

New York

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.

“Production water” is defined by 6 NYCRR Part 360.2(b)(88)(ii) as “the associated fluid, possibly containing connate water, brought to the surface during the production of oil or gas from a well, or during natural gas withdrawal from an underground storage reservoir.” It is differentiated from “flowback water” or “flowback fluid” which is defined by 6 NYCRR Part 360.2(b)(88)(i) as “the fluid, possibly containing connate water, returned to the surface during the period between well stimulation and the commencement of production of oil or gas from a well”

Similar working definitions are also provided in the 2015 Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program, as follows:

- **Production brine: liquids co-produced during oil and gas well production; fluid that returns from the borehole after completion of drilling operations while natural gas production is underway.**
- **Flowback fluids: liquids produced following drilling and initial completion and clean-up of the well; water and associated chemical constituents returning from the borehole during or proximate in time to hydraulic fracturing activities.**

- 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.

“Recycle” is defined in 6 NYCRR Part 360.2(b)(224) as “a series of activities by which recyclables are collected, sorted, processed and converted into raw materials or used in the production of new products, or in the case of organic recyclables, used productively for soil improvement. The term excludes thermal treatment (other than anaerobic digestion) or the use of waste as a fuel substitute or for

energy production, alternate operating cover, or within the footprint of a landfill.” Note that this definition is general in nature for all waste types and is not specific to production water or flowback fluid.

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.

Production water is a by-product of oil and gas production. Oil and gas production is regulated in accordance with Article 23 of the Environmental Conservation Law (ECL) and its implementing regulations at 6 NYCRR Parts 550-559, following the issuance of a ECL Article 23 Permit to Drill. An operator’s right to drill any given property is established via a private party lease between the operator and the mineral estate owner.

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

Once produced water has been brought to the surface the well operator is responsible for proper handling, in accordance with the ECL Article 23 Permit to Drill, and the associated permit conditions. In this sense, they would be considered to have ownership of the fluid.

As defined by 6 NYCRR Part 364-1.2, drilling and production waste is a regulated waste. As such, the well operator is responsible for ensuring that production water is transported from the well site where it is generated to any destination for disposal or reuse, by a transporter who has a valid New York State Part 364 Waste Transporter Permit issued by NYSDEC. The permitted Part 364 waste transporter becomes responsible for ensuring appropriate disposition of the waste once in its possession.

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

The use and/or reuse of production water in the oilfield would need to be proposed as part of an ECL Article 23 Application for Permit to Drill, or an Application for Authorization for Secondary Recovery and

Pressure Maintenance and approved as part of permit or authorization issuance.

NYSDEC's oil and gas regulations, specifically 6 NYCRR Part 554.1(c)(1), require a fluid disposal plan to be approved by the Department prior to well permit issuance for "any operation in which the probability exists that brine, salt water or other polluting fluids will be produced or obtained during drilling operations in sufficient quantities to be deleterious to the surrounding environment..." Accordingly, any proposal to reuse production water in the oilfield would need to be included in the fluid disposal plan for the well from which the fluid would be generated.

If production water were proposed for reuse as a source for hydraulic fracturing fluid, or waterflood injectate, it would be required to be identified in the application materials for the well location(s) where the reuse would occur. The handling and storage of the production water for reuse would be reviewed as part of the application and the issuance of the ECL Article 23 Permit to Drill or Authorization for Secondary Recovery and Pressure Maintenance for the well location(s), would constitute the approval of the reuse of the production water.

- iv. Use and/or reuse of produced water outside of the oilfield. Road spreading for dust control and de-icing (by a Part 364 transporter with local government approval) is the general reuse method used in New York for production water. This is not an acceptable disposal/reuse option for flowback fluids however, which must be disposed of at facilities authorized by NYSDEC or transported for use or reuse by a valid Part 364 transporter at other gas or oil wells where acceptable to the Division of Mineral Resources. The use of production water for road spreading can only occur under a Beneficial Use Determination (BUD) issued by NYSDEC pursuant to 6 NYCRR Part 360.12. A BUD and Part 364 permit would be issued by NYSDEC prior to the removal of any production water from a well site. Other than road spreading, produced water has not been proposed for use or reuse outside of the oilfield in NY to date.**

- 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)
Landowner	x		
Operator		x	
Government		x	
Other (please specify) mineral lease holder*		x	

***This assumes the mineral lease holder is not the same as the landowner.**

- 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)
Landowner			
Operator	x	x	
Government		x	
Other (please specify) * mineral lease holder	x	x	

- d. Does the quality of the produced water play a role in the ownership of the water? **No. The quality of the produced water may play a role in how the fluid can be used or where it may be disposed of but does not impact ownership.**

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.).
**ECL Article 23 and implementing regulations at 6 NYCRR Parts 550-559
6 NYCRR Parts 360-365**
 - ii. Use and/or reuse of produced water in the oilfield:
**6 NYCRR Part 552, Permits to Drill, Deepen, Plug Back or Convert
6 NYCRR Part 554.1, Prevention of pollution and migration
6 NYCRR Part 557, Secondary Recovery and Pressure Maintenance**

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

6 NYCRR Part 360.12, Beneficial use

4. State or Provincial Regulatory Agency

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

Contact information:

**New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233**

**Division of Mineral Resources
Catherine Dickert, Director
(518)402-8056**

**Division of Materials Management
David Vitale, Director
(518)402-8652**

Brief summary of areas of responsibilities:

Division of Mineral Resources – Regulation of well drilling, operation, production, and plugging and abandonment

Division of Materials Management – Regulation of hazardous and solid waste treatment, storage and disposal, waste transportation, and beneficial use determinations

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

USEPA reviews proposed waterflood injectate to determine the threat of endangerment to underground sources of drinking water. Operations that are authorized by rule are required to submit an analysis of the injectate anytime it changed, and operations under permit are required to modify their permits to inject water from a new source.

5. Incentives

a. Does your state or province have any incentives to use and/or reuse produced water in the oilfield? **No** If so, please describe.

b. Outside of the oilfield? **No** 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. **N/A**

- b. Does the quality of the produced water pose impediments to recycling and reuse?

Although this conceptually seems likely, NYSDEC is not aware of any impediments

posed by water quality when it comes to recycling and reuse within the oilfield in New York.

Water quality could however pose impediments to recycling and reuse outside of the oilfield. For example, any petition for a BUD for road spreading as described above, is required to include analytical results from a representative sample for the following parameter: NORM, calcium, sodium, chloride, magnesium, TDS, pH, iron, barium, lead, sulfate, oil and grease, benzene, ethylbenzene, toluene and xylene. Dependent on the analytical results, NYSDEC may require additional analyses. Evaluations of BUD petitions would include case-by-case assessments of potential impacts and would establish limits on volume and frequency of application.

7. Other Information

- a. Please provide any additional notes or commentary below. **N/A**