

## SECTION 11 | Reused and Recycled Fluids

### 11.1 Definitions

State regulatory programs should define fluids that may be reused and recycled. For the purposes of these guidelines, these are fluids that are generated during the drilling, completion (e.g. hydraulic fracturing flowback), and production stages of a well. The term “reused fluids” is commonly used to refer to fluids that require only minimal processing to remove suspended solids. The term “recycled fluids” is commonly used to refer to fluids that typically require more advanced treatment or processing to reduce the salinity of the recycled fluid. Reused and/or recycled fluids are used for well drilling (generally below the base of protected water), well workover, and completion.

### 11.2 Water Management Planning

Operators should be encouraged to develop Water Management Plans that consider reuse and recycling options. Water Management Plans should address all aspects of water management from acquisition through final disposition. Plans should be tailored to particular projects. State programs should recognize barriers that would limit an operator’s ability to reuse or recycle fluids generated during drilling, completion, and production such as technological limitations, fiscal constraints, lease or surface use constraints, stage of development, fluid quality, and agency approval timeframes. States should encourage the use of fresh water alternatives for the drilling and completion of wells where available sources are feasible and where environmental risks can be adequately identified and controlled. See Section 9.3 for additional information concerning water and waste management related to hydraulic fracturing.

Where jurisdictional issues exist between multiple state agencies, river basin commissions, and other parties involved in the management of reused and/or recycled E&P fluids, coordination should be pursued as discussed in Section 4.4.

### 11.3 Waste Management

Fluids that are to be reused or recycled should be managed and regulated as a waste up to the point the fluids are used in the drilling, workover, or completion of a well. State programs should consider having a regulatory process to designate fluids as a non-waste when they are treated to a level satisfactory to the State and the fluid is reused or recycled. Regulatory responsibility for the reused or recycled fluids should lie with the operator of the facility that is storing, transporting, or processing the fluids. See Sections 5.1 – 5.3 for information concerning technical



criteria of waste.

## 11.4 Transportation

The fluids to be reused or recycled are generally transported through pipelines or by truck.

### 11.4.1 Pipelines

#### 11.4.1.1 *Scope and Definition*

- a. The term, “pipeline” is used in this section to describe pipelines used to transport produced water and/or reused/recycled/treated water to or from various oil and gas facilities after separation from the oil and gas product. Such facilities may include, but are not limited to, the following:
  - i. Water loading point
  - ii. Point of discharge to a pit
  - iii. Injection/disposal wellhead
  - iv. Reuse/recycling/treatment facility
  - v. Oil and natural gas well sites
  - vi. CWA/NPDES/state permitted point of discharge to surface water
- b. Where appropriate, states may consider adopting a definition for such pipelines that is consistent with the risk profile of the fluids being transported. States may consider several factors when determining a fluid’s risk profile, such as constituents of the fluid, potential release quantity, and potential impact to the environment.

#### 11.4.1.2 *Siting, Permitting, and Financial Assurance*

- a. States may address pipelines in facility and infrastructure permitting.
- b. States should require operators to maintain information on the location, purpose, capacity, age, and material type of pipelines.
- c. Pipeline siting should be designed to minimize or avoid impact on natural habitats and wildlife designated sensitive or protected.



- d. Where appropriate, states should provide requirements for buried and aboveground pipelines, including requirements for repurposing.
- e. States should ensure that their financial assurance requirements are sufficient to cover pipelines. For pipelines that would not be covered by existing facility and infrastructure permitting and financial assurance, states should add such pipelines to these existing programs, or create a separate program for those pipelines.

#### *11.4.1.3 Construction and Operational Requirements*

- a. States should provide requirements for aboveground/overland/temporary lines and buried/permanent lines, including permanent and non-permanent buried lines.
- b. Pipelines should be constructed, operated, and maintained in compliance with the manufacturer's specifications, the state's mechanical code, and other applicable industry standards.
- c. Pipelines should be subjected to pre-operational hydrostatic integrity testing. Additional hydrostatic integrity testing should be required if the pipeline is moved, altered, repaired, or repurposed.
- d. States should require integrity testing for pipelines after an appropriate duration of service, based on criteria such as the type and material of the pipeline, and the fluid being transported. The method of integrity testing should be appropriate for the type of pipeline. Testing methods include, but not limited to, the following:
  - i. Hydrostatic
  - ii. Data metering
  - iii. Visual inspection
  - iv. Non-destructive testing
- e. States should require operators to maintain documentation of integrity testing, and provide documentation upon request.
- f. States should consider requiring depressurization and duration limits for pipelines not in continuous operation.



- g. Pipelines left in place should be purged, physically disconnected, and capped when abandoned. Buried lines left in place should be cut off below ground.
- h. States should ensure applicable OneCall legislation and damage prevention programs (to prevent damage to pipelines from excavators) are followed.

#### *11.4.1.4 Spill Response and Remediation*

- a. There should be a means of accounting for and reporting leaks in accordance with state and EPA requirements.
- b. Contingency planning and spill risk management should be addressed in accordance with the criteria of Section 4.2.1.
- c. Site remediation should be addressed in accordance with state and EPA requirements.

#### *11.4.2 Trucks*

Truck transportation of fluids to commercial or centralized facilities should be addressed in accordance with the waste tracking and reporting provisions of Section 5.10.2.3. States should encourage operators to utilize smart truck routing to minimize traffic through residential areas, damage to roadways, and to avoid problems associated with spill exposure and complaints.

### **11.5 Treatment and Storage**

Rules for the treatment and storage of fluids to be reused and recycled should be based on the potential risk presented by the treatment or storage of the fluid. Risk factors to consider include location and duration of fluid treatment or storage, chemical content and characteristics of the fluid and waste resulting from the treatment process, the volume of the fluid stored or treated, type of storage structure to be used (i.e. pits, tanks, or modular aboveground storage structures).

Permit processes for the storage of reused or recycled fluids should be streamlined and minimized for activities deemed to be of low risk. For example, the temporary storage and reuse of fluids on an Operator's lease might be approved during the well permitting process, or by other authorization, while facilities used for long-term storage and treatment of fluids may require separate prior authorization by the State.



Reporting requirements should include records of amounts of waste processed and, where appropriate, laboratory results for treated waste. See section 5.10.2.3 for more information on waste tracking requirements. Where appropriate, States should require groundwater monitoring consistent with the provisions of Section 9.2.1.

State regulatory programs should differentiate between centralized and commercial wastewater treatment facilities. See Section 5.10 for additional information regarding the permitting, construction, operation and closure of these facilities.

State regulatory programs should regulate the waste generated during the treatment of fluids in a manner as described in the technical criteria in Section 5. Those criteria address waste characterization, waste management hierarchy, pits, land application, tanks, and centralized and commercial facilities.

State regulatory programs should include a methodology for the determination of whether or not Naturally Occurring Radioactive Material (NORM) is present to the extent that it is regulated. See Section 7 for additional information on the identification, use, possession, transport, storage, transfer, documentation, and disposal of materials containing NORM.

States should evaluate air emissions at facilities used for the storage and treatment facilities of fluids to be reused or recycled and determine whether a permit or exemption is required. See Section 10.2.3 for additional information regarding air quality permits, authorizations and exemptions.

