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July 29, 2019

Brian Koshus, Chairman  
Julie Fedorchak  
Randy Christman  
North Dakota Public Service Commission  
600 East Boulevard, Department 408  
Bismarck, North Dakota 58505-0480

RE: Case No. PU-19-204

Dear Chairman Koshus, Commissioner Fedorchak and Commissioner Christman:

I write to request a hearing on the application by Dakota Access, LLC to amend Certificate of Corridor Compatibility 179 and Route Permit 191 for the purpose of increasing the flow rate of the Dakota Access Pipeline from 570,000 barrels per day to 1.1 million barrels per day. A hearing is necessary for the following reasons:

- (1) to determine if the Energy Transfer/Dakota Access Pipeline (ET/DAPL) application complies with recognized and generally accepted oil and gas industry standards (API, ASME, ISA etc.) and the applicable regulations for an increase in flow rate;
- (2) to address increased over pressurization risk of the Dakota Access Pipeline;
- (3) to evaluate whether a pattern of hazardous liquid spills and violations by ET/DAPL throughout the United States including in North Dakota requires denial of the application.

(4) to evaluate the increased risk from doubling the flow of DALP which significantly increases the potential consequences and likelihood of a hazardous Bakken crude oil spill.

**A Hearing is Required to Determine if the Application Complies with Industry Standards and Applicable Regulations for an Increase in Flow Rate**

A hearing is required to determine if ET/DAPL will comply with key recognized industry standards for safety management of a pipeline with an increased level of hazardous liquids. The determination of whether the application will have more than “minimal adverse effects” is not determined by merely evaluating the footprint of the construction of the Emmons County pumping station, but whether the ET/DAPL application demonstrates compliance with the federal regulations and industry standards for pipeline safety management for an increase in operating pressure and flowrate along with the associated increase in risk

This is a not routine matter. Federal regulations and oil and gas industry good practice standards mandate safety revisions to facility response plans, management of change reviews and operational improvements in order to increase pipeline operating pressure and flowrate.

In order to increase the flow rate of an existing pipeline, the operator must comply with applicable pipeline industry standards and recommended practices (as Energy Transfer has pledged to do) that must include American Petroleum Institute Recommended Practice 1173 on *Pipeline Safety Management System Requirements* (2014) and RP 1160 on *Managing System Integrity for Hazardous Liquid Pipelines* (2019). These recommended practices are currently the “gold standard” for safe design, construction, operation and integrity management of hazardous liquid pipelines in the United States. They were developed in response to federal government recommendations and safety mandates out of recent pipeline disasters and are vital for accident prevention. At present, the record before the PSC is devoid of evidence demonstrating that ET/DAPL will in fact comply with the safety management requirements of API RP 1160 and RP 1173. In fact, the Standing Rock Sioux Tribe (SRST) is aware that Energy Transfer has acknowledged they have not implemented these vital recommended practices in recent documents obtained from ongoing DAPL litigation.

The recently enacted API Recommended Practice 1160, *Managing System Integrity for Hazardous Liquid Pipelines* explicitly requires a management of change review for an increase in flow rate. RP 1160 states that “an increase in throughput” triggers management of change to evaluate its impact on the Integrity Management Plan (IMP). RP 1160 takes a broad view of the potential impact of throughput changes:

These operational changes can impact various aspects of a pipeline’s operation, maintenance, monitoring, integrity management, and emergency response, including the following:

- Pressure gradient, velocity, and the location, magnitude, and frequency of pressure surges and cycles may change.
- Throughput increases may impact the pressure profile and pressure transients.
- Product changes may warrant a material compatibility and corrosion susceptibility review.

- Leak detection and monitoring systems may be affected.
- Significant additions, removal or modifications of pump stations, tank farms, and ILI launching/receiving facilities may be required.
- Appurtenances such as flow meters, strainers, corrosion control devices, leak detection devices, control valves and sectionalizing valves may need to be altered.

