Seaway Crude
PIPELINE COMPANY LLC

Oil Sands Pipelines Facts

Claim: Canadian oil sands production poses a greater threat to pipelines because it is more corrosive than conventional crude oil.

Facts: Diluted bitumen has been transported through pipelines for decades and does not pose an increased risk, nor is it more corrosive to transmission pipelines than other heavy crudes. The characteristics of Canadian heavy crude oil are very similar to the Venezuelan and Mexican production that has been transported through the Seaway system since 1995 and no additional modifications or operational changes will required to continue operating safely and reliably. All grades of crude oil transported on the Seaway system are required to meet certain specifications, such as limits on water, sulfur and sediment content, to protect the integrity of the infrastructure and to meet refinery requirements. Those same specifications will not be changing and will continue to apply to all shippers.

Claim: Tar Sand is 70 times more viscous than conventional crude oil, resulting in higher pipeline temperatures due to friction.

Facts: Seaway will not be transporting tar sand, but pipeline quality crude oil with a gravity that is lighter than water and a viscosity that is comparable to heavy conventional crudes. The existing Seaway pipeline operates at temperatures ranging from 41-75º F, contrary to claims of more than 150º F. Naphthenic acid, sulfur, and chloride salt concentrations can result in corrosion at temperatures greater than 200° C (392º F) at refineries, where mitigation is addressed through upgrading of materials and the use of inhibitors. At the much lower pipeline transportation temperatures, the compounds are too stable to be corrosive and some may even decrease the corrosion risk.

Claim: Seaway is an aging pipeline that has been in service for 36 years and transporting tar sands makes it more susceptible to failure.

Facts: Age is not the primary factor in determining the condition of a pipeline. Provided that they are properly inspected and maintained, pipelines can remain in service indefinitely. A comprehensive safety and integrity management program is in place that is designed to help promote reliable operation of the Seaway system, as well as protection of the public, employees, contractors and the environment. State-of-the-art electronic systems that provide 24/7 monitoring, coatings and cathodic protection of pipelines to prevent corrosion, active efforts to assure excavators dig safely to avoid damage, periodic internal integrity testing, routine ground and air surveillance, and public outreach programs, are among the proactive steps that are taken.

Claim: The diluent added to tar sand crude makes it far more toxic than conventional crude oil.

Facts: The condensate added to oil sands crude allowing it to meet pipeline specifications is a light-end hydrocarbon produced from natural gas and has been safely transported through a national network of pipelines for many years. From a materials safety data (MSDS) standpoint, there is no discernible difference between Canadian oil sands production containing diluent and comparable heavy grades of crude oil.

Claim: Diluted bitumen will contaminate sources of drinking water in North Texas.

Facts: A number of precautions and safety features have been designed into the Seaway Pipeline system to protect sensitive areas such as public water sources. Specifically, valves are typically installed on either side of rivers and lakes so the pipeline can be quickly isolated in case of an emergency. Since it began operations, Seaway has not experienced an incident that affected community water supplies. Federal regulations require pipeline operators, including Seaway, to have comprehensive plans for emergency preparedness, pipeline shutdown, and swift containment and cleanup in the unlikely event of a pipeline incident. These plans are reviewed with local emergency responders and must be submitted to and approved by federal regulators.

Claim: Tar sand crude is meant for export, not to decrease our dependency on foreign oil.

Facts: There are numerous reasons why North American crude is expected to remain at home: 1) increased imports of Canadian oil sands crude are expected to balance declining volumes imported from Venezuela and Mexico and other countries outside North America. Without a surplus of heavy oil along the Gulf Coast, there would be no economic incentive to ship Canadian crude to Asia from Texas. 2) In terms of simple logistics, using Seaway as an export route would be prohibitive because of the exorbitant cost and great distances involved. 3) Approximately 83 percent of crude oil refined in the U.S. is for domestic use. The remaining 17 percent includes products like residual fuel oil and petroleum coke, which are not in high demand in the U.S. 4) With the world's largest concentration of refineries located along the Gulf Coast and the U.S. being the largest market for petroleum products, there are compelling economic reasons not to export crude oil.

Claim: New legislation is in the works requiring better pipelines to accommodate tar sands and increased regulatory oversight.

Facts: There is no such legislation that was passed or being considered by Congress. As part of the legislation that reauthorized and amended the Pipeline Safety Act, a mandate requires the Department of Transportation to commission a *study* on the effect (or lack thereof) of "tar sands" being transported by pipelines. This study has been commissioned with the National Science Academy and will not be completed in the near term as Congress sought completion of the study by mid-2013

Seaway is committed to public safety, protection of the environment and operation of its facilities in compliance with all applicable rules and regulations. The

regulatory system already in place has been instrumental in helping pipelines maintain their position as the safest and most economical way to transport energy products. Seaway is regulated by the Pipelines and Hazardous Materials Safety Administration (PHMSA), which is under the Department of Transportation. As part of its primary responsibility, PHMSA oversees compliance with a very comprehensive list of testing and integrity requirements and also has enforcement authority. Before and during construction, the company also works with various other state and federal authorities, including state environmental agencies and various federal agencies with permitting jurisdiction over new pipelines and terminals such as the U.S. Army Corps of Engineers and state agencies authorized by EPA to administer the Clean Water and Clean Air Acts.

Claim: Data shows that pipelines in Alberta, a large percentage of which transport tar sands, are 16 times more likely to rupture as a result of internal corrosion than U.S. pipelines.

Facts: Several studies have contradicted this claim. When adjusted for the difference in statistical reporting methods used by Canada's Energy Resources Conservation Board (ERCB) and PHMSA, the data shows that internal corrosion rates in Alberta and the U.S. are comparable, which indicates that there is no evidence that dilbit would be more corrosive than conventional crudes. Among the key differences: 1) PHMSA has established a reporting threshold of five gallons or more, whereas the ERCB requires all releases to be reported, regardless of the amount; 2) the ERCB data includes the extensive network of small-diameter gathering lines, which are generally more prone to failure; 3) the ERCB data is reported in aggregate, rather than separated by dilbit and conventional crude oil. Adding another layer of complexity, the same pipeline can be used to carry multiple grades of crude oil.