

Chapter 17

What’s Coming Down the Tracks for Midstream Operators in 2014? Emerging Issues and Regulatory Update for Crude Oil by Rail

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§ 17.01. Introduction.

Advances in hydraulic fracturing technology and the use of horizontal drilling have resulted in dramatic increases in domestic energy production of both natural gas and oil. Previously unrecoverable resources are now recoverable, thanks to the reduction in production costs and the efficiency of modern drilling techniques. In short, domestic energy production is booming. Unlike the extraction of natural gas, where the level of drilling

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activity is dependent to some extent on domestic natural gas prices, the cost-effectiveness of extracting oil from shale is determined largely by the international price of oil, which is expected to remain above \$90/barrel for the foreseeable future.² As a result, U.S. oil production has grown by over 50 percent over the past five years, from 5.01 million barrels per day (bpd) in 2008 to 7.44 million bpd in 2013. In December 2013, U.S. production rose to over 8 million bpd, and is projected to grow to over 9 million bpd in 2015. Much of this increased domestic oil production is driven by shale oil extracted from the Bakken Shale and Eagle Ford Shale regions. Oil production from the Eagle Ford region reached one million bpd in 2013, and production from the Bakken Shale reached one million bpd this year.

Fortunately, the majority of U.S. refinery capacity is located in traditional production areas (*i.e.*, the coasts and the Midwest). Nearly 50 percent of U.S. refining capacity is on the Gulf Coast, which is reasonably accessible for handling the production from the Eagle Ford area.³ The Bakken region, however, is not a traditional production area and lacks adequate pipeline capacity to transport the oil production to downstream markets. The challenge facing midstream operators, therefore, is connecting new upstream production areas, such as the Bakken region, with downstream markets. Operators are faced with two options: using oil pipelines or relying on rail transport. While there are approximately 57,000 miles of crude oil pipelines in the U.S., there are nearly 140,000 miles of railroad tracks.⁴ In other words, the rail network is more extensive than the pipeline network, especially in the Bakken area. Moreover, the rail network is flexible and provides immediate transportation access.

As a result, substantial quantities of new shale oil production are being transported by rail. Tank cars of crude oil originating on U.S. Class I railroads have grown from 9,500 tank cars of crude in 2008 to over 40,000 tank cars

² AEO 2014 Early Release Overview, U.S. Department of Energy (April 2014) *available at* [http://www.eia.gov/forecasts/aeo/pdf/0383\(2014\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf).

³ Platts Special Report, New Crude New Markets 4 (2013) *available at* <http://www.platts.com/IM.Platts.Content/InsightAnalysis/IndustrySolutionPapers/NewCrudesNewMarkets.pdf>.

⁴ Congressional Research Service, *U.S. Rail Transportation of Crude Oil: Background and Issues for Congress* (Feb. 2014) (hereinafter “CRS Report”) *available at* fas.org/sgp/crs/misc/R43390.pdf.

in 2013,⁵ an increase of almost 4,300 percent. Much of the crude oil being moved by rail is coming from the Bakken region; “according to the North Dakota Pipeline Authority, as of mid-2013 approximately 640,000 barrels per day of crude were moving out of North Dakota by rail — equivalent to more than 60 percent of North Dakota’s total crude oil production.”⁶ “Moreover, on average, Bakken crude oil shipments travel over 1,000 miles from point of origin to refineries on the coasts.”⁷ This is an enormous increase and presents new challenges for rail operators, shippers and suppliers to meet the rapid growth in demand for rail service to transport crude oil, manage safety issues and respond to unanticipated consequences of increased crude by rail traffic.

This chapter provides an overview of the rail transport industry, and the government agencies that provide regulatory oversight. The chapter then examines emerging trends in the industry — including a series of high-profile accidents involving crude oil by rail — and the regulatory responses. The chapter concludes with a description of actions by regulators, culminating in the issuance of sweeping “oil by rail” rules proposed on July 23 that, among other things, would strengthen tank car standards, curb speeds for “high-hazard” trains and require shippers within two years to upgrade or retire the “highest-risk” tank cars typically used to haul crude and ethanol.⁸

⁵ Association of American Railroads, *Moving Crude by Rail 1* (July 2014) available at <https://www.aar.org/keyissues/Documents/Background-Papers/Crude%20oil%20by%20rail.pdf>.

⁶ *Rail Transportation*, North Dakota Pipeline Authority, <https://ndpipelines.files.wordpress.com/2012/04/nd-rail-estimate-7-14-2014.jpg>.

⁷ U.S. Department of Transportation, Press Release, *U.S. DOT Announces Comprehensive Proposed Rulemaking for the Safe Transportation of Crude Oil, Flammable Materials* (July 23, 2014), available at <http://www.dot.gov/briefing-room/us-dot-announces-comprehensive-proposed-rulemaking-safe-transportation-crude-oil>.

⁸ U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, *Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains*, Docket No. PHMSA-2012-0082 (HM-251), (hereinafter “Proposed Rule”) available at http://www.phmsa.dot.gov/pv_obj_cache/pv_obj_id_9F3CE4CB7A6FCBD43CE1757CD2E41F85A4C41000/filename/Signed_Proposed_Rulemaking-for_High-Hazard_Flamable_Trains.pdf.