

## Paper #2-6

# EVOLVING REGULATORY FRAMEWORK

Prepared by the Environmental & Regulatory Subgroup  
of the  
Operations & Environment Task Group

On September 15, 2011, The National Petroleum Council (NPC) in approving its report, *Prudent Development: Realizing the Potential of North America's Abundant Natural Gas and Oil Resources*, also approved the making available of certain materials used in the study process, including detailed, specific subject matter papers prepared or used by the study's Task Groups and/or Subgroups. These Topic and White Papers were working documents that were part of the analyses that led to development of the summary results presented in the report's Executive Summary and Chapters.

**These Topic and White Papers represent the views and conclusions of the authors. The National Petroleum Council has not endorsed or approved the statements and conclusions contained in these documents, but approved the publication of these materials as part of the study process.**

The NPC believes that these papers will be of interest to the readers of the report and will help them better understand the results. These materials are being made available in the interest of transparency.

The attached paper is one of 57 such working documents used in the study analyses. Also included is a roster of the Subgroup that developed or submitted this paper. Appendix C of the final NPC report provides a complete list of the 57 Topic and White Papers and an abstract for each. The full papers can be viewed and downloaded from the report section of the NPC website ([www.npc.org](http://www.npc.org)).

<b>Environmental &amp; Regulatory Subgroup</b>		
<i><b>Cochairs</b></i>		
A. Scott Anderson	Senior Policy Advisor, Climate & Air Program	Environmental Defense Fund
David McBride	Vice President, Environment, Health and Safety	Anadarko Petroleum Corporation
<i><b>Assistant Chair</b></i>		
Alan Higgins	Vice President, Special Projects	Anadarko Energy Services Company
<i><b>Members</b></i>		
Ramon Alvarez	Senior Scientist	Environmental Defense Fund
Grover Campbell	Manager, Regulatory Affairs – Air Regulations	Chesapeake Energy Corporation
Thomas H. Clayson	Senior Staff Environment and Regulatory Analyst	Anadarko Petroleum Corporation
Charles M. Clusen	Director, National Parks and Alaska Projects	Natural Resources Defense Council
Jill E. Cooper	Group Lead – Environment	Encana Oil & Gas (USA) Inc.
Eileen D. Dey	Regulatory Manager, Mid- Continent	ConocoPhillips
Kevin Robert Easley	Natural Gas Policy Analyst, Office of Policy & International Affairs	U.S. Department of Energy
Karl D. Fennessey	Senior Consultant, Climate Change & Sustainable Development	ConocoPhillips
Amy Hardberger	Attorney, Climate & Air Program and Land, Water & Wildlife Program	Environmental Defense Fund
Mike Mathis	Manager, Regulatory Affairs – Water Programs	Chesapeake Energy Corporation
Briana Mordick	Science Fellow	Natural Resources Defense Council
Jeff Ostmeyer	Environment, Health and Safety Manager	Anadarko Petroleum Corporation
Richard L. Ranger	Senior Policy Advisor, Upstream	American Petroleum Institute
Bill Scott	General Manager, Chevron Arctic Center	Chevron Canada

Working Document of the NPC North American Resource Development Study  
 Made Available September 15, 2011

Denise A. Tuck	Global Manager, Chemical Compliance, Health, Safety and Environment	Halliburton Energy Services, Inc.
Richard Ward	Director, Energy Initiatives	Aspen Science Center
Michael E. Webber	Assistant Professor, Department of Mechanical Engineering and Associate Director, Center for International Energy and Environmental Policy	The University of Texas
Kent M. Weissling	Environment, Health & Safety Advisor	Anadarko Petroleum Corporation
Brian Woodard	Senior Environmental Policy Analyst	Devon Energy Corporation
Sharon R. Zubrod	Manager, Stakeholder Engagement and Regulatory Affairs	ConocoPhillips
<b><i>Ad Hoc Members</i></b>		
Douglas W. Morris	Director, Reserves and Production Division, Energy Information Administration	U.S. Department of Energy

