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March 6, 2009

VIA EMAIL: Keystone@mt.gov

Mr. Greg Hallsten
Director's Office
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Mr. Hallsten:

Please find attached the comments of the Northern Plains Resource Council, Western Organization of Resource Councils, the Sierra Club, and Plains Justice on the Major Facility Siting Act ("MFSa") Application of TransCanada Keystone Pipeline, L.P. ("TransCanada") to construct and operate the 36-inch diameter 900,000 barrel per day ("bpd") Keystone XL crude oil pipeline ("Project").

The Department of Environmental Quality ("Department") is required by the MFSa to determine whether or not TransCanada's Application is complete. Mont. Code Ann. § 75-20-16(1)(a). TransCanada's application does not meet the application requirements of the MFSa. Therefore, it must be revised and resubmitted. Our specific concerns include the following.

I. The Application Fails to Provide Sufficient Information for a Determination of Need for the Project

Pursuant to the MFSa, TransCanada's Application must provide information sufficient for the Department's determination of need. Mont. Code Ann. § 75-20-301(1)(a), (2)(a). As described below, TransCanada's explanation of the need for its \$7 billion project is based on out-of-date tar sand extraction data and out-of-date global and North American crude oil demand data, none of which discusses the particular role or need for the Project given foreseeable market conditions or other proposed additions to the US crude oil transportation system. TransCanada also bases the need for this project on unsupported allegations of commercial commitments to the Project, but provides neither a quantification of such commitments nor a description of the commercial terms of such commitments. Moreover, TransCanada fails to provide any information, data, or discussion about the impact of the economic crisis on the viability or timing of the Project.

Before it proceeds with review, the Department must require TransCanada to provide a full explanation of the impacts of the economic crisis on the Project. In particular, TransCanada must provide the best information and quantified data available on current and forecast tar sands oil extraction rates, current and forecast demand for crude oil in the US as a whole and the Midwest and Gulf Coast regions, and the current commercial status of and commercial terms for commitments to the Project. A failure by the Department to require this information and data could result in State and citizen commitment of substantial resources to consideration of a non-viable project.

P.O. BOX: 251 VERMILLION, SD 57069

T: 605 659 0298 / 605 675 9268 F: 866 484 2372 E: info@plainsjustice.org W: <http://plainjustice.org>

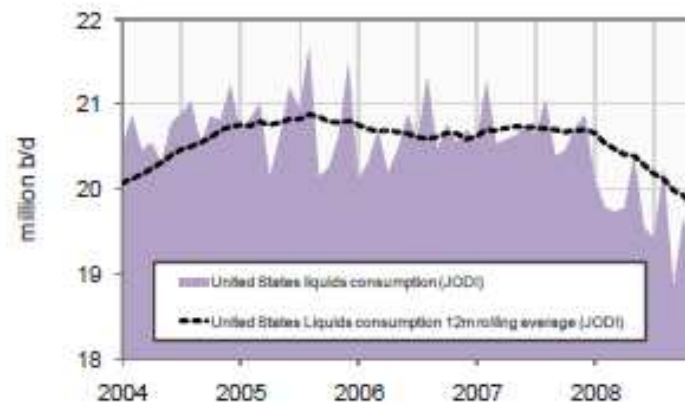
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1. The Application Relies on Out-of-Date Oil Extraction and Demand Data

TransCanada’s need analysis relies for its crude oil supply and demand data on the Energy Information Agency’s (“EIA”) 2007 and 2008 Annual Energy Outlooks (“AEO 2007” and “AEO 2008”, respectively). In December 2008, the EIA issued an early release of AEO 2009 (available at: <http://www.eia.doe.gov/oiaf/aeo/>). Thus, TransCanada relies on US government forecasts that are up to two years old.

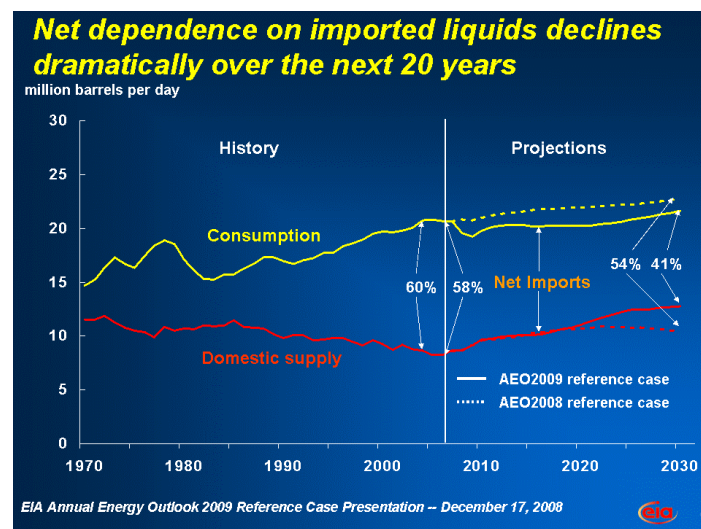
To say the least, much has changed in global crude oil markets over the past two years, including a dramatic spike in crude oil prices and an equally dramatic crash, as well as rapidly declining oil consumption rates related to the global economic crisis. The international Joint Oil Data Initiative database (<http://www.jodidata.org/>) has documented the decline to date in US total “liquids” consumption “liquids includes a combination of crude oil, natural gas liquids, and biofuels).