The MOC process is used within industry to assess the impact of a proposed operating pressure and flowrate change on the design, sizing, equipment selection, and location of the existing Surge Relief Valves, Emergency Shutdown and Isolation Systems, and the Leak Detection System. The MOC process is critical to ensure that the systems installed to protect the High Consequence Area pipeline segment from overpressure due to surge and to reduce the Worst Case Discharge of crude oil are properly designed, tested, and maintained to meet the proposed flowrate and pressure increase. The MOC process typically includes a Quantitative Risk Assessment to identify risk gaps that require mitigation measures prior to proceeding with the proposed production rate increase. *See also* U.S. Pipeline and Hazardous Materials Safety Administration, *Guidance to Operators Regarding Flow Reversals, Product Changes and Conversion to Service* that API RP 1160 recommends as guidance for pipeline throughput increases as well.

Table 13 in RP 1160, section 14.1, identifies the management of change requirements for an increase in flow rate, as proposed by ET/DAPL. For a pipeline operator to obtain “permits for construction of new pumps and associated equipment,” this important and recently enacted standard requires the operator to:

Calculate the effect of retest to see if it holds the margin of safety until the next ILI... Managers of pipeline and facility integrity will prepare reports of all construction and retesting and modify the IMP as required.

The management of change (MOC) review is an industry standard required management system process used to verify that installed safety systems are suited for an increase in operating pressure and flow rate. This is described in APL RP 1173 section 8.3. If such a management of change process occurred typically the following issues that would be examined and likely lead to significant safety concerns from increasing (doubling) of pipeline flow within a High Consequence Area include:

1. Changes to the Integrity Management Plan, performing a damage mechanism review (such as new management threats), increased corrosion/erosion, changes to inspection intervals, etc.
2. Upgrades to existing pipeline HCA Safety Instrumented Systems (SIS) such as Surge Relief Valves, Emergency Shutdown and Interlock Systems, SCADA communications, Pump Controllers, Leak Detection Systems, Emergency Flow Restriction Devices, etc. to mitigate the increased risk associated with larger Worst Case Discharge volumes and align SIS capabilities with more challenging Process Safety Time requirements.
2. Changes to the Operations and Maintenance Manual.
3. Revised spill model and downstream receptor report.
4. Revised surge relief and maximum allowable operating pressure (MAOP) analysis.
5. Revised the Worst Case Discharge estimate.
6. Revised Facility Response Plan and Geographic Response Plan including increased requirements for personnel and equipment.

7. Revised risk analysis due to increased environment risk. Such a conclusion under API RP 1173 would require further identified risk reduction or a decision that the throughput increase was unsafe or the risk to people and the environment was unacceptable given the existing equipment, personnel and safety system performance.

None of this is in the record before the Commission. It must be the subject of a hearing by the Public Service Commission prior to the approval of the ET/DAPL application.

Of particular concern is the potential of a significant oil spill in the Missouri River. ET/DAPL's current estimate of the worst case discharge into the Missouri River is 12,517 barrels. See U.S. Army Corps of Engineers, *Analysis of the Issues Remanded by the U.S. District Court for the District of Columbia Related to the Dakota Access Pipeline Crossing at Lake Oahe* (2018). The PHMSA regulation governing the estimate of the worst case discharge provides in part: "The worst case discharge is... the pipeline's maximum release time, in hours, plus the maximum shutdown response time in hours (based on historic discharge data....). 40 CFR 195.105(b)(1).

The Facility Response Plan for the Dakota Access Pipeline that is currently in place does not comply with the applicable regulation at 49 CFR §194.105(b). The plan relies upon immediate detection of a spill, which is totally unrealistic. It relies upon immediate detection and 9-minute shutdown time. The calculation fails to incorporate the regulatory required maximum detection time. In fact, given the remote location of the Lake Oahe HCA, the capabilities of the installed safety critical instrumentation, and lack of documented functional testing, maintenance, and performance verification of the Leak Detection System, Emergency Shutdown Interlocks, and Emergency Flow Restriction Devices, the 9-minute shutdown time is completely unrealistic.

PHMSA has opined that "A shutdown time of less than 10 minutes raises red flags." Yet DAPL continues to operate based upon a 9-minute shutdown estimate. The Facility Response Plan for DAPL fails to implement the regulatory required components of time to detect, past performance by ET/DAPL, adverse weather conditions and the human factors component of shutdown decision-making, including human error.