**National Petroleum Council**  
**North American Resource Development**

Operations and Environment Task Group  
Environmental and Regulatory Subgroup

**EVOLVING REGULATORY FRAMEWORK**

Kevin Easley, U.S. Department of Energy  
Jeff Ostmeyer, Anadarko  
Amy Hardberger, Environmental Defense Fund

## VI. EVOLVING REGULATORY FRAMEWORK

### A. Introduction

The oil and gas industry has experienced tremendous growth and change in recent years. For example, shale gas production activities and supplies have expanded rapidly and are changing the face of the energy industry nationally. In addition, these developments have provided a substantial boost to U.S. energy security and economic growth. In response to these changing conditions, federal and state regulators have been reviewing existing policies, legislative mandates and regulations. Policy deliberations at every level of government have prompted new legislative and regulatory proposals – and several new mandates – to advance prudent production operations that protect human health and safety as well as the environment. The following discussion highlights some of the trends that are emerging and are likely to reshape the regulatory framework for advancing environmental protection and human safety in oil and gas operations.

### B. Water Use, Discharges and Protection

Oil and gas operations entail various water uses and discharges, with related environmental implications. Most of these operations are regulated under general permits and report to state, rather than federal, agencies. Producers use water to enable and increase resource extraction, from enhanced oil recovery (EOR) to hydraulic fracturing. Oil and gas operations must also manage “produced water,” the water that occurs naturally in the formation and must be disposed of or reused after extraction, and water that is injected to stimulate production and returns to the surface. A major area of focus is hydraulic fracturing, a well stimulation technique that for several decades has been highly successful in maximizing oil and gas recovery. However, in recent years, allegations have surfaced that ‘fracing’ may be directly or indirectly causing unintended environmental impacts to surface and groundwater resources.

In response to these developments, federal and state officials (legislators and regulators) have been considering their options and, in some instances, have begun to implement changes. At the federal level, legislative proposals to regulate hydraulic fracturing have emerged. In addition, in response to a new Congressional mandate, the EPA has initiated a comprehensive research study to investigate potential adverse impacts to ground water and surface water resulting from fracing operations.<sup>1</sup> The results of this study are not expected to be completed and released by EPA prior to the end of 2012.

At the state level, some jurisdictions have promulgated new requirements to exert greater regulatory control over fracing operations to ensure environmental protection. One of the large environmental concerns is the contamination of ground and surface water resources

---

<sup>1</sup> EPA. "Hydraulic Fracturing." Updated March 30, 2011. Accessed April 2011 at <http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/index.cfm>

Environmental and Regulatory Subgroup  
VI. EVOLVING REGULATORY FRAMEWORK  
Kevin Easley, Jeff Ostmeyer, Amy Hardberger

from the frac chemicals, or naturally occurring salts, heavy metals, and radionuclides in some locations. Water protection is central to several different types of policy. With regard to the frac chemicals themselves, Wyoming has enacted the nation's first ever chemical disclosure requirements to shed light on the precise compounds used in frac fluid mixtures.<sup>2</sup> Colorado has similar requirements. Some jurisdictions, such as New York, have gone to the extreme of placing a drilling moratorium in certain resource basins and watersheds pending an environmental impact statement.<sup>3</sup>

Regulations also set standards for well completion and cementing to prevent migration of chemicals from one horizon to another and impacting groundwater. The proper closure of abandoned wells is also important. States like Colorado have requirements regarding the pressurization of the formation to protect the integrity of the formation and minimize frac fluid migration.<sup>4</sup> While many states have these types of regulations in place, emerging science and technology may alter best practices in the future. In addition, the Groundwater Protection Council (GWPC) (nonprofit association of state agencies) and the Interstate Oil and Gas Compact Commission (IOGCC) (representing the governors of 37 petroleum producing states) recently established a joint initiative designed to protect water resources by implementing a web-based information system that collects, maintains, and discloses data and other details associated with hydraulic fracturing.<sup>5</sup>