Chart 25: United States liquids demand Jan. 2004 - Nov. 2008



Source: JODI Database

In its 2009 AEO Report, the EIA is now projecting that demand for petroleum-based liquids will be “flat” through 2030 and that there will be a “dramatic decline” in net crude imports, including from Canada.



EIA Annual Energy Outlook 2009 Reference Case Presentation – December 17, 2008



For its tar sands extraction forecasts TransCanada relies on the 2008 Canadian Association of Petroleum Producers *Crude Oil, Forecast, Markets & Pipeline Expansions Report* (CAPP 2008). This report was prepared prior to both the collapse in crude oil price and the onset of the economic crisis. As such, CAPP 2008 is outdated and cannot form the basis for a reasoned judgment on future tar sands oil pipeline needs. In December CAPP published a very brief 2008 Interim Update that shows slowing tar sands oil extraction and itemizes specific tar sands projects that have been delayed and/or downsized. Due to the economic crisis, these delays and downsizes have continued. Although the 2008 Interim Report provides some useful information, its analysis is cursory such that the Department should seek additional information on tar sands extraction trends.

It should be noted that CAPP is an industry trade association committed to expansion of tar sands oil extraction. As such, the Department should consider the CAPP forecasts to be biased towards showing a need for new pipeline infrastructure. In fact, an examination of CAPP forecasts from 2007 to the present shows that CAPP has consistently overestimated tar sand extraction rates and pipeline capacity needs.

The collapse in crude oil prices has terminated or substantially slowed a number of tar sands development projects, because current oil prices do not support the costly technology needed to extract tar sands oil from the ground. According to *The Times*, more than \$60 billion worth of tar sands oil projects were delayed in the last quarter of 2008, some indefinitely.¹ A widely reported study by Merrill Lynch estimates that tar sands oil needs to sell for \$80 per barrel to make new tar sands extraction projects viable. A February 2009 study by the Canadian Energy Research Institute (“CERI Study”), an industry-funded think tank, estimates this figure to be \$70 per barrel.² This study also estimates that currently operating projects should be able to withstand prices under \$50 per barrel for the short-term, but long-term prices lower than this could result in shutdowns of existing capacity.

In its forecast of tar sands extraction, the CERI Study assumes that an economic recovery begins in 2010 (which is not certain), but even with this assumption it states that “oil sands development stalls until 2013, with no major growth until 2015. Previously announced and approved (by government) projects remain delayed, and some remain in peril.” Its revised forecast estimates that approximately 1.4 million barrels of day of additional extraction capacity will come online by 2020. CERI Study page 10. This is approximately the combined capacity additions that would be added by the Keystone I pipeline and Alberta Clipper pipeline. Thus, this industry study indicates that there will be no need for the Keystone XL pipeline within the Department’s permitting time horizon. Should the economic crisis continue past 2010, then pipeline capacity need would pass further into the future.

Given TransCanada’s obligations under the MFSA, it is remarkable that TransCanada relies on out-of-date data and makes no mention of how recent market and economic trends will impact the need for its proposed project. TransCanada’s failure to address these trends renders its application incomplete and unsuitable for consideration by the Department. Data is available about the decline in tar sands investments and production forecasts, and more will become available as the Department considers TransCanada’s application. To ensure prudent decision making in these unsettled time, the Department must require that TransCanada include and analyze the latest extraction forecasts from Canada and the latest crude oil demand forecasts from the US in light of contingencies created by the development of other crude oil pipelines. No doubt TransCanada monitors developments in its markets closely. TransCanada must share such monitoring with the Department.

¹¹ <http://royaldutchshellplc.com/2009/01/05/canadian-oil-sand-mines-stuck-as-crude-price-plummets/>

² www.ceri.ca/documents/CERIOilSandsBriefingFebruary2009.pdf

2. The Application Fails to Provide Project-Specific Data that Demonstrates a Need for the Project

Rather than provide quantified data that proves a need for the Project, TransCanada instead relies on sweeping (and out-of-date) generalizations about global and North American crude oil production and consumption trends. None of the arguments or information provided by TransCanada relates to the particular need for the Project in the extant and reasonably foreseeable circumstances.

