May 1, 2019

Honorable Bobby L. Rush, Chairman
U.S. House of Representatives
Committee on Energy and Commerce
Energy Subcommittee
2125 Rayburn House Office Building
Washington D.C. 20515

RE: Statement for the Subcommittee Hearing on The State of Pipeline Safety and Security in America

Dear Chairman Rush:

I serve as Chairman of the Standing Rock Sioux Tribe. I write to respectfully request that the enclosed statement be included in the record of the Subcommittee's May 1st hearing on The State of Pipeline Safety and Security in America.

As noted in my statement, pipeline safety is an extremely important issue for the Standing Rock Sioux Tribe. Accordingly, I appreciate your inclusion of my statement in the record, and the subcommittee's consideration of our concerns moving forward.

Thank you very much for your consideration.

Sincerely,

Mike Faith, Jr., Chairman
Standing Rock Sioux Tribe

Enclosure

STATEMENT OF MIKE FAITH, JR., CHAIRMAN
STANDING ROCK SIOUX TRIBE

FOR THE COMMITTEE ON ENERGY AND COMMERCE
ENERGY SUBCOMMITTEE
HEARING ON THE STATE OF PIPELINE SAFETY AND SECURITY

MAY 1, 2019

Chairman Rush, Ranking Member Upton, and members of the Energy Subcommittee, I submit this statement for the Energy Subcommittee Hearing on Pipeline Safety, to outline the concerns of the Standing Rock Sioux Tribe with pipeline safety and security. Our views are instructed by our experience with the controversial Dakota Access Pipeline project. The efforts of our Tribe to protect public health and safety on the Standing Rock Reservation highlight the need for more stringent statutory requirements in the permitting of hazardous liquid pipelines.

Weak regulations of the Pipeline and Hazardous Materials Safety Administration (PHMSA) put communities that are impacted by large oil and gas pipelines at unnecessary risk. We are living with this risk at Standing Rock, because numerous federal agencies failed to identify and mitigate the potential impacts to federally-protected Tribal resources. Current PHMSA regulations fail to adequately protect public health, and the Corps of Engineers lacks the expertise and commitment to protect the waters of the United States in permitting oil and gas pipelines. Section 30 of the Pipeline Safety Act of 2011 should be amended to ensure that all Indian Tribes affected by oil and gas pipelines are properly consulted in the permitting process, safety verifications and emergency planning.

More stringent requirements for the permitting and operation of hazardous liquid pipelines should be put in place. This committee should investigate the permitting and operation of the Dakota Access Pipeline (DAPL) as a case study justifying the need for more responsible regulation of oil and gas pipelines.

To demonstrate this, my statement will address:

(1) The failure by PHMSA to enforce current pipeline safety regulations underscores the need for stricter enforcement.

(2) The prior performance of pipeline companies must be considered in the permitting process. PHMSA and the Army Corps of Engineers filed to do so for DAPL.

(3) Industry best practices for risk assessment, safety systems management and the construction and operation of hazardous liquid pipelines in flood plains must be mandatory, not voluntary.

(4) The reliance on unverified leak detection systems is a major problem for the affected communities – in the case of DAPL, the Standing Rock Sioux Tribe.

(5) The lack of transparency by the owners and operators of hazardous liquid pipelines such as DAPL, and by the federal regulators, poses challenges for emergency planning for an oil spill, and puts first responders at unnecessary risk. The oil and company and federal regulators totally ignored the concerns of the affected Tribal communities in the permitting process for the Dakota Access Pipeline.

1. DAPL Violates Numerous Pipeline Safety Requirements and Demonstrates the Need for Stronger Enforcement

Pipeline safety is jeopardized by PHMSA's failure to enforce its own regulations, and the Standing Rock Sioux Tribe experienced this with DAPL. For its part, the Corps of Engineers issues permits for water crossings under Clean Water Act section 404, but, with respect to DAPL, the Corps is unwilling to enforce permit conditions requiring compliance with PHMSA regulations. Ultimately, PHMSA and the Corps have demonstrated with DAPL that the federal agencies responsible for pipeline safety and the protection of public health and welfare are asleep at the switch.

PHMSA regulations require the owner/operator of hazardous liquids pipeline to estimate the potential worst case discharge in the event of a release. In making this calculation, "The operator must determine and utilize a realistic shutdown time." 49 CFR §194.105(b). In calculating the worst case discharge from the Dakota Access Pipeline, ETP/Sunoco assumed a pump shutdown time of 9 minutes, and calculated the worst case discharge to be 12,501 barrels.