In addition to increasing chemical disclosure requirements and creating more transparent hydraulic fracturing operations, certain federal and state regulators are focusing their attention on total water use in oil and gas production (e.g., fracing, EOR operations, and so forth).<sup>6</sup> The average frac job can range anywhere from one (1) to five (5) million gallons of water per well site, and incremental increases in overall water demand from this sector can create challenges in some regions, especially in the arid Western United States where freshwater resources are less abundant.<sup>7</sup>

---

<sup>2</sup> Wyoming Oil and Gas Conservation Commission (WOGCC), Rules and Regulations, filed Aug. 17, 2010. Accessed April 2011 at [http://soswy.state.wy.us/Rules/Rule\\_Search\\_Main.asp](http://soswy.state.wy.us/Rules/Rule_Search_Main.asp)

<sup>3</sup> See New York Governor Executive Order No.41: Requiring Further Environmental Review, Dec.13, 2010, at State Department of Environmental Conservation "Marcellus Shale." Accessed April 2011 at <http://www.dec.ny.gov/energy/46288.html>.

<sup>4</sup> Colorado Oil and Gas Conservation Commission (COGCC)"Public Announcements, Final Amended Rules." Accessed April 2011 at <http://cogcc.state.co.us/>

<sup>5</sup> Interstate Oil and Gas Compact Commission. "IOGCC/GWPC to Coordinate Hydraulic Fracturing Chemical Registry." October 18, 2010 press release accessed April 2011 at <http://groundwork.iogcc.org/news/iogccgwpc-to-coordinate-hydraulic-fracturing-chemical-registry>

<sup>6</sup> See Texas Railroad Commission at Interstate Oil and Gas Compact Commission website, "Texas Regulations Protect Surface and Groundwater." Accessed April 2011 at <http://groundwork.iogcc.org/topics-index/hydraulic-fracturing/regulations/texas>

<sup>7</sup> U.S. Geological Survey. "Water Resources of the United States." Accessed April 2011 at <http://water.usgs.gov>

Environmental and Regulatory Subgroup  
VI. EVOLVING REGULATORY FRAMEWORK  
Kevin Easley, Jeff Ostmeier, Amy Hardberger

Once sufficient water is found, there are issues related to disposal of the produced water. This is either recycled, transported to wastewater facilities, or disposed of in regulated injection wells. The large quantities of water can create challenges.<sup>8</sup> Many areas, particularly in the eastern United States, where little oil and gas development has occurred in the modern era, lack suitable treatment and disposal facilities. Other communities have had to expand their wastewater treatment and disposal capabilities and regulatory oversight to keep pace with expanding drilling activities in their areas. For example, even if the facility has the capacity for receiving the produced water, it might not be equipped to treat all the chemicals and dissolved solids that are present, and may need upgrades to meet current or evolving discharge standards to accept and treat the fluids. Pennsylvania has new requirements that went into effect in January, 2011, that prohibit produced waters from natural gas wells to be discharged into state waters unless the water is first treated to remove Total Dissolved Solids, or salt, content.<sup>9</sup>

Produced water that is not recycled or treated may be disposed of in regulated Class II disposal wells. Similar to the requirements for production wells, these disposal wells also have regulations to ensure that formations other than the repository are not contaminated.

Within the Marcellus Shale gas plays in Pennsylvania, a number of operators are beginning to compensate for these wastewater treatment infrastructure limitations. Specifically, some operators are managing produced water derived from a well that has already been fraced by blending these produced fluids with fresh water to produce frac water for a new well. As an illustration, if the volume of produced water recovered from a previously fraced well is 25% of the volume of frac water needed, the gas company would need to obtain only 75% of the total frac fluid volume from a new water supply. In such cases, the volume of water withdrawn from new supply sources is less than the volume used in the new well.