It is entirely possible for TransCanada to provide updated Canadian tar sands oil production forecasts together with a description of how such forecasts may be served by other pipelines that are either under construction or in more advanced stages of permitting. In fact, to meet National Environmental Policy Act (“NEPA”) and Montana Environmental Policy Act (“MEPA”) no action alternative requirements, TransCanada must provide this information. Other proposed pipelines include TransCanada’s own Keystone I pipeline (491,000 bpd) and the pipeline system upgrades proposed by Enbridge, including the Southern Access, LsR, and Alberta Clipper pipelines, which at a minimum would provide an additional 800,000 bpd of import capacity. TransCanada should also explain how other planned pipelines will not meet the need for supply diversification alleged in the Application.

TransCanada should provide the Department with data that quantifies the need for the proposed Keystone XL pipeline relative to Canadian extraction forecasts, other planned pipeline capacity expansions, and US crude oil demand. It is TransCanada’s business to know its market. Its failure to provide any market-specific data means that it has provided the Department with no basis upon which to determine whether or not there is a legitimate need for the particular proposed pipeline.

3. The Application Fails to Provide Information Demonstrating that there Is Sufficient Commercial Demand for the Project

TransCanada’s description of the commercial need for its proposed pipeline is vague and not quantified. Instead of providing any quantification of the demand for Keystone XL pipeline capacity, it states that shippers have expressed “material interest in the Project and in securing additional crude oil pipeline capacity.” The use of the term “material” creates doubt about the degree of commercial commitment to this particular project. Whether or not such interest is “material” is a judgment for the Department to make – not TransCanada – such that the TransCanada must provide the Department with complete information about its current commercial commitments.

TransCanada also alleges that “[p]otential shippers have already committed to long-term binding contracts, which will enable Keystone to proceed with regulatory applications and, pending successful regulatory and environmental approvals, with construction of the pipeline.” However, TransCanada fails to provide any quantification of these commitments and any data that supports its allegations.

According to an Oil & Gas Journal Special report dated February 9, 2009, TransCanada has arranged entered into contracts for only 380,000 bpd over 17 years of the Project’s capacity. It is unclear how much of this capacity is under contract with entities that have been or have recently become non-investment grade shippers. In its Application, TransCanada fails discuss the commercial terms, including cancellation penalties, that make these commitments “binding.” TransCanada sold capacity in the Project in an open season sale that expired on September 4, 2008, well before the severity of the global crude oil price drop and economic crisis became apparent to shippers. The current status of TransCanada’s commercial commitments is unclear. DBRS, an investment rating company, reports that TransCanada has agreed to absorb 75% of cost overruns, as compared to 50% of cost overrun for its Keystone I pipeline. This need to absorb greater risk is further evidence of lessened shipper commitments.

Given the current economic crisis, the Department must make independent judgments about the materiality and efficacy of TransCanada's shipper commitments. It may not rely on old information or TransCanada's unconfirmed allegations.

A failure by the Department to require a legally sufficient statement of need could result in substantial wasted effort by the State government and impacted residents, effort that neither the state nor its citizens can afford.

II. The Application Fails to Include Required MEPA and NEPA Alternatives

The Keystone XL pipeline is subject to at least three distinct statutory schemes requiring the reviewing agencies to evaluate alternatives to the proposed action. The requirements are found in:

- MFSA, ARM 17.20.1311;
- NEPA, 42 U.S.C. § 4332(1)(c)(iii); and
- MEPA, Mont. Code Ann. § 75-1-201(1)(b)(iv)(C).

The alternatives analyses under these statutory frameworks should be closely coordinated to ensure that each alternative is given the requisite consideration.

The current disparity between the routes identified in, on the one hand, TransCanada's application for a Presidential Permit, and on the other hand, its Montana MFSA application, demonstrate the importance of coordinating the alternatives analyses. In particular, the Montana MFSA application shows a route through North Dakota, yet no NEPA scoping hearings have been held in North Dakota such that North Dakotans have been given no notice that such route may be under consideration by the US Department of State. A failure to conduct NEPA scoping hearings in North Dakota or to otherwise engage North Dakotans in the NEPA process would indicate that the northern route through Montana to the North Dakota border is entirely hypothetical in nature and could not legally be adopted as an alternative by the Department or the US Department of State.

An MFSA application for a pipeline facility, such as Keystone XL, must identify and analyze alternatives relating to alternative transportation modes, pipeline routes, and technical design parameters. See ARM 17.20.311; Circular MFSA-2 (2004). MFSA also requires consideration of a "no action alternative." ARM 17.20.311. The Keystone XL MFSA application identifies three alternative routes, including the preferred route. See Keystone XL MFSA App., at 4-7. In addition, the application nominally considers alternative pipeline diameters, pipeline expansion options, alternative pump station configurations and fuels, and pipe material grade and wall thickness. See id. at 4-1 to 4-4. The alternatives review under the MFSA considers the technical merits of alternatives. In contrast, the alternatives review under NEPA and MEPA considers environmental impacts.

