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North Dakota Regulators Adopt New Requirements to Reduce Bakken Crude Oil Volatility

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The North Dakota Industrial Commission (“the Commission”) issued new conditioning standards on December 9, 2014, requiring all crude oil produced in the Bakken Petroleum System¹ to be conditioned to remove lighter, volatile hydrocarbons, and thereby make the oil safer to transport by rail. The new standards seek to address safety concerns stemming from several high-profile train derailments in Quebec, North Dakota, Alabama, and Virginia in the past year, and complement continuing efforts by the U.S. Department of Transportation (“DOT”) to improve transportation of crude and ethanol by rail.

Commission Order No. 25417 (“the Order”) establishes operating standards for oil conditioning equipment, including temperature and pressure limits, with a goal of achieving a Reid vapor pressure of no greater than 13.7 pounds per square inch (psi). The current national standard requires crude to be stable at 14.7 psi or less. The Order also prohibits operators from blending lighter hydrocarbons back into the oil before shipping. To comply with the new standards, oil conditioning equipment (gas separators and emulsion treaters) must meet the following parameters:

- Separators and emulsion treaters operating at or below 50 psi on the final stage of separation must heat the produced fluids to no less than 110 degrees Fahrenheit.
- Separators and emulsion treaters operating above 50 psi must heat the produced fluids to no less than 110 degrees. Operators employing equipment at these parameters without a vapor recovery system must install one on or immediately upstream of oil storage tanks.

¹ As defined in the Order, the Bakken Petroleum System comprises the Bakken, Bakken/Three Forks, Three Forks, and Sanish Pool Formations.

- Separators and emulsion treaters may operate at other pressures and temperatures if they demonstrate the resulting vapor pressure is no greater than 13.7 psi. These pressure tests must be performed quarterly by a properly trained technician.
- Production facilities may use alternative oil conditioning methods other than gas separators or heater-treaters if they are able to deliver oil with a vapor pressure no greater than 13.7 psi at custody transfer or they are able to safely transport the oil to a conditioning or stabilization plant. The Commission will only approve such methods after notice and a hearing.

Beyond establishing new oil conditioning standards, the Commission is requiring transload rail facility operators to inspect Bakken crude and report any shipments that violate federal crude oil safety standards. Operators should also be aware that Commission staff may periodically inspect production facilities and records to verify compliance. Violation of the new standards and rules could result in fines of up to \$12,500 per day.

North Dakota's conditioning standards complement ongoing federal efforts to address the safety issues arising out of the substantial increase in rail shipments of crude and ethanol in the United States. Currently, the Federal Rail Administration ("FRA") is responsible for rail safety in North Dakota, while the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration ("PHMSA") regulates tracks, train routes and speeds, and rail tank car specifications. On August 1, 2014, PHMSA issued a Notice of Proposed Rulemaking proposing enhanced tank car standards, a classification and testing program for crude oil, and new operational requirements for "high-hazard flammable trains." The DOT also released a report summarizing analyses of Bakken crude oil data gathered by PHMSA and the FRA. Contrary to reports prepared by industry, the DOT report concluded that crude from the Bakken region tends to be more volatile and flammable than other types of crude oils.²

With conflicting volatility studies and new PHMSA regulations on the horizon, the Commission announced in August that it would consider amending the state's oil field rules to require conditioning. At a special hearing held September 23, 2014, the Commission received testimony from industry and other stakeholders concerning the technical feasibility and costs of various oil conditioning methods. On November 13, 2014, the Commission released a working draft of Order No. 25417 and accepted additional comments on the draft for one week.

Industry's comments on the draft order generally supported the Commission's decision to set a vapor pressure target of 13.7 psi. However, some operators requested greater flexibility in the methods to achieve it. Others criticized the Commission's plans to set specific operating temperatures, pressures and techniques. For example, some

² Bakken crude's high volatility level—a relative measure of a specific material's tendency to vaporize—is attributable to its higher concentrations of light-end hydrocarbons, (*i.e.*, condensate, pentane, butanes, or propane).

operators objected that the draft's temperature threshold of 120 degrees could damage gathering pipelines and equipment not designed to operate when fluids are heated above that temperature. Others urged the Commission to consider additional operating conditions, such as daily flow rates and ambient temperatures, to prevent flaring, emissions, and fire hazards.

In response to these concerns, the Commission made several modest revisions to the draft order before adopting the final standards. While it stood firm in setting a pressure limit of 13.7 psi, the Commission reduced the temperature requirement from 120 to 110 degrees. The Commission also agreed to let operators perform their own pressure tests instead of mandating third-party testing. Finally, the Commission removed language that would have required rail-loading terminals to apply North Dakota's 13.7 psi standard, which might have been preempted by federal transportation safety laws. Instead, terminals will only have to report violations of federal crude oil standards.

The Order is available on the Commission's website (<https://www.dmr.nd.gov/oilgas/Approved-or25417.pdf>) and will become effective April 1, 2015.

For further information, please contact Vinson & Elkins lawyers [Larry Nettles](#), [Jennifer Cornejo](#), [Jordan Rodriguez](#) or one of the members of V&E's [Shale and Fracking](#) practice group: [John B. Connally](#), [Casey Hopkins](#), [Jim Prince](#), or [Jim Thompson](#). Visit our website (www.velaw.com) to learn more about V&E's [Environmental and Natural Resources](#) practice.



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