In terms of water consumption, it's been noted previously that not all of the millions of gallons of injected frac fluid are returned to the surface following completion of a frac job. The Groundwater Protection Council and ALL Consulting have reported that, on average, 30% to 70% of the original frac fluid volume returns to the surface in the majority of gas plays.<sup>10</sup> However, recent anecdotal reports from Marcellus operators visited and interviewed by DOE national laboratory staff suggest that the actual percentage is at or below the lower end of that range. For example, as of January 2010,

---

<sup>8</sup> National Driller. "Water Treatment Key to Natural Gas Drilling," March 1, 2010, accessed April 2011 at [http://www.nationaldriller.com/Articles/Feature\\_Article/BNP\\_GUID\\_9-5-2006\\_A\\_1000000000000763103](http://www.nationaldriller.com/Articles/Feature_Article/BNP_GUID_9-5-2006_A_1000000000000763103)

<sup>9</sup> Pennsylvania Department of Environmental Protection. "Oil & Gas Programs" Accessed April 2011 at [http://www.depweb.state.pa.us/portal/server.pt/community/oil\\_\\_gas/6003](http://www.depweb.state.pa.us/portal/server.pt/community/oil__gas/6003)

<sup>10</sup> Ground Water Protection Council and ALL Consulting. 2009. *Modern Shale Gas Development in the United States: A Primer*. p. 66. Prepared for the DOE Office of Fossil Energy and National Energy Technology Laboratory (NETL). April 2009. Accessed April 2011 at [http://www.netl.doe.gov/technologies/oil-gas/publications/epreports/shale\\_gas\\_primer\\_2009.pdf](http://www.netl.doe.gov/technologies/oil-gas/publications/epreports/shale_gas_primer_2009.pdf)

the Susquehanna River Basin Commission (SRBC) had compiled water data for 131 wells. Within this SRBC data set, statistics show that about 13.5% of the injected frac fluid is recovered.<sup>11</sup>

### C. Waste Management

Solid wastes generated in oil and gas production are the second-largest category of wastes generated during resource extraction.<sup>12</sup> These waste products generally contain drilling mud, rock fragments, and cuttings from the wellbore, as well as chemicals added to improve drilling-fluid properties and performance. Drilling fluids are used to control down-hole pressure, lubricate the drill bit, condition the drilled formations, provide hydraulic pressure to aid drilling, and remove cuttings from the wellbore. In addition, solid waste collects on the filter during the recycling of produced water. To ensure water quality and environmental protection, such waste must be disposed of appropriately and not landfarmed, unless the requisite treatment standards are met in advance.

EPA "exempted" exploration and production (E&P) wastes from the regulatory burden of RCRA Subtitle C (i.e., hazardous waste), not from Subtitle D (non-hazardous and special wastes).<sup>13</sup> If a waste is determined to be an "exempt" E&P waste it may still be regulated by the state under Subtitle D.

Some states and municipalities have adopted regulations or ordinances preventing waste disposal in open pits or landfarming.<sup>14</sup> In several instances, waste is taken from the point where it is generated to solid waste facilities for treatment and disposal.

The EPA has been petitioned to consider regulatory options for dealing with wastes resulting from extraction activities. Specifically, the petitioners are seeking that such wastes be classified and therefore regulated as hazardous wastes.<sup>15</sup> Ongoing regulatory reviews at EPA are focused on oil and gas wastes that tend to be high-volume, low-

---

<sup>11</sup> Hoffman, J., 2010, "Susquehanna River Basin Commission, Natural Gas Development," presented at the Science of the Marcellus Shale Symposium at Lycoming College, Williamsport, PA, January 29, 2010. Available and accessed April 2011 at SRBC's Marcellus / Utica Shale and Gas Well Drilling Presentations. <http://www.srbc.net/programs/projreviewmarcellustier3.htm>

<sup>12</sup> Produced waters are the largest type of wastes, by volume, produced in oil and gas operations.