At the same time, the Department must also consider under the MFSA those alternatives that are identified in the environmental review processes under NEPA and MEPA. Under NEPA, agencies are required to analyze a "reasonable range of alternatives," which is evaluated in light of the purpose and need for the agency action. See Native Ecosystems Council v. U.S. Forest Serv., 428 F.3d 1233, 1246-47 (9th Cir. 2005). Alternatives should be identified that would "avoid or minimize" the adverse environmental effects of the proposed action. 40 C.F.R. § 1500.2(e). MEPA alternatives analyses are reviewed under the same standards that federal courts apply to NEPA analyses. See Mont. Wilderness Ass'n v. Board of Natural Res. and Conservation, 200 Mont. 11, 24, 648 P.2d 734, 741-42 (1982).

If a NEPA/MEPA alternative is not given full technical review pursuant to the MFSA, then it would not be legally possible for the Department to select such alternative. Similarly, if a MFSA alternative is not subject to environmental review under NEPA/MEPA, then such alternative could not be adopted without violating NEPA/MEPA. To be meaningful, the alternatives analyzed under MFSA, NEPA, and MEPA must be the same.

TransCanada states that the “need” for the project as meeting increasing U.S. demand for crude oil while U.S. crude oil production decreases.³ See *Keystone XL MFSA Application*, at 3-1. Under NEPA and MEPA, the federal and state lead agencies must analyze reasonable alternatives to the construction of a crude oil pipeline that satisfy this identified need, including efficiency and regulatory measures that could lower U.S. demand for crude oil. The *Keystone XL MFSA application* does not meaningfully consider any alternatives to the construction of a crude oil pipeline with the potential to satisfy the stated need. See *Keystone XL MFSA Application*, Ch. 4. Unless such alternatives are studied under the MFSA, they cannot be meaningfully considered as viable project alternatives under NEPA and MEPA. The Department should ensure that the full range of alternatives analyzed under NEPA and MEPA are also analyzed under the MFSA.

As the MEPA lead agency and reviewing agency under the MFSA, the Department must ensure that no aspect of the agency’s review is rushed to completion while other processes are still ongoing. In particular, the Department should not deem the MFSA application complete, thereby potentially foreclosing the study of additional alternatives under the MFSA, while ongoing environmental review under NEPA and MEPA may reveal issues and alternatives that are critical to the agency’s MFSA analysis. The Department should employ an iterative process that includes new alternatives in the MFSA analysis as they are identified through NEPA and MEPA, and also includes new alternatives in the MEPA analysis that are identified through MFSA review. Only such a comprehensive process will enable the Department to make the statutory finding that the selected alternative represents the minimum adverse environmental impact. See *Mont. Code Ann. § 75-20-301(1)(c)*.

III. The Application Fails to Analyze Global Warming Impacts

Before the Department may issue a certificate of compatibility for the *Keystone XL* pipeline, the MFSA requires the Department to determine “the nature of the probable environmental impact” and “that the facility minimizes adverse environment impact [sic], considering the state of available technology and the nature and economics of the various alternatives.” *Mont. Code Ann. § 75-20-301(1)(b), (c)*. As submitted, the MFSA application provides insufficient information to allow the Department to make these findings with respect to the *Keystone XL* pipeline’s probable contribution to global warming. Accordingly, the Department should require the applicant to submit information quantifying the project’s total direct and indirect greenhouse gas emissions as well as information regarding alternatives that may avoid or mitigate these emissions.

³ The application separately states that the “purpose of the Project is to transport crude oil production from the Western Canadian Sedimentary Basin (WCSB) to meet growing demand by refineries and markets in the U.S.” *Keystone XL MFSA Application*, at 3-1. However, this does not describe the purpose, but rather the applicant’s preferred alternative. This stated purpose would not satisfy NEPA, under which “an agency cannot define its objectives in unreasonably narrow terms” so as to render selection of the preferred alternative a foregone conclusion. *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).

1. Global Warming Is An “Environmental Impact” Under The MFSA.

According to the Intergovernmental Panel on Climate Change (“IPCC”), a group of over 2,000 of the world’s preeminent climate scientists, “warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.” Most of the observed increase in global average temperatures since the mid-20th century is “very likely due to the observed increase in anthropogenic greenhouse gas concentrations.” The IPCC’s assessment of the latest scientific literature showed evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases.⁴ In Montana, many of the identified harms of global warming are already being felt. As of 1997, precipitation had decreased by up to 20 percent in many parts of the state, and over the last decade of drought, precipitation has declined much further. As the Department has reported, the climate is anticipated to change even more dramatically in coming years. The consequences, as itemized by the Department, include: “glaciers melting and disappearing in Glacier National Park and elsewhere in the Rocky Mountains; a potential decline in the northern Rockies snowpack and stressed water supplies both for human use and coldwater fish; ... an increase in the frequency and intensity of wildfires as forest habitats dry out ...; loss of wildlife habitat; possible effects on human health from extreme heat waves and expanding diseases like Western equine encephalitis, West Nile virus, and malaria; [and] possible impacts on the availability of water for irrigated and dryland crop production alike.” Final Environmental Impact Statement (“FEIS”), Highwood Generating Station, Vol. I at 346 (Jan. 2007). In short, global warming is an urgent environmental issue that the Department must address under the MFSA, Mont. Code Ann. § 75-20-301(1)(b), (c).

