

Study: Diluted Bitumen Poses No Greater Risk of Release from Pipelines than Conventional Crude Oil

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A new study released June 25, 2013, has found that diluted bitumen – a thick blend of Canadian crude oil derived from oil sands, a/k/a “dilbit” – presents no heightened risks of transport through pipelines in comparison to other types of crude oil. The study, conducted by the National Academy of Sciences (NAS) and sponsored by the Pipeline and Hazardous Materials Safety Administration (PHMSA), comes in the wake of a Congressional mandate to study whether the pipeline transportation of dilbit carries an increased risk of release (no doubt relative to consideration of the Keystone XL Pipeline project).

Opponents of pipeline transmission of dilbit have claimed that dilbit is more corrosive to pipelines than conventional crude oil and is therefore more prone to cause a pipeline failure and oil release. However, the new NAS study “did not find any causes of pipeline failure unique to the transportation of diluted bitumen” nor did it “find evidence of chemical or physical properties of diluted bitumen that are outside the range of other crude oils or any other aspect of its transportation by transmission pipeline that would make diluted bitumen more likely than other crude oils to cause releases.” Specifically, the NAS study’s three key findings are:

1. Diluted bitumen does not have unique or extreme properties that make it more likely than other crude oils to cause internal damage to transmission pipelines from corrosion or erosion.
2. Diluted bitumen does not have properties that make it more likely than other crude oils to cause damage to transmission pipelines from external corrosion and cracking or from mechanical forces.
3. Pipeline operations and maintenance practices are the same for shipments of diluted bitumen as for shipments of other crude oils.

Committee for a Study of Pipeline Transportation of Diluted Bitumen, et. al., “TRB Special Report 311: Effects of Diluted Bitumen on Crude Oil Transmission Pipelines” (2013).

The study’s release comes on the heels of a petition to initiate rulemaking by a coalition of environmental groups urging the PHMSA and EPA to enact a host of sweeping pipeline regulations for dilbit. The Petition of Appalachian Mountain Club, et al., filed with the PHMSA and EPA on March 26, 2013, argued that dilbit should be regulated differently than other crude oils because it is more volatile and corrosive than conventional crude. The environmental groups urged the agencies to adopt regulations that would create significant economic and operational burdens on dilbit pipeline operators.

The study seemingly supports pipeline operators’ interests in the face of the Appalachian Mountain Club petition. For instance, many of the proposals are premised on the assumption that dilbit is more corrosive than conventional crude oil. Such proposals include the imposition of stricter safety standards, more burdensome reporting requirements, and rigorous pre-operation reviews unique to pipelines carrying dilbit. Also, the petition proposed a moratorium on expanding any transportation of dilbit until such regulations were imposed. Now, with credible scientific evidence pointing to no increased risk of pipeline releases associated with dilbit, these proposals likely face an uphill battle.



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Additionally, the study comes at a crucial time for supporters of the proposed Keystone XL Pipeline, as the federal government is expected to make a decision on the project's next phase as early as this summer. The Obama Administration has delayed approval of the project over those same concerns that dilbit is inherently more corrosive than conventional crudes, among other reasons. The study will strengthen Keystone advocates' arguments that the 1,700-mile pipeline will be advantageous for the economy while posing no greater risk of release than a conventional crude oil pipeline.

However, some questions remain. Environmental groups are quick to point out that the study did not examine the potential differences in the environmental impact of a release involving dilbit compared to the release of conventional crude. Instead, the study only concerned a dilbit pipeline's probability of failure, not the environmental consequences associated with a dilbit release. A finding that dilbit presents heightened environmental risks if released could reignite the push to regulate dilbit more aggressively, although PHMSA has not commissioned a study of dilbit's environmental risks at this time. Still, for pipeline operators, the study provides strong support that dilbit pipelines do not require distinct regulatory scrutiny and can be protected by industry-standard integrity management programs.

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