The Facility Response Plan for DAPL fails to implement "historic discharge data, as required by the regulation. In two years of operation, the Dakota Access Pipeline has already experienced 12 oil spills. The spill from a DAPL feeder line near Tulare, South Dakota in April, 2017 went undetected for over one month. When ET/DAPL's Permian Express II pipeline experienced an uncontrolled release of oil in 2016, it took 12 days to shut it down.

Yet North Dakotans are supposed to believe that ET/DAPL will detect a leak immediately, and shut down the pipeline within nine minutes. That is completely unrealistic and in violation of 49 CFR §194.105(b).

In fact, the leak detection systems relied upon by DAPL such as Computational Pipeline Monitoring (CPM) have been found by PHMSA to be effective merely 20 percent of the time. (U.S. Pipeline and Hazardous Materials Safety Administration, *Final Report 12-173, Leak Detection Study*, p. 2-11 (2012)). According to Reuters, "Over the last six years, there have been 466 incidents where a pipeline carrying crude oil or refined products has leaked. Of those, 105, or 22 percent, were detected by an advanced leak system." ([and.com/nation-world/2016/09/30/technology-designed-to-detect-u-s-energy-pipeline-leaks-often-fails/](http://and.com/nation-world/2016/09/30/technology-designed-to-detect-u-s-energy-pipeline-leaks-often-fails/)). Similar to the PHMSA study, the SRST has determined that since 2010, out of 67 hazardous

liquid spills in the rights-of way (ROW) by Energy Transfer only 12% were first identified by SCADA or CPM leak detection systems. Nearly 4 times more were identified by members of the public (45%) which was the most numerous accident identifier category.

Because of the poor level of performance of pipeline Leak Detection Systems with ET/DAPL and industry wide, SRST has recommended that Energy Transfer/DAPL implement the requirements of API RP 1175, *Pipeline Leak Detection Program Management* that requires establishing leak detection performance requirements. But ET/DAPL has failed to do so. The Tribe has requested the Army Corp of Engineers coordinate a "draw test" to demonstrate the installed capabilities of the existing DAPL LeakWarn Leak Detection System. To date, no performance test of the installed Leak Detection System has been carried out to substantiate the claims of response time and % of flowrate detection limits. A "draw test" of the existing Leak Detection System is a critical necessary step, before considering any increase in flowrate through the Lake Oahe High Consequence Area pipeline segment.

Now, DAPL proposes to construct the Emmons County pump station in order to increase the DAPL flow rate. The applicable DOT pipeline regulations provide that "Each operator shall update its response plan to address new or different operating conditions or information." 40 CFR §194.121(a). Thus, ET/DAPL must prepare a new Facility Response Plan and Geographic Response Plan for Lake Oahe, and the revised plans should be subject to scrutiny by the PSC and the public.

Significantly, there is no information to demonstrate compliance with these extremely important regulations. A hearing is necessary to determine if, in fact, ET/DAPL is capable of complying with the applicable federal regulations and oil and gas industry standards for an increase in pipeline flow rate.

#### **The ET/DAPL Application Threatens Over pressurization of the Dakota Access Pipeline**

The Commission should investigate whether the increase in flow rate will impact surge prevention and protection systems. When sizing the devices that protect oil flowlines and pipelines from dangerous overpressure, comprehensive pressure-flow-surge analysis is required. The API has determined that system timing constraints (surge relief set pressure) are absolutely necessary to ensure that the surge relief systems have adequate time to act to protect the pipeline.

Surge relief systems include fast acting, high capacity valves that open very quickly to remove surge pressures from the line. Increases in pipeline flowrate directly reduce the time allowed for the surge relief valves to operate and increase the required capacity, making it critical to analyze the installed surge relief system capabilities when flowrates are increased. The record before the Commission is completely devoid of any information relating to pressure-flow-surge from an increase in flow rate.

A hearing is needed to address the potential for pressure surges from an increased flow rate. This is industry practice for an increase in flow rate – yet it does not appear that ET/DAPL's application complies with these requirements.

Significantly, there is no comprehensive surge analysis report in the record. Controls used to prevent surge in crude pipelines include pump speed controllers that limit how fast a pump will ramp down during an emergency shutdown demand and Emergency Isolation Valve (Emergency Flow Restriction Device - EFRD) valve actuator controls that limit how fast the isolation valves close during an emergency shutdown. However, there was no verification to date of the surge prevention control systems installed performance. Also there was no documentation that surge relief valves were installed upstream

of Lake Oahe as an independent protection layer to protect the Lake Oahe HCA pipeline segment from dangerous pressure spikes should the surge prevention control systems fail and surge takes place.