One of the key mitigation strategies that the IPCC identifies for reducing the rate and impacts of global warming is changing the sources on which we rely for energy from oil, coal and other fossil fuels to renewable low-carbon sources including wind, solar and geothermal energy.

2. The Keystone XL Pipeline Will Result In Significant Greenhouse Gas Emissions, A Significant Cause of Global Warming

Global warming is the result of a buildup of greenhouse gases – including carbon dioxide (CO₂) – in the atmosphere, which reduces the reflection of solar radiation back out into space. The greenhouse effect is a natural phenomenon, but with a record amount of carbon dioxide in the atmosphere (6 billion tons of carbon enter the atmosphere each year), the greenhouse effect is now causing major changes to the earth’s climate, weather, and sea level.

Canada’s tar sands are the single largest contributor to global warming pollution emissions growth in Canada.⁵ Further, tar sands oil production generates almost triple the global warming pollution as conventional oil production because of the massive amounts of energy needed to extract, upgrade, and refine the oil.⁶ The increase comes primarily from the fuel needed for the extraction of the tar sands (in

⁴ IPCC, *Climate Change 2007: Synthesis Report* (Nov. 2007) at 30 available at http://www.google.com/url?sa=t&source=web&ct=res&cd=1&url=http%3A%2F%2Fwww.ipcc.ch%2Fpdf%2Fassessment-report%2Far4%2Fsyr%2Far4_syr_spm.pdf&ei=EOmqSb33O4STngfu2sjrDw&usg=AFQjCNHD8Pg3bag8CiRhLEbrvyNYbbggFg&sig2=LmnIkOK24nVyCXdELX4PNw.

⁵ Dan Woynton, “Oil Sands Fever: The Environmental Implications of Canada’s Oil Sands Rush,” at 19 (The Pembina Institute, November, 2005).

⁶ *Id.* p. 22. Information gathered from Canadian Association of Petroleum Producers on conventional oil and from the Pembina Institute for oil sands mining and in situ drilling. Actual numbers are 28.6 conventional oil average

most cases significant amounts of natural gas) and in the fugitive emissions from the overall process. As of early 2007, oil companies and government were discussing possibilities for a system for carbon capture and disposal in the tar sands region, but without clear research, funding, and timelines for the actual construction of such a system.

The mining of the tar sands compounds the global warming effect because it destroys hundreds, potentially thousands, of square miles of some of the best natural carbon sequestration on the planet. The tar sands are located in the boreal regions of northern Alberta, an area covered with forest and peatbogs. Removal of the trees and stripping away the bog removes the ecosystem's ability to store that carbon, but also ends up releasing previously stored carbon when the bogs dry out.⁷ On average, 516 tons of carbon are stored per acres of peatland, by far the largest level of carbon sequestration of any organic system. Multiplying the 516 tons per acre by the number of acres destroyed in tar sands extraction adds up very quickly, compounding the extremely negative carbon equation of tar sands exploitation. The Keystone XL pipeline will also result in significant greenhouse gas emissions due to end-stream refinery upgrades and expansions necessary to accommodate the increased volumes delivered by the pipelines and eventual combustion of the dirty crude oil. In addition, the diesel vehicles, generators, construction equipment and earth moving equipment associated with the pipeline construction, tar sands oil extraction, as well as the oil sands plants in Alberta, are all significant sources of particulate matter and thus black carbon emissions. Black carbon creates a soot effect when deposited on snow and may be responsible for up to a quarter of observed global warming.

In sum, if constructed, the Keystone XL pipeline will have result in significant direct and indirect emissions of greenhouse gases, the primary anthropogenic cause of global warming.

3. The Application Is Inadequate To Allow the Department To Analyze The Project's Global Warming Impact

The Keystone XL pipeline will contribute to global warming through significant direct and indirect emissions of greenhouse gases, yet the MFSA application fails altogether to address this major environmental impact. The application devotes two paragraphs to discussing greenhouse gases, under the heading "air quality." See Keystone XL Project, MFSA Application, at 4-169. The application asserts that "[n]o regulatory limitations or other [Clean Air Act] emission standards apply to CO₂, CH₄, or N₂O [greenhouse gases]." Id. Because the applicant concludes that greenhouse gases are not regulated by the Clean Air Act, the application makes no attempt to quantify the project's greenhouse gas emissions, or even to identify global warming as an environmental impact.

