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SLIDES: Session 2, Water Supply and Quality: The Regulatory Framework

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Session 2, Water Supply and Quality
The Regulatory Framework
June 5, 2014
WATER SUPPLY

Water supply issues are controlled by state law

Clean Water Act, Section 101(b), 33 U.S.C. Section 1251(b):

“It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States . . . To plan the development and use . . . Of land and water resources . . . .”

Clean Water Act, Section 510, 33 U.S.C. Section 1370:

“Except as expressly provided in this Act, nothing in this Act shall . . . (2) be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States.”
EPA & Corps Proposed Rule on Waters of the United States
OUTLINE

- What is the current status of the EPA’s and Corps’ Clean Water Act Jurisdiction?
- What key changes do EPA and the Corps propose to their Clean Water Act Jurisdiction?
- What programs are affected?
- How might the oil and gas industry be affected?
- What are the next steps in the rulemaking process?

http://www2.epa.gov/uswaters
BACKGROUND

- The Clean Water Act provides federal jurisdiction over “navigable waters” which are defined as “the waters of the United States.”
- Congress left it to the agencies to define these terms and the reach of their jurisdiction.
- The current regulatory definitions of “waters of the United States” were adopted in 1986.
- Multiple Supreme Court decisions have opined on the proper scope of federal jurisdiction.
  - *Riverside Bayview Homes* (1985): Supreme Court upheld regulation of wetlands adjacent to or “inseparably bound up with” navigable waters.
  - *SWANCC* (2001): Supreme Court rejected Corps’ jurisdiction over intrastate “isolated waters” under the Migratory Bird Rule because the waters lacked a “significant nexus to navigable waters.”
BACKGROUND

- *Rapanos* (2006): Supreme Court decision was 4-4-1 with no clear majority opinion.
  - Justice Scalia (plurality) held jurisdiction extends to “only . . . relatively permanent, standing or flowing bodies of water” and only wetlands with a “continuous surface connection” to other jurisdictional waters. He rejected the assertion of jurisdiction over ephemeral streams, ditches and drains.
  - Justice Kennedy (concurrence) held jurisdiction exists only if waters meet a “significant nexus” test where waters must “either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as ‘navigable.’”
  - Justice Stevens (dissent) held jurisdiction could occur under either Justice Scalia or Justice Kennedy’s tests.
- Lower courts have struggled with how to apply *Rapanos* in Clean Water Act cases.
HOW DOES THE RULE DEFINE WATERS OF THE US?

Proposed definition has three “buckets” of waters:

- Waters where jurisdiction is assumed
- Waters where no jurisdiction is assumed
- Waters where jurisdiction must be determined on a case-by-case basis using the significant nexus test
JURISDICTION ASSUMED FOR FOLLOWING WATERS

(i) All waters which are *currently used, were used in the past, or may be susceptible to use* in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) All *interstate* waters, including interstate wetlands;

(iii) The territorial seas;

(iv) All *impoundments* of waters identified in paragraphs (i) through (iii) and (v) of this section;

(v) All *tributaries* of waters identified in paragraphs (i) through (iv) of this section;

(vi) All waters, including wetlands, *adjacent* to a water identified in paragraphs (i) through (v)
NO JURISDICTION OVER FOLLOWING WATERS

(i) Waste treatment systems, including treatment ponds or lagoons
(ii) Prior converted cropland
(iii) Ditches that are excavated wholly in uplands, drain only uplands, and have less than perennial flow
(iv) Ditches that do not contribute flow, either directly or through another water
(v) The following features:
  (A) Artificially irrigated areas that would revert to upland should application of irrigation water to that area cease;
  (B) Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
  (C) Artificial reflecting pools or swimming pools created by excavating and/or diking dry land;
  (D) Small ornamental waters created by excavating and/or diking dry land for primarily aesthetic reasons;
  (E) Water-filled depressions created incidental to construction activity;
  (F) Groundwater, including groundwater drained through subsurface drainage systems; and
  (G) Gullies and rills and non-wetland swales.
JURISDICTION ONLY ON CASE-SPECIFIC BASIS

- other waters, including wetlands, provided that those waters alone, or in combination with other similarly situated waters, including wetlands, located in the same region, have a significant nexus to a water identified in paragraphs (i) through (iii)
WHAT ARE THE KEY CHANGES PROPOSED IN THE DRAFT RULE?