<sup>13</sup> Regulatory Determination for Oil and Gas and Geothermal Exploration, Development and Production Wastes, 53 Fed. Reg. 25446 (July 6, 1988), and Clarification of the Regulatory Determination for Wastes from the Exploration, Development and Production of Crude Oil, Natural Gas and Geothermal Energy, 58 Fed. Reg. 15284 (March 22, 1993).

<sup>14</sup> "ORDINANCE NO. 505-2010: An Ordinance Prohibiting the Landfarming of Oil and Gas Drilling Waste on Property Within the City of Joshua, TX" Accessed April 2011 at <http://www.cityofjoshuatx.us/wp-content/uploads/2009/08/ord-505-2010-appvd-7-15-10-landfarm.pdf>

<sup>15</sup> Natural Resources Defense Council to EPA Administrator, Re: Petition for Rulemaking Pursuant to Section 6974(a) of the Resource Conservation and Recovery Act Concerning the Regulation of Wastes Associated with the Exploration, Development, or Production of Crude Oil or Natural Gas or Geothermal Energy. (September 8, 2010) Available at [http://docs.nrdc.org/energy/files/ene\\_10091301a.pdf](http://docs.nrdc.org/energy/files/ene_10091301a.pdf)



toxicity byproducts, and many argue that Congress never intended to have EPA regulate these materials under the Resource Conservation and Recovery Act (RCRA) and its amendments (specifically, the stringent provisions contained in RCRA's Subtitle C requirements). Presently, EPA is revisiting its 1988 drilling waste determination given the toxicity associated with some drilling waste byproducts, limitations and inconsistencies in state regulation, and the expansion of drilling activities nationwide.<sup>16</sup> It remains to be seen whether the agency concludes, as it did in 1988, that new regulatory requirements are feasible, that state regulations are inadequate, and that the industry will not suffer undue economic hardship if these wastes are brought under Subtitle C of RCRA.

Regarding regulatory efforts to control oil spills, the EPA recently promulgated new containment requirements for producers, including a provision focused on oil-water mixtures or produced waters.<sup>17</sup> Specifically, EPA has determined that oil-water mixtures, if accidentally released or spilled, could migrate and cause harm to navigable waters. EPA data also indicated the number of spills or accidental releases have grown in recent years (as have production activities nationally). As such, produced water containers will now be subject to Spill Prevention Countermeasure and Control (SPCC) regulatory requirements that mandate specific primary and secondary containment measures.<sup>18</sup>

#### D. Air / Emissions Management

Air emissions from oil and gas operations include criteria air pollutants (CAPs), (SO<sub>2</sub>, PM-10), hazardous air pollutants (HAPs), (Benzene, VOC's), and greenhouse gases (GHGs), (CO<sub>2</sub>, Methane).<sup>19</sup> Emissions are generated from fuel combusted in stationary and mobile internal combustion engines, gas processing, and other activities associated with production operations. In addition, venting and flaring also produce air emissions. Fugitive emissions of methane are also a significant source of GHGs associated with oil and gas activities.

Existing federal and state rules address some of the air emissions generated by oil and gas production. For example, the Clean Air Act's (CAA) National Emission Standard for Hazardous Air Pollutants (NESHAP) rule establishes regulatory controls for oil and gas exploration and production and other petroleum operations. In terms of upstream production, oil and natural gas production and natural gas transmission and storage source categories have been established. These controls cover the separation, upgrading,

---

<sup>16</sup> *Activists' Waste Petition Marks Multimedia Push For New EPA Drilling Rules*, Inside EPA, published September 27, 2010

<sup>17</sup> Spill Prevention, Control, and Countermeasure Plan Requirements for onshore oil production facilities (excluding drilling and workover facilities). 40 C.F.R. § 112.9 (2010)

<sup>18</sup> EPA Oil Pollution Prevention Regulation Overview, accessed April 2011 at [www.epa.gov/emergencies/content/lawsregs/opprover.htm](http://www.epa.gov/emergencies/content/lawsregs/opprover.htm) Updated January 2011.