TransCanada's assertion that greenhouse gases are not regulated under the Clean Air Act is not only erroneous, it is immaterial for the purposes of the MFSA. The MFSA directs the Department to determine "the nature of the probable environmental impact" and "that the facility minimizes adverse environment impact [sic], considering the state of available technology and the nature and economics of the various alternatives." Mont. Code Ann. § 75-20-301(1)(b), (c). This mandate applies irrespective of the Department's independent obligation to regulate greenhouse gases under the Clean Air Act. Thus, even if greenhouse gases are not subject to "regulatory limitations," as TransCanada asserts, they still

GHG intensity/barrel of oil as compared to 85.5 oil sands average GHG intensity/barrel of oil. See also James Hansen, Obama's tar sand trap, The Guardian (Feb. 18, 2009), at <http://www.guardian.co.uk/commentisfree/cifamerica/2009/feb/17/barack-obama-canada-climate-change>.

⁷ See Polaris Institute, "A Dirty Little Secret: Canada's Global Warming Engine," at <http://www.tarsandswatch.org/files/adirtylittlesecret.pdf>.

must be analyzed under the MFSA to the extent that they contribute to global warming – an environmental impact.

The Keystone XL MFSA application fails to include any information whatsoever regarding the project's direct and indirect greenhouse gas emissions. To get a true sense of the life cycle greenhouse gas emissions attributable to tar sands oil, the greenhouse gas emissions generated during extraction and upgrading must be added to the emissions generated by refining the tar sands crude into final petroleum products and to the emissions associated with combustion or the final end use of those fuels. Because TransCanada has not provided this essential information, the application is inadequate to allow the Department to make the requisite MFSA finding regarding the environmental impact of the project. In addition, because TransCanada has failed to provide any information regarding alternatives or mitigation strategies to reduce or avoid the project's global warming impact, the Department cannot make the requisite MFSA finding that environmental impacts have been minimized. The Department must require TransCanada to supply this information prior to deeming the MFSA application complete.

IV. The Application Fails to Include Adequate Information about Potential Crude Oil Spills

TransCanada's pipeline risk assessment is inadequate for use by the Department in its evaluation of the risk of crude oil spills from the Project and the consequences of such spills. Due to the massive size of the Project, the potential impacts from even a small breach in the Project could be severe. The Project is designed to transport 900,000 barrels of heavy sour crude oil every day. At this rate of flow, the Project could fill an Exxon Valdez class oil tanker in 1.6 days. The Project's standard operating pressure is 1,440 pounds per square inch (psi), but in some locations this pressure during normal operations could reach 1,600 psi, and the Project is designed to operate at temperatures up to 158 °F. At this volume, pressure, and temperature any breach – even a pinhole breach – could result in a major oil spill that severely harms individuals, land, water, and wildlife.⁸

Moreover, TransCanada has applied for a special permit from the US Pipeline and Hazardous Materials Safety Administration that would allow it to operate almost the entire Project at up to 80% of burst strength, as opposed to the normal regulatory standard of 72%. This means that the pipe wall thickness in almost all of the Project's pipe will be thinner and more vulnerable to unanticipated accidents and corrosion. Even assuming, for the sake of argument, that a special permit would offer the same level of overall safety as thicker-wall pipe, the use of thinner-wall pipe combined with improved inspection and quality control protocols poses risks that are materially different from the risks related to the use of thicker-wall pipe with standard inspection and quality control protocols.

Given that segments of the pipeline between emergency shutoff valves are up to 54.9 miles long, over 15 million gallons of heavy crude oil could be subject to release by a single breach. While control measures and topography could limit the maximum amount of spills, the potential for harm is still great. Further, TransCanada does not state in its risk assessment that leaks smaller than the detection limits of its monitoring equipment (typically ~1% of pipeline capacity) are not immediately detectable by its remote flow sensing equipment due to limitations in the sensitivity of its equipment. This means that the Project could leak 378,000 gallons or more per day without being detected by TransCanada's automatic warning systems, assuming all of these systems are working and properly calibrated. Although TransCanada is required to fly the entire route of the pipeline once every two weeks, in remote locations the combination

⁸ For example, in March 2006, a pinhole leak in a 34 inch pipeline in the Prudhoe Bay Oil Field grew in size to a quarter by half inch breach that spilled 267,000 gallons of crude oil under snow before it was noticed by oil field workers. http://www.alaskajournal.com/stories/031906/hom_20060319003.shtml. A similar leak in a remote location would likely have been much worse due to greater discovery time.

of volume, pressure, and limitations on remote sensing capabilities means that very large amounts of oil could be released before anyone notices. For discussion of types of leaks and leak detection equipment, see Leak Detection for Transmission Pipelines, a report prepared for the Pipeline Safety Trust in 2007 (available at www.pstrust.org/library/docs/leak_detection_paper.pdf).