In fact, a 2016 PHMSA presentation states "response times and shutdown times less than 10 minutes raises red flags!" PHMSA, *Is Leak Detection Possible*, PHMSA Perspective, Pipeline Safety Trust Conference, October 20, 2016, at 7 (*available at* https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwiX2pvx43ZAhUI0mMKHcSqApIQFggpMAA&url=http%3A%2F%2Fpstrust.org%2Fwp-content%2Fuploads%2F2016%2F05%2FKiebaPresentation.pdf&usg=AOvVaw1RDvU7k836FWqKvo2ycGSa. (last accessed February 3, 2018). The DAPL 2016 calculation was less than 10 minutes and should have raised red flags with PHMSA and the Corps of Engineers, but did not.

This 9-minute shutdown time led to the specific calculation of 12,501 barrels worst case discharge provided to and approved by the Corps, and later by PHMSA, in its review of the Facility Response Plan. ETP/Sunoco inappropriately used 9 minutes as the total time for shut down, but failed to consider detection time, valve shut down time and adverse weather conditions – as required by regulation, and as is crucial in rural North Dakota. DAPL's shutdown time also failed to address human factors and safety culture considerations, the need for which have been highlighted by industry standards developed in response to recent pipeline disasters. Moreover, the DAPL Lake Oahe crossing lacks a

description of the methodology, as required by PHMSA, and a formal documented and supported worst case discharge analysis in any project report or plan.

Nevertheless, PHMSA failed to require compliance with important regulations governing the amount of oil that could spill into the Missouri River and affect the Standing Rock Indian Reservation environment. For these reasons, an oversight hearing is warranted on how the Dakota Access Pipeline demonstrates the need for strengthening pipeline safety requirements and protecting Tribal and non-Indian communities. Additionally, Congress should enhance the enforcement authority, including citizen enforcement authority, of pipeline safety regulations.

2. The Prior Performance of Pipeline Companies Must be Considered in the Permitting Process

Current regulations require PHMSA to consider the past performance of pipeline companies for risk assessment and the estimate of the worst case discharge. The regulations require the oil company to provide a realistic shutdown time "based on historic discharge data." 49 CFR §194.105(b)(1). The failure by PHMSA to properly apply these regulations, as we have seen first-hand at Standing Rock, cries out for Congressional action.

PHMSA routinely acquiesces to the use of generic industry data in assessing risk. With respect to DAPL, it is particularly inappropriate to use generic data (frequency of accidents per 1,000 pipeline miles) where ETP/Sunoco has one of the worst U.S. hazardous liquid pipeline safety records for the last 13 years. As of December 3, 2018, 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. *PHMSA Distribution, Transmission and Gathering, LNG, and Liquid Accident and Incident Data; Hazardous Liquid Accident Data January 2010 to Present* (available at https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-accident-and-incident-data) (last accessed January 21, 2019). In fact, from 2006 to 2018 for all of Energy Transfer (ET) hazardous liquid pipeline entities in the PHMSA database, hazardous liquid incidents numbered 458 with $109,737,246 in property damage from 2,557,716 gallons (60,898 bbls) of hazardous liquid spilled. *See* PHMSA Pipeline Operator Information, (*available at:* https://primis.phmsa.dot.gov/comm/reports/operator/OperatorList.html) (last accessed 1-21-19). For the 13-year period, ET entities experienced 45% more hazardous liquid spills than the pipeline company with the next largest number of incidents - Enterprise Crude Pipeline LLC with 315 spills. *Id.*

Just in the 2017-2018 operating period of DAPL, ETP/Sunoco corporate-wide hazardous liquid spills have resulted in $20,540,487 in property damage, *id.*, indicating increased harm from the company's most recent hazardous liquid pipeline operations. For the 13-year period, ETP/Sunoco experienced three spills a month. This does not include numerous reported violations related to recent pipeline construction projects that include permit violations, creation of sinkholes in residential areas, drilling mud spills

into sensitive environmental areas, removal of laid pipeline for asserted "coating flaws," and a variety of state and federal investigations that are ongoing.

Rogue operators must not be permitted to build and operate large hazardous liquid pipeline projects, and put communities such as Standing Rock at risk.

