under the "Accommodation Doctrine." Under this doctrine, the mineral estate, as the dominant estate, allows the use of the surface to drill for and produce minerals. Management of the waste which is a byproduct of oil and gas production, is the obligation of the lessee under the existing regulatory framework.

Private contracts typically determine the financial relationship between landowners and operators and subsequently operators and recyclers.

iii. Use and/or reuse of produced water in the oilfield.

See below.

iv. Use and/or reuse of produced water outside of the oilfield.

See below.

Chapter 122. Treatment and Recycling for Beneficial Use of Fluid Oil and Gas Waste

§122.002. Ownership of Fluid Oil and Gas Waste Transferred for Treatment and Subsequent Beneficial Use. Unless otherwise expressly provided by an oil or gas lease, a surface use agreement, a contract, a bill of sale, or another legally binding document:

(1) when fluid oil and gas waste is produced and used by or transferred to a person who takes possession of that waste for the purpose of treating the waste for a subsequent beneficial use, the waste is considered to be the property of the person who takes possession of it for the purpose of treating the waste for subsequent beneficial use until the person transfers the waste or treated waste to another person for disposal or use; and

- (2) when a person who takes possession of fluid oil and gas waste for the purpose of treating the waste for a subsequent beneficial use transfers possession of the treated product or any treatment byproduct to another person for the purpose of subsequent disposal or beneficial use, the transferred product or byproduct is considered to be the property of the person to whom the material is transferred.
- b. Place an "x" in each box to indicate who holds the right to each of the following regarding water that has not yet been produced.

Who	Possession	Use*	Other rights (please specify)
Surface	X	N/A	зреспу)
Landowner	^	14/7	
Operator		N/A	
Government		N/A	
Other (please		N/A	
specify)			

^{*} If the water has not been produced, it cannot be used?

c. Place an "x" in each box to indicate who holds the right to each of the following regarding produced water after it has been brought to the surface.

Who	Possession	Use	Other rights (please specify)
Surface Landowner			
Operator	X	Х	Disposal
Government			
Other (please			
specify)			

d. Does the quality of the produced water play a role in the ownership of the water?

No.

3. Liability

- a. Please provide the cite to any relevant state statute/case law/regulation regarding liability for:
 - i. Produced water handling (extraction, transportation, sale, etc.).

Regulatory Liability Non-compliance with regulations typically means regulators will impose fines and/or curtail operations.

Civil liability is the responsibility of the courts. Regulators do not have the authority to assess damages. However, courts can consider the actions and findings of regulators and therefore regulatory decisions can at least tangentially influence civil actions.

- ii. Use and/or reuse of produced water in the oilfield:
 - 1. By the producer **See below**
 - 2. By a different operator **See below**

Texas Natural Resources Code §122.003. RESPONSIBILITY IN TORT. (a) Except as provided by Subsection (b), a person who takes possession of fluid oil and gas waste, produces from that waste a treated product generally considered in the oil and gas industry to be suitable for use in connection with the drilling for or production of oil or gas, and transfers the treated product to another person with the contractual understanding that the treated product will be used in connection with the drilling for or production of oil or gas is not liable in tort for a consequence of the subsequent use of that treated product by the person to whom the treated product is transferred or by another person.

- (b) This section does not affect the liability of a person that treats fluid oil and gas waste for beneficial use in an action brought by a person for damages for personal injury, death, or property damage arising from exposure to fluid oil and gas waste or a treated product.
- iii. Use and/or reuse of produced water outside of the oilfield.

See ii above.

4. State or Provincial Regulatory Agency

a. State or provincial agencies charged with regulating the use/reuse of produced water:

Railroad Commission of Texas

Contact information: Leslie Savage (leslie.savage@rrc.texas.gov , 512-463-7308)

Brief summary of areas of responsibilities:

The Railroad Commission of Texas has jurisdiction over management of oil and gas waste. Oil and gas waste is defined in §91.1011, Texas Natural Resources Code, to mean waste that arises out of or incidental to the drilling for or producing of oil or gas. The Railroad Commission also has jurisdiction over treatment and beneficial use of oil and gas waste under §122.004 of the Texas Natural Resources Code.

b. Federal agencies charged with regulating the use and/or reuse of produced water: If available, please provide appropriate contact information.

N/A. There is very little federal land in Texas.

5. Incentives

a. Does your state or province have any incentives to use and/or reuse produced water in the oilfield? If so, please describe.

Tax Incentive for Reuse/Recycling of Fracturing Water - Detailed description of incentive: To encourage and support recycling of water used in hydraulic fracturing, Texas tax code provides for an exemption from sales, excise, and use taxes, tangible personal property specifically used to process, reuse, or recycle wastewater that will be used in fracturing work performed at an oil or gas well. Texas Tax Code, §151.355

Water-Related Exemptions - Exempts from sales and use tax equipment, services, or supplies when used solely for desalination and water recycling and reuse. Desalination is defined as the removal of salts from non-potable or brackish surface water or groundwater so that the water is useable freshwater or high-quality drinking water. Water recycling and reuse is defined as the recapture of water for reuse. Repair, restoration, remodeling or maintenance service to exempt tangible personal property is not subject sales tax on that service. 34 Texas Administrative Code §3.318 Water-Related Exemptions (Tax Code, §§151.314, 151.315, and 151.355)

Tax Relief for Pollution Control Properties - Exemption from local property tax for certain property or equipment used, in whole or in part, for pollution control. Texas Tax Code §11.31

b. Outside of the oilfield? If so, please describe.

6. Innovations and Successes

- a. Do you have any innovative or unique approaches to addressing use and/or reuse of produced water? If so, please provide a brief description.
- b. Does the quality of the produced water pose impediments to recycling and reuse?

High salinity, unknown constituents, public acceptability for certain uses

7. Other Information

a. Please provide any additional notes or commentary below.