<sup>19</sup> EPA Office of Policy, Sector Strategies Program, Sector Performance Report, Oil and Gas Chapter (published in 2008). Accessed April 2011 at [http://www.epa.gov/sectors/pdf/2008/oil\\_gas.pdf](http://www.epa.gov/sectors/pdf/2008/oil_gas.pdf)

storage, and transfer of extracted streams that are recovered from production wells. In short, NESHAP rules address the production and custody transfer of crude oil up to the refinery stage. With natural gas, the area of coverage ranges from resource extraction to pipeline transmission up to the city gate.

In addition, the New Source Performance Standards (NSPS) rule authorized by the CAA requires VOC leak detection and repair (LDAR) in natural gas processing plants, facilities that essentially remove natural gas liquids (NGLs) and impurities from field gas that has been captured. NSPS rules place SO<sub>2</sub> control requirements on gas processing plants (e.g., sweetening units that remove H<sub>2</sub>S and CO<sub>2</sub> from sour gas, sulfur recovery units, etc.). Moreover, oil and natural gas production is included as an area source category for regulation under EPA's Urban Air Toxics Strategy, is subject to NSPS for new or modified stationary sources, and is subject to state and federal operating permit requirements to limit air pollution.<sup>20</sup> Although upstream oil and gas exploration and production operations are not included within the scope of industries that report to EPA's Toxics Release Inventory (TRI), EPA is advancing a number of initiatives and regulatory proposals that will change how emissions from oil and gas production are monitored and regulated.<sup>21</sup>

As gas production from shale has increased, so too have the air emissions associated with these activities. In a letter from EPA Regional Administrator Al Armanderiz (EPA Region 6) to U.S. Senator James Inhofe of Oklahoma (dated August 13, 2010), this rapid emissions growth associated with Barnett Shale gas operations was addressed in some detail:

“From 1999 to 2009, the number of wells in the Barnett Shale around the city of Fort Worth increased from less than 1,000 wells to more than 13,000 wells, and annual gas production has increased from less than 1,000 wells to more than 13,000 wells, and annual gas production has increased from 41 billion cubic feet (Bcf) to more than 1,200 Bcf. In the Dallas/Fort Worth area, this rapid growth has resulted in an increase of the oil and gas sectors' contribution to the total volatile organic compound (VOC) emissions from a few percent of the emission inventory to more than 30 percent in 2009. VOCs are one of the critical ingredients in ozone smog production.”

Presently, it is debatable whether oil and gas production is well suited to conventional emissions inventory approaches now employed by EPA and many states. Specifically, most oil and gas production emissions are not from a single large or major source like chemical manufacturing plants or petroleum refineries. Rather, they stem from thousands of scattered minor sources, frequently with more than one owner, that only when combined are likely to be fairly substantial from an emissions standpoint. These many

---

<sup>20</sup> Ibid.

<sup>21</sup> EPA National Enforcement Initiatives for Fiscal Years 2011 - 2013, Assuring Energy Extraction Sector Compliance with Environmental Laws. Accessed April 2011 at <http://www.epa.gov/compliance/data/planning/initiatives/initiatives.html#cleanenergy>

sources are likely not as well understood (in an inventory context) or documented as are single major sources like refineries which are already highly regulated.

