
California will soon see a surge in the number of trains carrying crude oil into the state, as oil production in North Dakota's Bakken region and Canada continues to increase, sending more crude to California refineries.

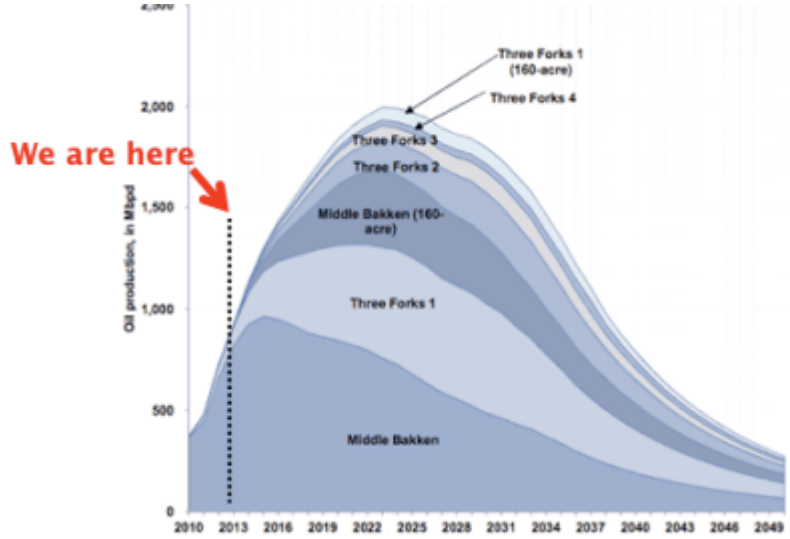
Last week, the California Senate Environmental Quality Committee and Natural Resources Committee held a hearing on the safety of rail transportation of crude oil in California, focusing on emergency response. It was clear from that hearing and recent media attention that significant questions remain regarding the best way to regulate oil by rail in California, foster interagency cooperation and ensure adequate emergency response. Further, behind these immediate questions lay more complex issues regarding the ongoing development of the Bakken and carbon intensive Canadian oil sands.

The Rise of Oil by Rail

Nationally, oil by rail is on a steep upward trajectory: US freight railroads carried more than 400,000 carloads (or 280 million barrels) of crude oil in 2013, compared to just 9,500 carloads (or 6.65 million barrels) in 2011. The flexibility and economics of rail transport as compared to new pipeline construction (including Keystone XL) have made oil by rail an attractive option: as much as 90 percent of North Dakota's crude is expected to move by freight rail in 2014.

California is already experiencing the effects of increased oil by rail transportation due to the North American hydraulic fracturing boom. In 2011, California moved less than 2 million barrels of oil by rail; in 2013, that number rose to 6 million, and projections are up to 150 million barrels by 2016, according to Energy Commission data. California is the third-largest oil refining state in the U.S.; industry analysts project a possible flood of oil by rail into California to serve North American production. The state also faces six potential new rail

offloading terminals, as well as refinery expansion to accommodate the increase in North American oil production.



Bakken Production Projections. (Source: California OSPR)

California is not alone. New York is also set to experience a boom in crude by rail, alarming many residents in a state that has an ongoing moratorium on hydraulic fracturing, the same process that generates the oil now moving through Albany and the picturesque Hudson Valley.

Risks Presented by the Rail Transport of Crude Oil

The rise in oil by rail is not without environmental and human health risks. Potential accidents could be caused by derailment, collisions, or leaks. In 2013, more oil spilled from trains in the United States than in the previous four decades combined, with high-profile incidents in Alabama and North Dakota. And 1.5 million gallons spilled in an accident in Quebec that resulted in 47 fatalities and contaminated a nearby river.

In addition, the federal Pipeline and Hazardous Materials Safety Administration ("PHMSA") issued a safety alert in January of this year indicating that the type of crude oil being transported from the Bakken region "may be more flammable than traditional heavy crude oil." More rail traffic and refinery expansion is expected to increase air pollution, as well.

In California, many of California's rail lines pass over or near bodies of water and through high density population centers. Testimony during the California State Senate hearing relayed that approximately 2% of the track in California is the cause of 18% of derailments,

often in areas with uneven terrain that can be difficult to access via roads and highways. Oil by rail also presents risks that may be particularly relevant to environmental justice communities situated near oil refineries and offloading terminals. Communities in more remote areas may also have fewer skilled emergency response personnel.

