Richard Guldi

Railroad Commission Sunset Review Presentation - Richard Guldi,

I have a PhD in engineering and worked as a process engineer at TI for 36 years, handling the most toxic chemicals we had. I'm absolutely appalled at the flagrant disregard for public safety by tar sands pipeline companies like Enbridge and Enterprise and at the blind acquiescence of the Railroad Commission in accepting their blatantly false claims.

Unrefined, tar sands crude or cold Canadian crude, or whatever they want to call it today, is clearly not the same as refined conventional crude, even refined Venezuelan crude, which because it's refined has a lot of extraneous substances removed from it. Unrefined tar sands crude is a slush with the consistency of peanut butter and as such requires high pressure (1600 psi) to move through a pipeline. The high pressure increases the temperature to near 160 degrees, where the chemical etch rate is at least 64 times higher than it would be below 80 degrees, the temperature inside a conventional crude pipeline. Tar sands crude itself has up to 20X higher acidic concentration than conventional crude.[1],[2] The result is that tar sands crude etches metal at a rate 100-300X faster than conventional crude. That's why it eats through stress cracks in pipeline materials.

Stress cracks form when material bends, like the bends you induce by flexing a coat hanger. The Kalamazoo Mi rupture began when that 43-year old pipeline failed at a stress crack. That pipeline has now had a total of four major ruptures in the last four years.[3] But that's not the only tar sands pipeline rupture. This year in Alberta, three different tar sands pipeline ruptured in 30 days at a time when there was local ground movement.[4] We too have local ground movement in Texas when the black gumbo dries out during periods of extensive droughts like we had in 2011 and which are becoming more frequent. I stuck my arm down a crack in my neighborhood and couldn't reach the bottom. In addition to ground shifts from dry soil, small magnitude earthquakes associated with fracking threaten pipeline integrity.

This year the 36-year old Seaway pipeline was repurposed to carry crude from Cushing to the Texas Gulf. Previous to the repurposing, Seaway terminal pipelines had already experienced two leaks.[5],[6] When this pipeline transports tar sands crude as planned, it will rupture, just like its old, worn out cousin in Michigan. The scary thing is that this line runs for a distance of 40 miles within 1 mile of tributaries of 3 DFW water reservoirs - Lake Lavon, Cedar Creek, and Richland Chambers.[7] A Kalamazoo sized rupture would be the equivalent of driving 100 gasoline tanker trucks to the boat launching ramp and dumping the oil right into the lake. A spill into Lake Lavon will also kill Lake Ray Hubbard downstream.

Benzene diluents in tar sand crude are soluble in water and are carcinogenic. Xylene was banned in the semiconductor industry 30 years ago for causing miscarriages. Texas water treatment facilities do not have the capability to detect or remove benzene or xylene. Tar sands crude also contains arsenic and mercury which will take at least 50 years to flush out from the bottom of a reservoir. North Texas will lose 10% of its water supply for 7 million people. Residential and commercial development will cease, and industry will move away. TI can move production to China in one month, and if they go, they won't come back..

Apart from water supply contamination, Seaway threatens every home and business in Royce City (9000 residents), Farmersville, and Nevada and goes directly through one of the wealthiest residential areas in Houston.[8]

And all of the DFW reservoirs empty into the Trinity River which is used by rice farmers near Houston.

The probability of wiping out a North Texas reservoir is 1% per year or 30% in 30 years. This is based on having 8 major ruptures in 4 years within the 8000 miles of existing tar sands pipelines. That's one leak per year for every 4000 miles, and North Texas alone has 40 miles in jeopardy.

Enterprise, Enbridge's partner on Seaway, is saying we don't have to worry about Seaway because they're the operator, not Enbridge. However, Enterprise's spill record is just as bad as Enbridge's. Teppco pipelines had a far better than average spill record until they were purchased by Enterprise in 2009, but under Enterprise management the same lines had a worse than average record, just as bad as Enbridge. In addition, Enterprise spilled 4200 gallons of conventional crude from a 2-7" pipeline into a tributary of the Colorado River in Scurry County in July. If they had spilled from a 30" pipeline, that could have been a spill comparable to the Kalamazoo spill.

But fortunately there are things your committees can do. We don't have to let Enbridge and Enterprise run tar sands crude in a 36-year old pipeline. We can follow the example of British Columbia and Indiana who have forced Enbridge to build stronger and safer pipelines with thicker walls, more cutoff valves, and more monitors. [9],[10] **I'm giving you a list of safety improvements Enbridge has committed make in Canada and Indiana. If Enbridge can make these improvements in Canada, they can darn well do the same thing in Texas, and we need to force them to.**

We also need to make pipeline companies pay a pipeline permit fee to fund safety programs of the Railroad Commission, such as additional inspectors as recommended in Issue 3 of the Railroad Commission Sunset Staff Report.[11]

Lastly, the Seaway Pipeline lies within a few miles of thousands of homes near Houston.[12] Should a Kalamazoo-like rupture occur there forcing permanent evacuation, the adverse public reaction will send major shock waves through the Texas political system.

Let me leave you with four images to remember the effects of tar sands pipelines.

The first is a coat hanger. It has the same thickness as a conventional pipeline wall. If you bend it enough, like a pipeline flexes in shifting black gumbo soil, it develops stress cracks and becomes susceptible to acid attack.

The second image is that Farmersville, Royce City, Nevada or parts of Houston become a ghost town, where people can't come back, like in Marshall Michigan.

The third images is that there aren't any more construction cranes and no new houses built in the DFW Metroplex, because our industry has moved away and we don't have enough water to support the people who live here now.

The last image is the Colorado River flowing through in Austin into which Enterprise has already spilled 5000 gallons of conventional petroleum from a 1" diameter pipeline. If that had been a 30" tar sands pipeline, imagine all that tar, benzene, arsenic, and mercury piling up on the banks of beautiful downtown Austin. Enterprise is not a safe company either.

Thank you

General Information with references: StopSeawayPipeline.com

- Pipeline rupture near Kalamazoo Michigan
http://media2.woodtv.com//photo/2010/08/07/BrokenPipe03_20100807164555_640_480.JPG
- PHMSA rejects Enbridge's evaluation of the safety of their repaired 6B pipeline near Marshall.
http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/320105008H_Region%20CAO%20Status%20Report%20Restart%20Plan%20Disapproved_08102010.pdf
- Existing Seaway pipeline reported four spills in Brazoria and Galveston Counties in 2001, 2002, and 2008
http://www.rrc.state.tx.us/environmental/spills/h8s/, before Enterprise Products Partners bought the pipeline or Enbridge began their partnership. I did not search for earlier leaks. None of those leaks was very large or near a water supply.
- Enbridge 2010 pipeline leak in Romeoville, IL (not listed in the PHMSA failure reports library because analysis is not finished).
(http://www.bloomberg.com/news/2010-09-09/enbridge-shuts-oil-pipeline-in-illinois-after-leak-update2-.html).
- Harmful aspects of Canadian tar sands crude (Baker Hughes):
http://c14503045.r45.cf2.rackcdn.com/v1/8d19146939cbb609c9bcee0e9cf72dd2/28271-canadian_crudeoil_update_whitepaper_06-10.pdf
- Seaway pipeline leaks within Texas: http://phmsa.dot.gov/pipeline/library/datastats

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[1] http://www.stopseawaypipeline.com/home/tar-sand
[2] http://www.stopseawaypipeline.com/home/pipeline
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[11] http://www.rrc.state.tx.us/awareness/notices/ResponsetoSunset.pdf
[12] http://www.stopseawaypipeline.com/tools/map