In response to a Congressional mandate imposed upon the agency in 2007, EPA issued its final GHG Mandatory Reporting Rule for Oil and Natural Gas Production Systems (Subpart W) in November, 2010. The aim of this mandate by Congress is to provide EPA, other government agencies, and interested and impacted stakeholders with economy-wide data on qualified facilities that trigger the minimal annual emissions threshold. The stated Congressional intent of these new GHG reporting requirements is to provide regulators with the data they need to advance policy development focused on controlling GHG emissions from various sources and sectors of the U.S. economy. Through the data collected, EPA, states and the public at large will gain a better understanding of the GHG emissions generated during oil and gas production. Moreover, facility-specific data will also shed light on factors that influence GHG emission rates and actions facilities and companies are taking in the oil and gas sector to reduce emissions and their industry's potential contribution to climate change.<sup>22</sup> EPA states that this final rule requires petroleum and natural gas facilities that emit 25,000 metric tons or more of carbon dioxide (CO<sub>2</sub>) equivalent per year to report annual methane (CH<sub>4</sub>) and CO<sub>2</sub> emissions from equipment leaks and venting, and emissions of CO<sub>2</sub>, CH<sub>4</sub>, and nitrous oxide (N<sub>2</sub>O) from gas flaring and from onshore petroleum and natural gas production stationary and portable combustion emissions and combustion emissions from stationary equipment involved in natural gas distribution.<sup>23</sup>

According to an EPA announcement recently posted in the *Federal Register*, the agency is now reviewing air emissions regulations focused on oil and gas exploration and production as well as natural gas processing, transmission, storage, and distribution. Clearly, natural gas production activities are on the rise given newfound capabilities and economies of scale that have enabled rapid growth of unconventional sources (from shale gas to coal bed methane (CBM) and tight gas). This growth in energy supplies and production activities has been accompanied by emissions growth, and EPA is endeavoring to get a better handle on the pace of growth through new inventorying, modeling, and regulatory activities. In a recent presentation by EPA's Office of Air and Radiation, an agency expert noted that certain upstream oil and gas emissions are not presently covered by NSPS, NESHAP, TRI, or other federal air regulations currently on the books. Significant sources that may require further regulatory attention include pneumatic devices, reciprocating compressor rod packing, and well completions and workovers.

EPA has also issued a policy update signaling a slight change in direction regarding oil and gas sources that may influence how emissions are aggregated for GHG reporting in

---

<sup>22</sup> EPA, Greenhouse Gas Reporting Program. Accessed April 2011.  
<http://epa.gov/climatechange/emissions/ghgrulemaking.html>

<sup>23</sup> EPA. Climate Change - Regulatory Initiatives. Subpart W-Petroleum and Natural Gas Systems. Accessed April 2011 at <http://epa.gov/climatechange/emissions/subpart/w.html>

Environmental and Regulatory Subgroup  
VI. EVOLVING REGULATORY FRAMEWORK  
Kevin Easley, Jeff Ostmeyer, Amy Hardberger

the future, including broader efforts to require aggregation of emissions in Clean Air Act (CAA) permitting efforts. The agency has historically used the following three-fold approach in determining source aggregation under the CAA: 1) whether activities in question are under the financial control of the same person or entity; 2) whether the activities in question originate from the same industrial sector or grouping; and 3) whether activities are deemed contiguous or adjacent to one another. In 2007, the EPA issued a new policy focused on the distance between individual production facilities, urging state permitting authorities to actively consider this factor in individual determinations. Critics of this policy alleged that it enabled oil and gas facilities to not trigger major source requirements and the stringent pollution controls associated with major sources under the CAA. In 2009, the EPA revisited the source aggregation policy for oil and gas production, and has deemphasized consideration of distance. In addition, EPA is drafting guidance to help implement the aggregation policy revisions in an effort to encourage state permitting authorities to more precisely quantify and aggregate oil and gas facility emissions to determine whether or not they trigger major source requirements under the CAA.

At the state level, numerous regulatory efforts are underway that focus on quantifying and controlling upstream oil and gas emissions. In some instances, conflicts arising between the EPA and state agencies will need to be resolved. For example, in Texas, environmental officials are contemplating new permitting rules.<sup>24</sup> Issues being considered include recent EPA policy shifts regarding wellsite aggregation to determine whether a facility applicant is a major or minor source under the CAA.<sup>25</sup> This approach conflicts with current EPA policy that attempts to make aggregation determinations relative to individual oil and gas facilities in a more comprehensive manner. Regardless of the outcome, this policy disagreement is indicative of the complex issues involved in regulating oil and gas production, and representative of the evolving regulatory framework that continues to take shape.