3. Industry Best Practices Must be Mandatory, Not Voluntary

The failure by PHMSA and the Corps of Engineers to require compliance with industry best practices for pipeline risk assessment and safety systems management of the Dakota Access Pipeline demonstrate the need to make voluntary industry standards mandatory. In approving DAPL, important industry standards such as American Petroleum Industry (API) Recommended Practice 1173 on *Pipeline Safety Management System Requirements*; API RP 1133 *Guidelines for Onshore Hydrocarbon Pipelines Affecting High Consequence Area Floodplains* and API RP 1175 on *Pipeline Leak Detection Program Management,* were totally ignored.

The failure to comply with API RP 1173 in the permitting process for DAPL brings into question the environmental risk facing the Standing Rock Sioux Tribe. API RP 1173 requires the use of the most effective safeguards to reduce risk commonly referred to as the hierarchy of controls. The hierarchy of controls is a systematic method of determining the most effective way to reduce risk focusing on the most effective method by examining in order of priority elimination, substitution, engineering controls, warnings and administrative controls. *See* ANSI/AIHA Standard Z10-2012 Occupational Health and Safety Management Systems, at Introduction (2012). Z10 is broadly applicable to industry and organizations.

API RP 1173 states:

> In selecting measures to reduce risk, preference shall be given to prevention measures that eliminate or reduce the likelihood and consequences of incidents. Operators shall implement the selected measures and evaluate their impact on risk.

API RP 1173, *Pipeline Safety Management System Requirements* (2014), p. 11.

Applying the risk management requirements of API RP 1173, the Corps also fails to effectively identify risks based upon data or prior operating experience. Neither PHMSA nor the Corps required verification that DAPL's pipeline safety systems are performing as advertised. There was no verification or examination of the performance of control systems, equipment operability, overpressure protection, adequacy of procedures, training, drills, audits, leak detection, safety culture or incident response time and capability.

But the real benefit in risk assessment is to find ways to reduce risk with actions such as additional protective safety barriers, application of more stringent standards or

route alternatives. API RP 1173 explains, "pipeline risk management steps are undertaken to reduce risk and support achieving a goal of zero incidents." *Id.* at 10. In the event that a pipeline failure occurs with DAPL, and product is released into the Missouri River, the worst case consequence scenario is ranked high because several drinking water intake High Consequence Areas (HCAs) and multiple ecologically sensitive HCAs could be impacted.

Industry assertions of low pipeline spill risk based upon generic pipeline frequency statistics are misplaced. Risk assessment must evaluate real risk including available performance data and project specific hazards. Major hazardous material incidents – large spills and toxic releases, fires, and explosions, etc. – are described in industry safety guidelines as low frequency, high consequence events. Even though these major incidents are infrequent, because of the potential for catastrophic consequences, risk evaluation and treatment for these events must receive high priority.

Modern risk approaches are moving toward a primary focus on consequence analysis rather than frequency. This for example is the post-incident approach taken by BP corporate wide in the wake of the Macondo disaster – where it was viewed that a major blowout in the Gulf of Mexico was "virtually impossible."

It is well-established that chemical accidents are the result of management system failures. *E.g.* The Center for Chemical Process Safety (CCPS), Guidelines for Investigating Chemical Process Incidents, 2nd Ed., at 9 (2003). For example, in response to serious pipeline incidents such as the 840,000-gallon Enbridge Marshall, Michigan crude oil spill into the Kalamazoo River, the NTSB issued recommendations that led to the development of API RP 1173 Pipeline Safety Management System Requirements. *See* National Transportation Safety Board, *NTSB: American Petroleum Institute's New Recommended Practice for Pipeline Safety Management Systems Exceeds NTSB Recommendation* (2013) (available at https://www.ntsb.gov/news/press-releases/Pages/PR20151030a.aspx) (last accessed February 5, 2019). Reviewing recent serious incidents, the NTSB concluded that safety management *systems* "are needed to enhance the safety of pipeline operations." NTSB Report, *Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release Marshall, Michigan July 25, 2010*, July 10, 2012, p.116.

PHMSA has supported broad acceptance of the API RP 1173 management system approach, concluding it will result in pipeline safety improvements and risk reduction. *See* PHMSA, *Safety Management Systems API RP 1173, Energy Pipeline Management Summit*, slides 25 and 46, May 23, 2016 (available at https://www.slideshare.net/MarcusEvansEnergy/emphasizing-the-importance-of-pipeline-safety-management-systemsbill-lowry-phmsa) (last accessed February 6, 2019). However, the approach to risk management applied to DAPL lacks any application of critical management systems for preventing loss of containment incidents for ETP/Sunoco, which has the worst pipeline spill record for the last 13 years.