- Expansion of jurisdiction over:
  - All tributaries
  - All adjacent Waters (not just adjacent wetlands)
  - “Other Waters”
CHANGES TO DEFINITION OF TRIBUTARIES

- All tributaries, including any water (wetlands, rivers, lakes, ponds, impoundments) that contributes to flow, either directly or indirectly or through another water, to downstream traditional navigable waters, interstate waters, or territorial seas.
- Defined broadly as having bed, bank, and ordinary high water mark.
- Not defined by flow or volume therefore includes ephemeral and intermittent waters which flow only certain times during the year.
- There can be a natural or man-made break in the tributary and upstream portion is still included as jurisdictional.
- Expansion includes roadside ditches, irrigation ditches, and stormwater ditches, as well as other man-made conveyances.
EXPANSION OF DEFINITION RE ADJACENT WATERS

- All waters—not just wetlands—that are adjacent to a jurisdictional water.
- Includes “neighboring” waters located within the “riparian area” or “floodplain” of otherwise jurisdictional waters, therefore expanded based on geographical proximity.
- Includes waters connected and not connected to traditional navigable waters, interstate waters or territorial seas.
TREATMENT OF OTHER WATERS

- New category of waters that may or may not be jurisdictional
- Case-specific determination using significant nexus test. Test not well defined—must be “more than speculative or insubstantial”
- Specific water under consideration may not be evaluated; agency may instead consider similar waters in same region and treat them similarly
- Hydrologic connection not necessary
- Examples include prairie potholes, playa lakes, vernal pools
WHAT CLEAN WATER ACT PROGRAMS ARE AFFECTED?

- Discharges of pollutants to waters of the United States under the National Pollutant Discharge Elimination System (NPDES) program (Section 402)
- Discharges of “dredge and fill” material into waters of the United States (Section 404)
- Spill response, including Spill Prevention, Control, and Countermeasure Plans (Section 311)
- Water quality standards and total maximum daily load programs (Section 303)
- State water quality certification process (Section 401)
HOW DID EPA AND THE CORPS ESTIMATE THE EFFECTS OF THE RULE?

- Corps estimated a 2.7% increase in jurisdictional waters based on Section 404 analysis.

<table>
<thead>
<tr>
<th>Type of water</th>
<th>Old jurisdiction</th>
<th>New jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streams</td>
<td>98%</td>
<td>100%</td>
</tr>
<tr>
<td>Wetlands</td>
<td>98.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Other waters</td>
<td>0%</td>
<td>17%</td>
</tr>
</tbody>
</table>

- Likely to be an underestimate of the impacts, e.g.:
  - No discussion of revised definitions of adjacent or tributary
  - Database used not compatible with all categories of waters
  - Only considered the 404 program and extrapolated to other programs
HOW MIGHT INDUSTRY BE GENERALLY AFFECTED?

- Enforcement risk and likelihood for potential illegal discharges
- Increased permitting requirements and associated application costs and time delays (nationwide or individual permits)
- Increased risk of permitting denials
- Additional need for Spill Prevention, Control, and Countermeasures Plans (SPCC) and secondary containment
- Expanded compensatory mitigation requirements
- Expanded jurisdiction may trigger new “federal actions” requiring compliance with other environmental statutes (e.g., NEPA, ESA, NHPA)
- Litigation from ENGOs
**HOW MIGHT OIL AND GAS INDUSTRY BE SPECIFICALLY AFFECTED?**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Increased Costs Associated With...</th>
</tr>
</thead>
</table>
| Exploration and production wells | - More environmental screening of new sites  
- Increased number of permits resulting in increased costs and delay  
- Additional compensatory mitigation costs |
| Pipelines                    | - More environmental screening of sites  
- Additional compensatory mitigation costs |
| SPCC Rules for facilities    | - More environmental screening of new sites  
- Increased number of SPCC plans  
- Increased number of FRP plans  
- Increased infrastructure requirements (e.g., secondary containment) |
| Impoundments                 | - Increased maintenance costs  
- Increased abandonment/restoration  
- Pesticide-related costs |
WHAT ARE THE NEXT STEPS IN THE PROCESS?