Regarding the ozone standard, EPA officials have signaled their intent to finalize a new triggering threshold in the range of 60 to 70 parts per billion (ppb).<sup>26</sup> Should something in this range emerge as the new ozone standard, it would represent a substantial tightening of the current level (84 ppb). Furthermore, a new standard in this range may force

---

<sup>24</sup> Texas Commission on Environmental Quality (TCEQ) Interoffice Memorandum, January 7, 2011, Docket # 2010-0251-RUL. Includes Chapter 116, Control of Air Pollution by Permits for New Construction or Modification, Oil and Gas Amendments to Permit by Rule, and Repeal of Standard Permit. Accessed April 2011 at

[http://www.tceq.texas.gov/assets/public/legal/rules/rule\\_lib/adoptions/10018106\\_aex.pdf](http://www.tceq.texas.gov/assets/public/legal/rules/rule_lib/adoptions/10018106_aex.pdf)

<sup>25</sup> TCEQ Air Rules Report, April 14, 2010 Accessed April 2011 at [http://msmtx.com/assets/docs/2010\\_04\\_14\\_TCEQ\\_report\\_FINAL.pdf](http://msmtx.com/assets/docs/2010_04_14_TCEQ_report_FINAL.pdf)

<sup>26</sup> EPA. Regulatory Actions, Ozone Standards, Accessed April 2011 at <http://www.epa.gov/air/ozonepollution/actions.html#jan10s>

Environmental and Regulatory Subgroup  
VI. EVOLVING REGULATORY FRAMEWORK  
Kevin Easley, Jeff Ostmeier, Amy Hardberger

several oil and gas production areas in many producer states into ‘nonattainment’ status for ozone.<sup>27</sup>

E. New Federal Environmental, Safety and Health (ES&H) Requirements on Public Lands

The U.S. Department of Interior has issued new oil and gas leasing reforms that aim to reduce conflicts stemming from the Bureau of Land Management (BLM) mineral leasing program. These reforms call for more expansive and comprehensive environmental reviews under the National Environmental Policy Act (NEPA). In addition, reforms call for more public involvement and far less use of categorical exclusions (CXs) established under the Energy Policy Act of 2005. The CXs were designed to essentially streamline environmental reviews and related requirements associated with oil and gas leasing of BLM lands. As for reforms associated with BLM’s master leasing plans, the agency has signaled its intent to place greater emphasis on front-end planning of public land use for lands that have substantial potential for oil and gas development when that development competes with other potential uses including wildlife activities.<sup>28</sup>

F. Conclusions

Federal, state, local, and regional authorities are all grappling with the growth and expansion of production activities in North America. As technologies evolve, new leadership practices emerge, and new methods of resource recovery become technically feasible and economical. This calls for industry operators, government officials, and local communities experiencing oil and gas production to continue to adapt to the changing landscape. Moreover, while public officials deliberate and make policy decisions to advance prudent development of North American oil and gas resources, the regulatory framework for oil and gas is being altered. As this regulatory framework continues to evolve, the challenge is to effectively balance environmental and economic considerations in such a way that operations become more sustainable as economic gains are realized and energy security is advanced.

---

<sup>27</sup> Scott Streater, Reporter, E&E Publishing, Proposed Tougher Ozone Standard Worries Intermountain West Drillers, Land Letter, issued 1/14/10. Accessed April 2011 at <http://www.eenews.net/public/Landletter/2010/01/14/1>

<sup>28</sup> Interior Finalizes On-shore Oil and Gas Leasing Reforms (U.S. Department of Interior (DOI) Press Release), issued 5/17/10. Accessed April 2011 at <http://www.doi.gov/news/pressreleases/Interior-Finalizes-Onshore-Oil-and-Gas-Leasing-Reforms-5-17-2010.cfm#> See Instruction Memorandum 2010-117 & 2010-118.