LLB&L Client Alert

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EPA Proposes to Expand GHG Reporting Rule to Petroleum and Natural Gas Sector

EPA issued a proposed rule this week that would expand its existing mandatory greenhouse gas ("GHG") reporting rule (the "Mandatory Reporting Rule" or "MRR") to the petroleum and natural gas sector. The proposed rule would require reporting of both fugitive and vented methane and CO_2 emissions from this industrial sector, including onshore and offshore production, processing, treatment, distribution, and storage of oil, natural gas and liquefied natural gas ("LNG"). The rule would require facilities emitting 25,000 metric tons ("MT") of CO_2 equivalent ("CO_2e") or more per year to report their fugitive, vented and flared emissions to EPA. Covered facilities would be required to begin monitoring on January 1, 2011, with the first annual reports due on March 31, 2012. The implications of this proposed rule, particularly as it relates to potential future regulation of the sector, are significant. EPA will be accepting comments on the proposed rule for 60 days after its publication in the *Federal Register*.

The MRR and Background of the Proposal

EPA adopted the MRR in late 2009, marking the first ever federal regulation of GHGs in U.S. history. (*See* our *Climate Alert* on the MRR for further details.) The MRR requires facilities in 31 different industrial sectors, as well as certain specific types of sources such as stationary combustion sources, to monitor their GHG emissions beginning January 1, 2010, and submit annual reports of those emissions by March 31 of the following year. In general, the MRR applies to covered facilities that emit 25,000 $MTCO_2e$ or more per year.

As originally proposed by EPA, the MRR would have applied to certain petroleum and natural gas systems – specifically, to offshore petroleum and natural gas production, onshore natural gas processing, natural gas transmission, underground natural gas storage, liquefied natural gas ("LNG") storage and LNG import and export facilities. However, EPA received nearly 1,200 pages of detailed comments on that section of the proposed rule from various industry, environmental and consulting groups and state governments. Based on those comments, EPA determined that application of the MRR to this sector required refinement before it would be practical and excluded those systems from the final MRR. Neither the proposed nor final MRR ever included provisions applicable to onshore production or natural gas distribution facilities, although EPA did seek comments in the original proposal on whether it should include those two segments.

Although EPA did not include the petroleum and natural gas sector in the final MRR, it has continued to evaluate how to do so. EPA's interest in the sector stems from its determination that fugitive and vented GHG emissions from the sector are the second-largest source of anthropogenic methane emissions in the U.S., according to its *2010 Inventory of U.S. Greenhouse Gas Emissions and Sinks*. Based on that inventory, it was perhaps inevitable that EPA would eventually seek to include the sector within the MRR, and in fact EPA has been meeting with major companies and trade groups within the sector to determine how to tailor the MRR to fit the unique circumstances of the sector. This week's proposal represents the culmination of EPA's efforts in that regard, and while it will hold hearings and accept further comments on this latest proposal, there is a good possibility that the rule will be finalized without significant changes in scope.

Details of the New Proposal

The proposed rule would extend the MRR to the following types of petroleum and natural gas facilities:

- Onshore petroleum and natural gas production;
- Offshore petroleum and natural gas production;
- Onshore natural gas processing;
- Natural gas transmission;
- Underground natural gas storage;
- LNG storage;
- LNG import and export facilities; and
- Natural gas distribution facilities.

Climate Alert

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Author

M. Benjamin Cowan
713-226-1339
bcowan@lockelord.com

Additional Contacts

Gerald D. Higdon
713-238-3709
jhigdon@lockelord.com

Elizabeth E. Mack
214-740-8598
emack@lockelord.com

Gerald J. Pels
713-226-1402
gpels@lockelord.com

James C. Kean
713-226-1675
jkean@lockelord.com

www.lockelord.com

Facilities in these categories that emit 25,000 $MTCO_2e$ per year or more would be required to begin monitoring their GHG emissions on January 1, 2011, and to file annual reports of those emissions with EPA beginning March 31, 2012 (covering the emissions for the previous calendar year).

Although 25,000 $MTCO_2e$ per year is the same general threshold that the MRR currently applies to other industrial sectors, the way that threshold would be calculated for the petroleum and natural gas sector would be very different, for two important reasons. First, facilities in this sector are quite different in form and scale than facilities in most other industrial sectors. Second, fugitive and vented emissions from these types of facilities come from a large number of diffuse sources and locations, making accurate measurement very difficult.

Defining a "Facility"

Stationary sources in most industrial sectors can be relatively easily defined in terms of a fence-line boundary, making it easy to determine the area in which, or source from which, emissions must be counted. As EPA points out in its proposal, this is quite clearly not the case in the petroleum and natural gas sector. For example, offshore production platforms may be joined to secondary platforms or floating storage tanks by subsurface pipeline. Onshore production may consist of dozens of individual wells and associated tank batteries and equipment miles apart but within the same geologic formation. Finally, natural gas gathering systems may consist of hundreds of miles of pipeline. Arguably, EPA could have simply chosen to define each type of facility narrowly in terms of scope or geographic extent, but such an approach would not have achieved its goal of ensuring that the 25,000 $MTCO_2e$/yr applicability threshold in the proposed rule would encompass a significant percentage of facilities within the industry. Therefore, EPA instead has proposed new, more expansive definitions for those three types of facilities:

- Offshore petroleum and natural gas production facilities would be defined to include each floating or fixed platform structure that houses equipment to extract hydrocarbons from the ocean or lake floor and transport it to storage or transport vessels or transports onshore, including secondary platform structures, all production equipment that is connected via causeways or walkways, and all floating storage tanks connected to the platform structure by a pipeline.