- Comments invited on numerous parts of the rule, including:
  - Definition of tributary
  - Definition of “other waters” in rule and agencies’ suggested alternatives (e.g., whether additional categories should be considered jurisdictional and non-jurisdictional to decrease waters subject to a significant nexus test).
  - Scientific Connectivity Report (Appendix A)
  - Legal analysis (Appendix B)
- Public comment period scheduled to close July 21, 2014.
Effluent Limitations Guidelines

Background to Current Effluent Limitations Guidelines for Oil and Gas Extraction Industry and EPA Initiative to Revise the Guidelines
OUTLINE

- What are ELGs?
- What ELGs currently apply to the oil and gas industry?
- What is EPA doing to revise the oil and gas ELGs?

http://water.epa.gov/scitech/wastetech/guide/oilandgas/index.cfm
What are ELGs?
WHAT ARE EFFLUENT LIMITATIONS GUIDELINES (ELGs)?

- Standards for wastewater discharges for 57 industry sectors.
- Mandated by the Clean Water Act and based on technology and economics.
- Adopted by EPA through formal rulemaking.
- Intended to define the minimum level of pollution control for industrial wastewater.
- Determined by assessing the pollution reduction capability of process controls and wastewater treatment technologies
  - “end-of-the-pipe” pollutant limits
  - process changes and best management practices (BMPs) may also be specified
    - includes wastewater minimization
  - performance-based (do not mandate the use of a specific technology)
HOW ARE ELGS IMPLEMENTED?

- For direct discharges to waters of the U.S., ELGs are implemented as effluent limitations in NPDES permits, unless more stringent “water quality based limits” are needed to protect designated uses/quality of receiving stream.

- For indirect discharges (i.e., discharges to POTWs which then discharge to waters of the U.S.), ELGs are “categorical pretreatment standards” that must be met under EPA’s pretreatment regulations (40 C.F.R. Part 403) for any discharge into a POTW by any means (pipe or tank truck).
  - Onshore indirect discharges (e.g. to a POTW) are not currently regulated.
NPDES Permit may be Based on Water Quality Standards

ELG Direct Discharge Limit

ELG Indirect Discharge Pretreatment Limit

Pre-Treatment

Treatment

ELG IMPLEMENTATION

Industry Sector Plant

Municipal Wastewater POTW

Waters of the United States
EFFLUENT GUIDELINE POLLUTANTS

- Conventional pollutants: CWA 304(a)(4)
  - Biochemical Oxygen Demand, Total Suspended Solids, pH, Oil and Grease (not TDS)
- Toxic (“Priority”) Pollutants: CWA 307(a); 40 C.F.R. 423 Appendix A
  - Benzene, Ethylbenzene, Toluene (NOT XYLENES)
  - Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Selenium, Thallium, Zinc
  - Historic Organic Pesticides
- Non-conventional pollutants: CWA 301(b)(2)(F).
  - Includes any pollutant (or pollutant parameter, such as a bulk compound) that EPA concludes should have an effluent limit but is not specifically listed as “conventional” or “toxic”
  - CWA defines “pollutant” broadly, including “radioactive materials.” 40 C.F.R. 401.11(f); see also ELGs for uranium mining, 40 C.F.R. 440.32.
<table>
<thead>
<tr>
<th>Level of Control</th>
<th>Technology Considerations</th>
<th>Economic Considerations</th>
<th>Sites Regulated</th>
<th>Pollutants Regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Practicable Control Technology (BPT)</td>
<td>Average of best existing</td>
<td>Comparison of costs and effluent reduction benefits</td>
<td>Existing Direct Dischargers</td>
<td>Priority, Non-conventional, Conventional</td>
</tr>
<tr>
<td>Best Conventional Pollutant Control Technology (BCT)</td>
<td>Conventional pollutant reduction</td>
<td>Cost-reasonableness (two-part cost test)</td>
<td>Existing Direct Dischargers</td>
<td>Conventional</td>
</tr>
<tr>
<td>Best Available Technology Economically Achievable (BAT)</td>
<td>Best available</td>
<td>Economic achievability</td>
<td>Existing Direct Dischargers</td>
<td>Priority, Non-conventional, Conventional</td>
</tr>
<tr>
<td>New Source Performance Standards (NSPS)</td>
<td>Best demonstrated</td>
<td>Consider costs</td>
<td>New Direct Dischargers</td>
<td>Priority, Non-conventional, Conventional</td>
</tr>
<tr>
<td>Pretreatment Standards for Existing Sources (PSES)</td>
<td>Analogous to BAT</td>
<td>Economic achievability</td>
<td>Existing Indirect Dischargers</td>
<td>Priority, Non-conventional, Conventional</td>
</tr>
<tr>
<td>Pretreatment Standards for New Sources (PSNS)</td>
<td>Analogous to NSPS</td>
<td>Consider costs</td>
<td>New Indirect Dischargers</td>
<td>Priority, Non-conventional, Conventional</td>
</tr>
</tbody>
</table>
What are the current ELGs for the Oil and Gas Sector?
WHAT ARE CURRENT ELGs FOR OIL AND GAS SECTOR?