The issuance of API RP 1173 has been hailed as a critical step forward for incident prevention in the pipeline sector. API RP 1173 is applicable to pipeline operations including designing, constructing, operating, maintaining and managing the pipeline to prevent major accidents and continually improve pipeline safety. Critical management system requirements provided for in API RP 1173, risk reduction, application of effective safeguards using the hierarchy of controls, incident investigation and safety assurance and verification are absent in the permitting record for the Dakota Access Pipeline.

Current PHMSA regulations enable pipeline operators to rely in outdated risk assessment modalities. API RP 1173 and related best practices must be made mandatory in the permitting and operation of oil and gas pipelines. Weak PHMSA regulations allow unsafe pipelines, such as Dakota Access, to continue to operate and imperil nearby communities – in our case, the Standing Rock Sioux Tribe.

For DAPL, ETP/Sunoco and the Corps of Engineers utilized an outmoded risk approach that focuses on the least effective safeguards such as procedures and human actions to detect and close the emergency shutoff valves which since 2010 have only been successful in identifying hazardous liquid spills for 12% of the incidents in the rights-of-way. For spills under the detection limit which could be as serious as 6,000 bbls. per day, the Corps is largely relying on the highly fallible system of human observations during air patrol overflights which can be as infrequent as once every 3 weeks. Air patrols were only successful identifying ETP/Sunoco hazardous liquid spills in the right-of-way 4% of the time. ETP/Sunoco's detection methods were so ineffective that random members of the public were the most successful in identifying spills – detecting 45% of the spills in the right-of-way. More effective leak detection methodologies such as external leak detection have been proposed, and should be required.

4. The Reliance on Unverified Leak Detection Systems is a Major Problem for Affected Communities

The automated leak detection systems relied upon by industry have been demonstrated to be unreliable and do not protect the environment from small "pin hole" leaks that can cause significant damage over time. For example, on August 29, 2016, the Sunoco/ETP Control Center experienced "line imbalance indications" on their Permian Express II crude oil pipeline operating in central Texas. PHMSA Distribution, Transmission & Gathering, LNG, and Liquid Accident and Incident Data, Hazardous Liquid Accident Data – January 2010 to Present, Incident Report Number 2016035. (*available at* https://www.phmsa.dot.gov/data-and-statistics/pipeline/distribution-transmission-gathering-lng-and-liquid-accident-and-incident-data) (last accessed February 1, 2018). The Sunoco report noted there was no thought that a serious spill was underway. The imbalance was stated not to exceed "established normal operating tolerances." *Id.* The crew kept the pipeline running but continued to look for the cause of the product imbalance. For twelve days they reviewed their control system

calculations, performed pressure testing and patrolled the pipeline. Finally, on September 10, the leak was discovered by a company ground patrol and the pipeline shutdown.

A "pinhole leak" from external corrosion had develop on the pipeline that had only been in operation for just over a year. A causal factor for the corrosion was "DC stray current interference from an adjacent pipeline." While initial reports stated the leak was 800 barrels, it was later determined that the spill was ten times larger with 361,000 gallons (8,600 barrels) of crude oil released resulting in over $4,000,000 in property damage. Less than 25% of the oil was recovered. The soil was remediated but no long-term assessment was conducted to determine the impacts of the crude contamination.

With respect to DAPL, the environmental risks of a leak below the stated LeakWarn 1% lower detection limit (6,000 barrel per day detection minimum) have never been evaluated. The unrealistic 1% claim has no demonstration or proof in actual performance. Neither PHMSA nor the Corps of Engineers identified or demonstrated an effective means to monitor for any undetectable leaks under Lake Oahe.

The claimed capability of the LeakWarn Leak Detection System (LDS) to detect a pipeline rupture within 3 minutes to 1% of flow was specified by ETP, accepted by the Corps and used to determine the Worst Case Discharge of crude oil. However, no performance standards or testing results were referenced or documented as required by industry standards such as API RP 1175 (Pipeline Leak Detection Program Management). There is no evidence to demonstrate the capabilities or availability of the installed LeakWarn system to perform as asserted.

Neither ETP/Sunoco nor the federal regulators have documented any field verification of the exaggerated claims of 1% leak detection within 3 minutes. Rupture detection could be as long as 3 minutes, but this only refers to the time it is alleged that it takes the LeakWarn system to detect the leak, and not the actions of the SCADA operator and management decision-making. Human factors were a key failure mechanism in recent serious incidents, such as the 2010 Marshall, Michigan disaster and the 2016 ETP/Sunoco Permian Express II pipeline spill.