Dedicated, Safety Instrumentation is required to protect oil flowlines and pipelines from damage due to overpressure. Surge pressures result from a sudden change in fluid velocity (pump trip, valve closure, Emergency Shut Down). Without properly sized, installed, and maintained surge relief systems, pressure spikes can reach 10 times the normal line pressure, resulting in serious damage to the pipeline and release of crude oil into the environment. The existing surge relief systems need to be verified for the current operating flowrate and pressure of the Dakota Access Pipeline to ensure the Lake Oahe pipeline segment is protected from high pressure due to surge. This review is requested prior to considering a pipeline flowrate increase and approval of the ET/DAPL application. This warrants public hearings.

Technical Guide, DAN-LIQ-TG-Surge Relief-0407 addresses these issues. In bulk liquid transportation, safety systems in the form of pressure control, pressure regulation and surge relief valves are required. The PHMSA regulations governing DAPL states:

No operator may permit the pressure in a pipeline during surges or other variations from normal operations to exceed 110% of the operating pressure limit established under paragraph (a) of this section. Each operator must provide adequate **controls** and **protective equipment** to control pressure within this limit.

49 CFR 105.406 (emphasis added).

The controls for increased pressurization and flowrate have not been identified by ET/DAPL. A hearing is necessary to determine if the required controls exist and whether the current operations and planned increase comply with the applicable pressure control regulations.

**A Hearing is Required to Determine if the Application Complies with the Risk Mitigation Requirements of API RP 1173**

A hearing on the ET/DAPL application is necessary because the proposed facilities will significantly increase the *risk* of adverse environmental effects by the Dakota Access Pipeline. The applicable risk mitigation requirements are also found in API RP 1173. In order to increase the flow rate of an existing pipeline, the operator must comply with APR RP 1173. Section 7.4 of API RP 1173 delineates the risk mitigation requirements for an increase in the flow rate of hazardous liquids. This section states:

Risk prevention and mitigation measures to reduce the likelihood and consequences of a release should be identified and evaluated to improve situational awareness. Information to consider shall include, at a minimum:

- (a) learnings from internal and external events;
- (b) review of equipment operability, including control system and materials;
- (c) review of procedures, authorities, responsibilities, and accountabilities;
- (d) review of training, drills, and scenario development;
- (e) review of incident response preparation, including response time adequacy and the ability to coordinate and stage an incident command system with response personnel internal and external to the organization;

- (f) identification of areas of high consequence; and
- (g) in selecting measures to reduce risk, preference shall be given to prevention measures that eliminate or reduce risk that eliminate or reduce the likelihood and/or consequence of incidents. Operators shall implement the selected measures and evaluate their impact on risk.

These criteria are used to measure whether there will be “minimal adverse effects” within the meaning of state law. A hearing will enable the Commission to make this determination in a transparent manner. Clearly, ET/DAPL’s application to construct the Emmons County pumping station for the purpose of a significant increase in the DAPL flow rate will intensify the environmental risk over the entire length of the pipeline, and the Commission’s review should open, thorough, and protective of public health and welfare – at Standing Rock and throughout North Dakota.

Of major concern to the Standing Rock Sioux Tribe is the risk associated with a crude oil leak under the existing Leak Detection System lower detection limit (non-verified, 1% Lower Detection Limit results in approximately 6,000 barrels of crude oil per day). Today, there are no mitigation measures provided to address this risk to the Lake Oahe High Consequence Area. The risk of this type of crude oil release is in fact increased given the harsh North Dakota winters and the long periods of Lake Oahe ice cover that would conceal a crude oil accumulation due to a slow, continuous, undetected leak. Therefore, before considering an operating pressure and flowrate increase, a hearing is required to discuss the deployment of pipeline external oil monitoring systems as recommended by the EPA, including oil-in-water monitors to provide an early warning of an undetected leak associated with the pipeline installation near and under the Lake Oahe HCA.