All pipelines leak, particularly as they age. Also, accidents happen. Although TransCanada has a substantial incentive to not spill any of the heavy sour crude oil it transports, nonetheless, small leaks are inevitable and large spills are possible. TransCanada has a substantial incentive to maximize its profits by extending the operating lifetime of this pipeline to the point where it fails. Despite the best efforts of TransCanada, if constructed, the Keystone XL pipeline will be one of the greatest potential threats to the people and environment in Montana. The Department must thoroughly assess the potential risks and impacts of the Project, and not merely accept TransCanada's assurances that the risk is low. The information provided in TransCanada's Application is entirely inadequate for such assessment.

1. TransCanada's Risk Assessment Is Inadequate for the Department's Determination of Environmental Impacts Required by MEPA and MFSA

In order to grant a certificate, the Department must determine:

- the nature of the Keystone XL Pipeline's probable environmental impacts, Mont. Code Anno. § 75-20-301(1)(b), Mont. Code Ann. § 75-1-201;
- the significance of these impacts, ARM 17.4.608;
- the quantity and quality of each environmental resource or value affected, including the uniqueness and fragility of those resources or values, ARM 17.4.608;
- the importance to the state and to society of each environmental resource or value affected, ARM 17.4.608; and
- that the pipeline minimizes its environmental impact given available technology and alternatives. Mont. Code Ann. § 75-20-301(1)(c).

TransCanada's spill risk assessment fails to describe the risks associated with spills from its proposed pipeline to the degree necessary to allow the Department to comply with MEPA and the MFSA. In particular, TransCanada has failed to adequately describe:

- the risk of spills created by operation of the pipeline, including the risk and impacts of both single major events and multiple small leaks;
- the potential severity of the impacts of spills of the heavy crude oil transported by the pipeline, including the nature of the heavy sour crude transported;
- the quantity, quality, and importance of the particular resources that could be impacted by spills; and
- the full range of available technology available to minimize impacts, as well as the limitations of this technology.

Instead, TransCanada has provided a boilerplate assessment of spill risk that discusses only statistical probabilities of spills and the generic impacts of oil spills. TransCanada's analysis could be applied to

any terrestrial spill anywhere in the world. Almost none of TransCanada's spill risk analysis relates to the particular risks posed by the Project or the particular resources at risk in Montana. Absent more detailed risk information, it will not be possible for the Department to comply with MEPA or the MFSA.

2. TransCanada's Risk Assessment Fails to Adequately Describe or Assess the Risk of Spills Faced by Montanans

Attachment D, Section 3.0, TransCanada's risk assessment document includes just over one page of text on risk assessment. All of this text relates to statistical analysis based on historical pipeline failures. Section 3.0 includes only the following two sentences related to the risk of spills in Montana:

Based on the available information, the study produced a conservative incident frequency of 0.000119 incidents per mile per year, equivalent to no more than one spill in 30 years for the 282 miles of the Project in Montana.

* * *

Of the postulated maximum of one spill along the Project in Montana during a 30-year period, these PHMSA-derived spill volume statistics suggest that this one spill would have a 50 percent probability of being 3 barrels or less; 35 percent probability of being between 3 and 100 barrels; 10 percent probability of being between 100 and 1,000 barrels; 5 percent probability of being between 1,000 and 10,000 barrels; and a 0.5 percent probability of being more than 10,000 barrels.

All other statements related to the risk of spills in TransCanada's Application are redundant assurances that the statistical risk of spills is low. The foregoing two sentences do not provide the Department or citizens of Montana with an adequate understanding of the risk of spills from this pipeline. Given the size and cost of this project and the large amount of oil that it would transport through Montana, providing only two sentences on the degree of the risk of a spill in Montana is legally insufficient. Saying that spills are unlikely to happen does not mean that they do not happen and does not aid in an understanding of the degree of impact that could result from different types and volumes of spills or needed mitigation measures and remediation equipment for different types and volumes of spills.

TransCanada's discussion of spills in both its application narrative and Attachment D focuses exclusively on statistical analysis of the probabilities of spills derived from past nationwide pipeline operational data that is then applied to the entire length of the Keystone XL pipeline in Montana. While such statistical data may be useful in assessing the theoretical risk posed by pipelines of all types (and in attempts to downplay risks) it does not provide the State or its citizens with adequate information about the specific risks of this Project.

Based on TransCanada's information, it is not possible for a citizen of Montana to understand the risk of a spill and how a spill might impact his or her home, community, or environment. For example, it is not possible to determine which areas of the state are most at risk due to pipeline configuration, the volume of oil that might be released at a given location, or the differing impacts of different sizes and types of spills. Such understanding is not possible because the vast majority of TransCanada's discussion of spills is boilerplate recitation of general statistics and generic descriptions of the impacts of oil spills that could be applied anywhere on the planet.