Facilities Covered
The O&G ELGS (40 C.F.R. Part 435) apply to facilities in 5 subcategories:
- Subpart A: Offshore
- Subpart C: Onshore
- Subpart D: Coastal
- Subpart E: Agricultural and Wildlife Water Use
- Subpart F: Stripper Wells

Wastestreams Covered
- Produced water
- Produced sand
- Drilling fluids
- Drill cuttings
- Well treatment, workover and completion fluids
- Domestic*
- Sanitary*
- Deck drainage*
* Subparts A and D only
CURRENT ELGS FOR O&G SECTOR

- For onshore dischargers (direct discharge) east of 98th meridian (Category C): BPT/BAT/NSPS are all zero-discharge.
- For onshore dischargers west of 98th meridian whose “produced water has a use in agriculture or wildlife propagation,” aka beneficial use (Category E): BPT/BAT/NSPS limitations on oil and grease (35 mg/kg). EPA has never required producers to show all discharge is consumed by wildlife or agriculture.
  - NOTE from regulations: Zero-discharge limit still applies in the West to wastewater “from any source (other than produced water) associated with production, field exploration, drilling, well completion, or well treatment (i.e., drilling muds, drill cuttings, and produced sands.)” 40 C.F.R. 435.52(a)(1). The Development Document classifies “well treatment” as a wastewater discharge that is separate from “produced water.”
- No pre-treatment standards for indirect dischargers east or west of 98th meridian.
98TH MERIDIAN VS. SHALE PLAYS

Limited Discharge West of the 98th Meridian*
Zer Discharge East of the 98th Meridian

*Zero discharge in the state of Texas
CBM Exclusion

- Direct discharges from coalbed methane extraction from onshore oil and gas facilities are not currently subject to limitations under Part 435 (Oil and Gas Extraction category); EPA says it did not consider such discharges in developing the onshore oil and gas ELG.

- NPDES permits for coalbed methane discharges are currently developed according to the best professional judgment (BPJ) of the permit authority, based on the factors specified in 40 C.F.R. 125.3(c)(2).

- The BPJ-based requirements that have been applied to disposal of coalbed methane wastewater vary significantly from state to state, ranging from limitations on some conventional pollutants prior to discharge, to prohibition of direct discharges to waters of the U.S.

- Note: Unlike CBM, shale gas extraction is subject to the O&G ELGs.
What is EPA doing to revise the Oil and Gas Sector ELGs?
Since 1979, EPA has reviewed existing effluent guidelines annually.

- CWA requires EPA to publish an Effluent Guidelines Program Plan every 2 years to establish a schedule for the annual review and revision. CWA 304(m)(1)(A).

- EPA reviews all point source categories subject to existing effluent guidelines and pretreatment standards to identify potential candidates for revision. CWA 304(b), 301(d), 304(g), 307(b).