**A Hearing is Necessary to Evaluate Whether a Pattern of Violations by ET/DAPL Throughout the United States Requires Denial of the Application.**

The Dakota Access Pipeline alone has experienced 12 spills of over 6,100 gallons of Bakken crude oil in less than two years of operation. (<https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-incident-and-incident-data>). In fact, from 2006 to 2018, for all of Energy Transfer hazardous liquid pipeline entities in the PHMSA database that are ET wholly owned subsidiaries or with an ET controlling interest, hazardous liquid incidents numbered 458 with \$109,737,246 in property damage from 2,557,716 gallons (60,898 barrels) of hazardous liquid spilled. For the 13-year period, ET/DAPL experienced three spills a month. Just in the 2017-2018 operating period of DAPL, ET/DAPL corporate-wide hazardous liquid spills have resulted in \$20,540,487 in property damage, indicating increased harm from the company’s most recent hazardous liquid pipeline operations.

State regulators have imposed serious fines and sanctions on ET/DAPL in Ohio, Pennsylvania and West Virginia. On May 21, 2018, the Pennsylvania Public Utilities Commission issued an Emergency Order to shut down the operation of Sunoco’s Mariner 1 pipeline, and halt the construction of a new pipeline, Mariner 2. The Administrative Law Judge cited numerous safety violations by Sunoco, including drill fluid migration – as may have occurred with DAPL – as well as ground water contamination. Her ruling stated “I find there is an imminent risk to the public and a need for immediate relief.” *Dinniman v. Sunoco Pipeline, LP*, Pennsylvania Public Utilities Comm., Docket P-2018-3001453, *Interim Emergency Order*, May 19, 2018.

ET/DAPL has experienced many other oil spills and safety violations, which validate the concerns expressed by the Standing Rock Sioux Tribe over the safety of the Dakota Access Pipeline. The request to increase the pipeline operating pressure and flowrate beyond current levels would reduce the installed pipeline safety factor, increase the risk reduction requirements for safety critical instrumentation, and increase the potential Worst Case Discharge crude oil volume that could be released into the Lake Oahe HCA. The ET/DAPL oil spill and safety track record combined with the production increase request demonstrates a pattern of unsafe operations and a failed safety culture. The pipeline industry's approach to risk management as outlined in AP RP 1173 requires the evaluation of real risk that includes a company's own performance and process improvements. ET/DAPL's spill record indicates this has not been done. A hearing is appropriate and necessary to address these concerns.

The proposed doubling of the DAPL throughput significantly increases the risk of a Bakken crude spill both in terms of increasing the consequences as well as the likelihood, as a flow increase would further challenge ET/DAPL's already unacceptable integrity management performance. All of this is of even greater concern given that ET/DAPL has failed to adopt modern pipeline safety standards precisely promulgated to address these concerns, such as API RP 1173.

The Tribe's interest in this matter is manifest. DAPL is .4 miles from the Standing Rock Reservation, upstream on the Missouri River. The Cannon Ball community is the closest residential area to the pipeline in all of North Dakota. The irrigation intake for our Tribal farm is two miles downstream from the DAPL Lake Oahe crossing, and, of course, Oahe is the source of our drinking water. The Lake Oahe crossing is a High Consequence Area, yet significant concerns with DAPL Integrity Management have never been addressed.

Standing Rock Tribal members have engaged in subsistence hunting and fishing on the Missouri River and its many draws and inlets where game are found, since the 1868 Fort Laramie Treaty, as well as the establishment of the Standing Rock Agency at Fort Yates in 1873. With respect to cultural resources, the Emmons County area across from Standing Rock possesses a wealth of cultural objects, and ETP has already demonstrated its disrespect for the traditional cultural properties of our Tribe.

The Standing Rock Sioux Tribe lives with the risk of an oil spill today – a risk that has never been properly evaluated by any state or federal agency. We feel that this risk jeopardizes our way of life on the Standing Rock Reservation – a risk that is increased by the ETP application. We are North Dakotans too, and our concerns deserve to be heard.

For these reasons, the Public Service Commission should conduct one or more public hearings on the application to construct a pumping station for the purpose of increasing the flow rate of the Dakota Access Pipeline. Thank you for your urgent consideration of our concerns.

Sincerely,



Mike Faith, Jr., Chairman  
Standing Rock Sioux Tribe