A specific example of the lack of utility of TransCanada's analysis is found on page 4-7 of Attachment D, which describes the impacts of oil spills on flowing streams based on generic stream size

rather than describe the risk to each water body crossed by the Project. Although the description includes “representative streams” found in Montana, this information does little to help citizens understand how a watercourse of concern to them might be impacted, particularly because similarly sized streams do not necessarily have the same values and citizens should not be expected to know the nature of these representative streams.

TransCanada must provide more than two generalized statistical statements of pipeline risk and boilerplate that describes the general types of impacts of oil spills. It must provide a description of the risks posed by this particular pipeline on particular places in Montana, including descriptions of the different causes and types of spills from the Project that are possible and the potential consequences of each of these types of spills. Otherwise, the Application will be incomplete.

3. TransCanada’s Spill Risk Assessment Fails to Identify Worst-Case Spill Scenarios

TransCanada’s application is deficient because it does not contain worst-case spill assessments by pipeline segment, or any other spill volume assessments. In order to understand the potential impacts of spills and needed remediation measures and equipment, an assessment of spill risk must include a spill volume assessment and a worst-case spill scenario for each pipeline segment. This is particularly true for a pipeline of this capacity with segments between emergency shutoff valves up to 50 miles in length.

Spill volume assessments are important for emergency planning purposes, but also so that the State and the public can understand the possible risks and impacts of the proposed pipeline. Maximum spill volumes are closely related to pipeline segment length which is determined by placement of valves. Maximum spill volumes are also determined in part by the topography of the land through which the pipeline passes, as pipeline drain-out depends in part on the effects of gravity and siphon. Without adequate information about maximum spill volumes, it is not possible to assess whether or not TransCanada’s automatic shut-off valve placement decisions are reasonable or whether additional automatic shut-off valves are needed to reduce risk and potential impacts.

Also, without adequate information about maximum pipeline spills, it is not possible for the Department to adequately assess the locations along the pipelines with the maximum potential for adverse impacts from a spill, the potential geographic scope of spills, or the degree of need for mitigation measures including needed spill response equipment.

TransCanada’s application is internally inconsistent and confusing with regard to whether or not TransCanada has calculated maximum spill volumes. Page 1-34 and Attachment D at page 3-1 says that TransCanada has determined maximum spill volumes, whereas the Application states on page 1-34 that TransCanada is “currently calculating maximum spill volumes.” Likewise, the Application is confusing with regard to whether or not TransCanada has conducted a risk assessment. Attachment D in its title and on page 1-2 states that it is a “risk assessment.” Yet page 4-69 of the Application states that “[v]alve locations, in addition to those required for major waterbody crossings, will be incorporated into the final design based upon the outcome of the risk assessment.” This statement indicates that TransCanada has not yet completed its risk assessment. The fact that TransCanada has not disclosed maximum spill volumes to the public also adds to this confusion.

Until TransCanada provides a detailed assessment of spill volumes by segment, it will not be possible for the Department to assess the nature or scope of the possible environmental impacts created by the Project.

4. TransCanada Has Failed to Adequately Describe the Risk and Impacts of Lower Volume Pipeline Leaks

As the steel in the Project ages the likelihood that multiple small leaks will develops increases. Nothing lasts forever. Further, the Project will be constructed from thousands of segments of steel pipe, all which will be welded together. Although TransCanada may strive for construction perfection, it is certain not to achieve it.

Since almost all of the pipeline will be buried, discovery of small leaks may be difficult and crude oil may seep into the ground and groundwater over substantial periods of time. Although TransCanada will monitor the Project via bi-weekly jet helicopter flights, such flights can detect only spills that ultimately seep to the surface. Further, TransCanada's remote leak detection equipment is limited in its sensitivity, such that it cannot detect "small" leaks quickly and easily. "Small" leaks in a pipeline of this size are nonetheless large in an absolute sense.

TransCanada's application fails to describe the potential impacts of small leaks, or to describe how the risk of such leaks increases as equipment ages. To assess the full range and scope of the possible types and volumes of leaks possible from the Project, the Department must require that TransCanada provide a full description of the various sizes and types of possible leaks, the potential impact of each type of leak, and ways to mitigate each type of leak. Otherwise, TransCanada's application will be incomplete.

Summary

TransCanada's proposed pipeline is a major industrial facility that has the potential to inflict serious harm on the people, communities, and environment that may be required to host it. It is the Department's duty to fully assess and minimize the risks inherent in this pipeline so that the health and wellbeing of the people of Montana are protected. The Application submitted by TransCanada is woefully inadequate with regards to its description of the risks posed by the Keystone XL Pipeline, the potential impacts of the pipeline, including its global warming impacts, alternatives to the pipeline, and the means available to the State to protect its citizens, communities, and environment.

We respectfully request that the Department reject TransCanada's Application as incomplete.

Very truly yours,



Paul C. Blackburn
Staff Attorney
Plains Justice