- Onshore petroleum and natural gas production facilities would be defined to include all petroleum or natural gas equipment associated with all petroleum or natural gas production wells under common ownership or control by an onshore petroleum and natural gas production owner or operator located in a single hydrocarbon basin as defined by the American Association of Petroleum Geologists which is assigned a three digit Geologic Province Code. Where an operating entity holds more than one permit in a basin, then all onshore petroleum and natural gas production equipment relating to all permits in their name in the basin would be treated as one onshore petroleum and natural gas production facility.

- Natural gas distribution facilities would be defined as the distribution pipelines, metering stations, and regulating stations that are operated by a Local Distribution Company ("LDC") that is regulated as a separate operating company by a public utility commission or that are operated as an independent municipally-owned distribution system.

Essentially, these definitions reach beyond the individual wells to encompass the entire connected, commonly-owned network to which those wells are connected, or, in the case of distribution facilities, the entire gathering system or pipeline network.

Measuring Emissions

These expansive facility definitions are significant because the proposed rule would not just apply to discrete emissions such as from a flare or other combustion source at the facility. It would specifically apply to both "vented" and "fugitive" emissions. Vented emissions, as the name suggests, are "intentional or designed releases" of methane or CO_2 containing natural gas or hydrocarbon gas (not including stationary combustion flue gas), including but not limited to process designed flow to the atmosphere through seals or vent pipes, equipment blowdown for maintenance, and direct venting of gas used to power equipment (such as pneumatic devices). Fugitive emissions, on the other hand, are emissions that are unintentional and could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening – essentially, leaks. For each different type of facility within the petroleum and natural gas sector, the proposed rule identifies the specific types of emissions sources or emitting activities for which emissions must be monitored (for example, gas well venting during well completions, storage tank emissions, produced water dissolved CO_2, fugitives from connectors, valves and meters, and blowdown vent stacks, to name just a few).

Naturally, the varying types and sources of emissions at petroleum and natural gas facilities present a unique set of challenges when it comes to measurement. In a significant change from the original proposed MRR, this proposed rule would require direct measurement of emissions only for the most significant emissions sources. For other sources, it would allow the use of engineering estimates, emission modeling

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software, or emissions factors. The type of direct or indirect measurement allowable for each specific type of source is set forth in the proposed rule. This added flexibility should make it much more feasible for companies to comply with the monitoring requirements and provide accurate data on their emissions from such widely varying sources.

The Bottom Line: Impact and Implications

The immediate impact of the proposed rule, if finalized, would be significant, but by no means crippling for companies operating in the petroleum and natural gas sector. According to EPA estimates, the proposed rule would apply to approximately 3,000 facilities, 1,200 of which are already required to report under other provisions of the MRR (such as the stationary combustion source requirements). The total cost of compliance to industry would be an estimated $60 million in the first year and $25 million in subsequent years, equating to an average cost per facility of $18,000 in the first year and $8,000 in subsequent years. EPA estimates that the proposed rule would cover approximately 89 percent of fugitive and vented emissions from the sector, and about 85 percent of total combustion, fugitive and vented emissions.

More significant than the actual costs of complying with the rule are the implications it carries for future regulation of the sector. If Congress does not adopt preemptive climate legislation in this session, EPA has announced its intention to regulate stationary sources of GHG emissions beginning in 2011. It is widely expected that EPA's stationary source regulations will apply to the same industrial sectors covered by the GHG reporting rule. Thus, this proposed rule sets the stage for the eventual appliction of GHG emissions reduction requirements to the industry, and those requirements will inevitably carry a significantly greater cost. Moreover, given the sector's significant contribution to the nation's overall GHG emissions – as mentioned previously, it is the second largest source of anthropogenic emissions of methane, which has a global warming potential 20 times greater than CO_2 – it is likely that when the first reliable, facility-level GHG emissions data becomes publicly available in mid-2012, the public calls for emissions reduction requirements or other form of regulation will only increase, possibly hastening the enactment of such regulations or legislation.

Of course, opportunistic companies in the sector will also see opportunities arising out of the proposed rule. Perhaps most significantly, the requirement to monitor and quantify both vented and fugitive methane emissions will arm facility owners with detailed information regarding how much valuable product they are losing and at what specific sources and locations. This could enable owners to effectively reduce emissions from leaks and other unintentional losses and recover more valuable product for sale on the market. In addition, quantification of the volume and location of CO_2 emissions may help operators identify potential market opportunities and spur the development of more cost-effective carbon capture technology to permit carbon sequestration through the use of recovered CO_2 in enhanced oil recovery.

These are just a few of the potential benefits of the proposed rule to industry. Entrepreneurial companies in the sector will undoubtedly identify more. For assistance in those efforts, or in understanding, commenting on, or preparing for compliance with this proposed rule, we encourage you to contact the author or any member of Locke Lord's Climate Change Practice Team.

About the Author

M. Benjamin Cowan is a partner in the Environmental Section of Locke Lord. Mr. Cowan is the leader of the firm's Climate Change Practice Team, with an emphasis on renewable energy development, carbon trading programs and the development of emissions credits and offset projects. His traditional environmental law practice covers regulatory compliance and permitting issues, civil and criminal enforcement defense, and real estate, corporate and energy transactional matters, particulary in the upstream and midstream sectors.