However, it is important to note that rail transport of hazardous material is not new and is generally considered much safer than transport via trucks on public highways. Railroads are common carriers that have a duty to carry hazardous materials. The most fatal component of domestic oil and gas production in the U.S. is highway accidents involving trucks transporting oil, gas, produced water, or freshwater to be used in production.

The Regulation of Oil by Rail

Nationally, the safety and operation of railroads is governed by the Department of Transportation and specifically the Federal Railroad Administration ("FRA"), which implements the Federal Railroad Safety Act ("FRSA") and the Rail Safety Improvement Act of 2008. Pursuant to this authority, the FRA has promulgated hundreds of rules regulating railroad operations and safety. (See 49 C.F.R. Parts 200-268). The Pipeline and Hazardous Materials Safety Administration ("PHMSA") also regulates the safe transportation of crude oil, ethanol, and other hazardous materials by rail, coordinating with the FRA on enforcement and implementation. (See 49 U.S.C. Chapter 51).

In California, the California Public Utilities Commission is responsible for regulating railroad safety where federal regulations do not preempt state authority. The FRSA preempts state regulations that have the purpose or effect of regulating aspects of rail transportation and safety that are covered by federal laws and regulations. The federal Commerce Clause, Interstate Commerce Commission Termination Act ("ICCTA"), Locomotive Inspection Act, and Signal Inspection Act also preempt conflicting state laws and regulations. Federal preemption is necessary for this industry, with rail cars designed to cross multiple state lines safely and efficiently.

These strong federal preemption provisions, combined with the boom of oil by rail, raise important questions about whether existing federal regulations are stringent enough, as well as what states can do to protect public health and the environment.

Following the series of high-profile accidents in 2013, the Department of Transportation issued an emergency order requiring rail operators to test crude oil before shipment to determine how susceptible the cargo is to explosion or fire. Federal regulators also outlined a series of voluntary steps in February 2014, including slowing oil trains in major urban areas and conducting more track inspections. The FRA, PHMSA, and DOT are considering

additional rail safety regulations this year. As one example, FRA is collaborating with PHMSA on a rulemaking that addresses tank car design standards.

States play an important role in inspection and compliance under the State Rail Safety Participation Program; however, their ability to impose new regulations on rail operations and safety is quite limited under FRSA, ICCTA, and other preemption provisions. One exception is the ability of states to regulate "local safety hazards," an exception that the CPUC took advantage of in 1991 following two high-profile train accidents: Dunsmuir and Sea Cliff. The State also created the Railroad Accident Prevention and Immediate Deployment ("RAPID") Force, managed by California EPA, that year in order to provide immediate on site response capability in the event of a hazardous spill by rail. (SB 48, Chapter 766, Statutes of 1991).

In addition to federal-state jurisdictional questions, agencies within California should clarify their respective roles and responsibilities. The Public Utilities Commission, California EPA, California Office of Spill Prevention and Response ("OSPR") and the California Governor's Office of Emergency Services ("OES") should consider increasing training and emergency response capacity, as well as improving multi-agency collaboration and communication. For example, at the hearing last week, the Office of Spill Prevention and Response advocated for more funding for inland spill response, as it currently has no dedicated staff for inland oil spills – the most likely site of a rail oil spill. But, other agency panelists commented that OSPR should not be handling inland spills at all, instead leaving this to OES and California EPA and directing more funds to local agencies, which are often the first emergency responders. New regulations or guidance documents could clarify agency roles and protocol.

Looking Ahead

Governor Brown's draft 2014 budget includes more funding for California emergency response to oil spills. The state may also require a new fee to be assessed for all oil entering the state by any mode of transport (rail, pipeline or barge), to be collected at refineries and used for safety and emergency response. Currently, a fee is only assessed for marine oil shipments, making this a sensible change. Increasing the fee, as well as applying it more broadly, would go farther.

In addition to clarifying the important jurisdictional issues outlined above, topics that warrant more attention include environmental justice considerations, as well as anticipating the projected rise in barge shipments of oil from Canada to California's ports and marine terminals.

Lastly, the big picture. How the US government and states choose to regulate this issue will impact the economics of rail, pipeline and barge transport, with implications for the ongoing development of the Bakken and Canadian tar sands basin. Leaving more oil in the ground is ultimately the best way to curb global CO2 emissions. And to do that, we need to ramp up renewables to accommodate energy demand and increase energy efficiency. The rise of oil by rail is merely another symptom of our ongoing dependence on oil, not the cause of it. The best solutions treat the underlying cause as well as the symptoms.