- CWA requires EPA to review industries with direct discharging facilities that are not currently subject to ELGs and identify potential candidates for ELG rulemakings. CWA 304(m)(1)(B).
  - EPA identifies categories of sources discharging toxic or non-conventional pollutants for which there is no ELG and those with non-trivial discharges require an ELG. NRDC v. EPA, 542 F.3d 1235, 1251 (9th Cir. 2008).
  - As with CBM, sometimes EPA decides it needs to gather more information before deciding whether a currently unregulated category of point sources requires an ELG.
PROPOSED REVISIONS TO O&G ELG

- In 2005, 25 years after establishment of the ELG, EPA realized CBM was not part of the oil & gas sector ELG.

- EPA’s data collection efforts included:
  - More than 30 site visits
  - Published surveys in Federal Register for public comment
  - After receiving OMB approval, gathered data on CBM projects using a screener survey to identify projects and randomly select a sample to receive detailed industry survey in 2009
  - Published detailed study report in December 2010 announcing its intention to initiate a rulemaking for an ELG for CBM.

- Status of CBM ELG:
  - EPA initially proposed to add CBM as a new subcategory within the Oil and Gas ELG.
  - EPA initially proposed to conduct separate formal rulemakings for CBM and Shale Gas.

- After publishing in December 2010 a report on the CBM industry in its 2010 ELG plan and indicating separate rulemaking paths for CBM and shale gas, EPA recently announced on its website that it is combining these two “topics of inquiry” into a single rulemaking project.
  - EPA wants additional time to collect updated information on coalbed methane and to “consider the collective impacts and effects of the combined rulemaking.”
  - Proposed rule is scheduled for 2014.
What is known about EPA’s recent decision to combine CBM and Shale Gas into a single rulemaking?

Based on recently updated information on EPA’s website:

- EPA’s decision to combine the rulemakings for CBM and Shale Gas is based on the following:
  - There is market overlap in the extraction of shale gas and CBM—economics of extracting oil and gas from CBM and shale are intrinsically linked. For example, recent increases in the production of shale gas has led to an oversupply, and a concomitant decrease in gas prices for both CBM and shale gas.
  - The data EPA collected on CBM is outdated. EPA needs additional time to collect updated information on coalbed methane and appropriately consider the cumulative impacts of a combined rulemaking.

- Indications that EPA will focus on larger list of POCs, including total dissolved solids (salts), “organic chemicals, inorganic chemicals, metals, and naturally occurring radioactive materials (NORM)” for shale gas, and “chloride, sodium, sulfate, bicarbonate, fluoride, iron, barium, magnesium, ammonia, and arsenic” for CBM.

- EPA indicates ambiguously that it “is developing a proposed rule to amend the ELGs for the Oil and Gas Extraction Category (40 C.F.R. Part 435).” That proposed rule is scheduled for publication in 2014. See water.epa.gov/scitech/wastetech/guide/oilandgas/unconv.cfm.
The CWA’s Anti-backsliding Requirements would freeze existing CBM permits even if a new CBM ELG were less stringent because BPJ permits cannot be weakened.

Existing shale gas and other onshore permits subject to current ELG could be revised as a result of newly established less stringent ELG (the new ELG would be less stringent in the East, which is currently zero discharge, but is likely to be more stringent in the West, where producers rely on the Ag and Wildlife exemption, as EPA moves forward with an ELG that is national in scope and inclusive of additional pollutants).

- The CWA and its implementing regulations generally prohibit EPA from renewing, reissuing or modifying an existing NPDES permit to contain effluent limitations, permit conditions, or standards that are less stringent than those in the previous permit.

- For CBM, an effluent limit based on BPJ cannot be “weakened” to reflect a subsequently promulgated ELG and standards when they would result in a less stringent effluent limitation. CWA 402(o)(1). EPA’s regulation indicates a new ELG for CBM based on BPJ would not get the benefit of a new ELG if it were less stringent than the current permit limits. Statutory and regulatory exceptions to the anti-backsliding rule do not appear to apply when the regulations (ELGs) are revised. 40 C.F.R. 122.44(l)(2)(i).

- For shale gas and other onshore production, EPA’s regulations would allow an existing permit holder to seek to have the permit modified or revised “for cause,” which likely includes promulgation of an amended ELG or regulation. 40 C.F.R. 122.62(a)(3).
Thank You

Questions?