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MEMORANDUM

To: Department of Ecology, Spills program

Emailed to: sorr461@ecy.wa.gov

From: Rebecca Craven, Program Director

Pipeline Safety Trust

Date: September 9, 2013

Re: Kinder-Morgan Transmountain Pipeline Oil Spill Contingency Plan

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Thank you for the opportunity to comment on the revised and updated plan submitted by Kinder-Morgan for the Transmountain Pipeline. The opportunity for public review and comment on these plans is one of the strengths of the Washington state spills program, and one that we frequently recommend to other states where there are efforts to improve spill response preparations.

There are three aspects of the proposed plan that we would like to ensure are thoroughly reviewed by Ecology, and where appropriate, to suggest that revisions be required. Those aspects are:

1) the adequacy of the preparations for responding to a spill of diluted bitumen products that may have a specific gravity of less than 1 in the pipeline, but will sink after a rupture, when the diluents have volatilized and the remaining constituents are exposed to the elements;

2) the air quality monitoring protocol, the standards and process for making health-related evacuation and return decisions, and the sharing of the air monitoring results; and

3) the accuracy of the worst case discharge calculation as a reflection of an actual worst case – whether the time to closure of the relevant valves reflects the worst case situation, or is overly optimistic, thereby reducing the potential volume and the resources available to respond.

Preparations for sinking oil

After the July 2010 rupture of Enbridge's line 6B near Marshall, Michigan, responding agencies learned a great deal about the behavior of diluted bitumen products in the waters of Talmadge Creek and the Kalamazoo River. The line that ruptured was carrying two batches at the time: Western Canadian Select and Cold Lake blend, a diluted bitumen product ("dilbit"). The dilbit is a mixture of bitumen and a variety of diluents, many of which volatilize rapidly once released from the pipe. This raises two concerns: the health effects of the volatiles when inhaled, and the behavior of the remaining heavier constituents, which began to sink shortly after the spill was discovered. The submerged oil has continued to be very difficult and expensive to clean up, and the cleanup continues to date, three years later, with EPA's order to Enbridge to dredge

parts of the river once again. Talmadge creek is nearly totally reconstructed, having been dredged, islands and trees removed, soil replaced.

The Trust was very pleased when the Department adopted new rules requiring operators to be prepared to respond to spills of heavy oils, since the Marshall spill makes it clear that different resources are needed for responding to sinking and submerged oils and the speed with which response begins is critical. However, the new rules only apply to operators carrying Group 5 oils, in spite of the fact that the Marshall spill clearly shows us that dilbit blends that are categorized as Group 3 oils, like those on the list of products that the Transmountain line may carry (Cold Lake Blend) quickly submerge in water spills. There are other dilbit blends on the list of products that might be carried in the Transmountain line, although the plan specifically states that not all of the products on the list will come into the Puget Sound area. That disclaimer makes it quite difficult to comment on whether the spill responses put forth in the document are adequate for those responses that are specific to sinking oils. Regardless of whether the dilbit blends carried in the pipeline are Group 3, they will sink in water, and the spill plan needs to account for that. Unfortunately, most of the spill responses proposed in the plan are for oils that remain floating (sorbents, skimmers, booms, etc.). We saw very little in the plan suggesting that the operator is prepared for a spill of any size of sinking oil into a marine or freshwater environment. The brief section suggesting that modeling be competed to predict the fate of the oil spilled is insufficient to overcome the lack of detail in describing resources available for responding to sinking oil spill.

We recommend that the operator be required to significantly amend the response plan to indicate specifically whether the pipeline will be carrying dilbit blends in this 5 year planning window, and if so, to amend its response protocol to account for the need for a prompt response before the diluents evaporate and the remaining constituents sink, including the addition of planned response resources for responding to a large spill of this product into water.

Worst Case Discharge calculations

The worst case discharge calculation in the plan governs the number of resources the operator must have within various geographic areas to respond to a spill of the calculated size. That quantity is directly related to the time to respond to a failure and isolate the ruptured segment. The operator, like many others, uses an estimate of only a few minutes for those two events: the time to recognize that a rupture has occurred plus the time to close the relevant valves. There are several operator equipment and staff functions at play in those efforts: detection of the failure, identification of the failure, deciding to close the valves and having the right valves close quickly and properly. A report on the state of leak detection issued by PHMSA last year clearly indicates that there are serious weaknesses in many operators' leak detection systems. In fact, in a startling number of cases, pipeline leaks were not initially identified by the operator's SCADA system, but by a neighbor, suggesting that had the neighbor not been present, detection could have been delayed for an unknown length of time.

In the recent cases of full ruptures of two large liquid pipelines, the operator either failed to recognize the rupture from the SCADA alarms, or it identified it and then failed to immediately close the proper valves. We were unable to find information specific to Kinder Morgan's documented capacity to quickly identify a real failure and respond to it by closing valves in 16 minutes in the *worst* case, including potential inclement weather, power outages, equipment malfunctions, and the like. Given the recent history of other operators being unable to meet their very optimistic times to valve closure, we suggest that a Departmental or third party audit of Kinder Morgan's past response times and current leak detection capabilities occur before the

Department accepts the assertion that 16 minutes is a realistic worst case and not an optimistic best case.

Air monitoring plan and protocol

One of the issues that communities that have suffered through a liquid pipeline failure share in common is the anxiety over health effects of inhalation of the vapors put off from spills, regardless of the type of product spilled. There are any number of these chemicals, and they are hazardous individually, and in conjunction with each other. There are frequent concerns raised about benzene exposure in particular, and about the protocols, if any, used by local agencies in determining when to evacuate an area.

There are a couple of issues that we believe need the Department's attention in the Kinder Morgan Air Monitoring plan. First, it appears that the benzene exposure levels being proposed in the plan as markers for various actions (evacuation, shelter in place, etc.) are very high. As we understand it, Kinder Morgan would not suggest evacuation of an area until the benzene readings are at or above somewhere between 200 and 800 parts per million, and would not even *notify* "regulators and stakeholders" unless the benzene readings exceeded between 9 and 52 ppm, depending on the time of exposure. Those numbers are exceptionally high. A recent article in Inside Climate News, the paper reviewed the benzene exposure factors used for making evacuation decisions in several recent spills.
[http://insideclimatenews.org/news/20130618/what-sickens-people-oil-spills-and-how-badly-anybodys-guess]

After the Michigan spill, the Calhoun county Health Department evacuated the area using a cut off of 200 parts per *billion*. In Arkansas, the local authorities allowed residents to return when the readings fell below 50 parts per billion. Several experts are quoted as saying that the standard used by Arkansas – 50 pp billion, was "alarmingly high." In each case – both Michigan and Arkansas – residents have complained of significant illnesses resulting from inhalation of the fumes. Yet the plan proposed by Kinder Morgan suggests the use of a number in the parts per million – a thousand times higher. Perhaps this can be easily explained by a typographic error, and the intent was to propose a standard in the parts per billion. In either event the Department should be gravely concerned.

The second concern has to do with access to the results of the air monitoring. It appears throughout the plan that the results are intended to be held by Kinder Morgan and its contractors and shared with "regulators and stakeholders" only at certain trigger points. This needs to be changed. Although K-M and its contractors may be responsible for the monitoring, all results must be immediately shared with local state and federal regulators and stakeholders so that informed decisions can be made as to public health assessments.

Thanks you for the opportunity to comment. Please contact us should you have any questions about these comments.