There is no indication that any performance testing has been reported. The claims about the effectiveness of LeakWarn are exaggerated, and reflect a lackadaisical approach which increases risk. The reliance on unverified information provided by industry and lack of independent assessment is unjustified and renders the conclusions of no significant impact to be erroneous.

The magnitude of environmental risk posed by an oil spill is illustrated by the Bridger Pipeline spill in the Yellowstone River in January, 2015. The Bridger Bakken spill occurred under harsh winter conditions: ice greatly inhibited evaporation of VOCs such as BTEX; the thickness of the ice made cleanup nearly impossible, the rough under surface of the ice made the water more turbulent and more thoroughly mixing with the oil. As a result, the Bakken crude more thoroughly contaminated the river water column and traveled farther downstream contaminating the town of Glendive, Montana's water

supply, 6.25 miles downstream of the spill location (the town's water intake was 14 feet below the surface).

These Bakken crude lessons for ice cover conditions completely undermine the DAPLs approach to risk analysis, worst case discharge, and emergency response. EPA concluded the Bridger spill of 50,400 gallons of Bakken crude under the ice was nearly impossible to remediate given the depth of ice and harsh winter conditions. The ice cover greatly reduces evaporation of the crude oil leaving a greater volume of the toxic Bakken crude to impact human health and the environment. Bakken crude is more soluble in water and the jagged under ice surface creates turbulence that more thoroughly mixes the crude with the river current. This greater mixing of the crude in the water column was found to be the cause of harmful benzene concentrations reaching down into the Glendive, Montana drinking water intake 6.25 miles downstream of the spill location.

The town's intake was 14 feet below the surface and thought to be invulnerable to crude oil assumed to be floating at the top of the water column. Benzene was detected in the town's water at 14 micrograms per liter above the MCL of 5. Reports noted that due to the greater mixing with the oil, river sediment and lower water intakes below the surface were at greater risk. Montana issued a fish consumption advisory due to detectable levels of polycyclic aromatic hydrocarbons (PAHs) found in fish muscle tissues. Both aquatic and aquatic-dependent species such as migratory birds were exposed to oil and the impacts of the spill. These lessons for human health and ecosystem impacts and emergency response were noted by the EPA and state agencies.

With respect to DAPL, the iced-over conditions are likely to be the case for Lake Oahe for four to six months out of the year. As demonstrated by the Bridger Poplar spill in the Yellowstone River, ice cover enhances the difficulty of oil spill clean-up and remediation, resulting in widespread persistence of PAHs and exacerbating the environmental impacts of an oil spill. These lessons have been totally ignored by the federal agencies that approved the Dakota Access Pipeline, and consequently the Standing Rock Sioux Tribe remains at risk.

5. The Lack of Transparency Undermines Local Emergency Preparedness and Jeopardizes First Responders

The lack of transparency by industry and the federal agencies involved with pipeline safety harms local efforts for emergency preparedness in the event of an oil spill. For DAPL, information relating to the amount of crude oil that may be released, and its chemical composition and flammability, is necessary for emergency planning on the Standing Rock Reservation. None of this information has been provided to Standing Rock emergency responders. ETP/Sunoco and the Corps' secrecy enhances the difficulty for Tribal emergency planning for oil spill remediation at Lake Oahe, and potentially jeopardizes the lives of Tribal first responders.

Important information such as worst case discharge calculations, spill models, the chemical composition of crude oil and chemical additives, and facility response plans

required in section 311 of the Clean Water Act, remain secret for many pipelines, including Dakota Access. This information is made available by some pipeline companies, but not others – demonstrating that there is no legitimate trade secret or homeland security issue justifying the lack of transparency.

As a result, first responders to an oil spill from the Dakota Access Pipeline will not know how much crude oil could be released, its flammability, and how it may be transported in the water column. Basic information remains secret, for no good reason. This puts lives in jeopardy. Congress should require the public release of this information.

In closing, I thank the committee for taking into account the concerns of the Standing Rock Sioux Tribe with pipeline safety. Our Tribe has survived many hardships over the years, as we retain our culture and way of life in these changing times. Oil and gas development poses a new challenge. We ask the Energy Subcommittee of the Energy and Commerce Committee not to forget us.