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March 13, 2019

By Electronic Submission to https://goo.gl/HVo5Mj

Ms. Nicole Hayes
Project Manager
BLM Alaska State Office 222 West 7th Avenue, #13
Anchorage, AK 99513

DOI-BLM-AK-0000-2018-0002-EIS

Re: Comments on Coastal Plain Oil and Gas Leasing Program Draft Environmental Impact Statement

Dear Ms. Hayes,

The Emmett Environmental Law & Policy Clinic at Harvard Law School respectfully submits these comments on the Draft Environmental Impact Statement ("DEIS") issued by the Bureau of Land Management ("BLM") to implement an oil and gas leasing program (the "Proposed Action") within the Arctic National Wildlife Refuge Coastal Plain (the "Coastal Plain").[1] For the reasons discussed below, we urge BLM to revise the DEIS' analysis of greenhouse gas emissions and oil spills to reflect the full scope of the Proposed Action's potential impacts and to present the information in a manner that supports meaningful analysis.

These comments focus on issues relating to the Proposed Action's impacts on greenhouse gas (GHG) emissions and oil spills. In both contexts, the DEIS makes unexplained departures from established practices and judicial precedent that collectively minimize the projected environmental impacts of issuing oil and gas leases. Standing alone, each omission or deficiency raises questions; taken together, they create a repeated distortion in favor of oil and gas development. This is contrary to the National Environmental Policy Act's ("NEPA," 42 U.S.C. § 4321 *et seq*.) purpose of presenting an objective analysis of the environmental impacts of a proposed project for decision-makers and for the public. In brief, the DEIS:

- Underestimates the Proposed Action's effects on GHG emissions, including by failing to consider impacts on and associated with the continued operation of the Trans-Alaska Pipeline System and thawing permafrost;

[1] About the Commenter: The Emmett Environmental Law & Policy Clinic works on a variety of local, national, and international projects covering the spectrum of environmental law and policy issues. The Emmett Clinic has published several white papers and submitted comments to the Department of the Interior on various aspects of regulation of offshore and onshore drilling and transportation for oil and gas, including drilling in the Arctic in particular.

- Omits from the review of alternatives scenario-specific GHG emissions, despite potential differences in direct emissions under each alternative;

- Presents the Proposed Action's effects on GHG emissions in a manner that obscures meaningful analysis, including by (i) using an unreasonably long production durations for leases on the Coastal Plain, such that annual emissions are distorted, and (ii) presenting GHG emissions data in metrics that discount the significance of the impacts; and

- Underestimates the magnitude of future oil spills on the Coastal Plain, including by excluding more recent large spills on the North Slope and by applying smaller estimated spill sizes than utilized by other federal agencies.

These aspects of the DEIS consistently skew the analysis in favor of Coastal Plain leasing to the maximum extent for oil and gas exploration. These issues should be remedied in the Final Environmental Impact Statement ("FEIS") to ensure the full and meaningful analysis of environmental impacts required by NEPA.

I. The DEIS Underestimates and Fails to Meaningfully Present the Climate Impacts of the Proposed Oil and Gas Leasing Program

NEPA-required environmental review for federal actions, such as the Proposed Action, that are anticipated to lead to significant emissions of GHGs must estimate both direct and indirect GHG emissions.[2] In doing so, federal courts have held that agencies must consider "the best available science" and consider climate change information in a "*meaningful* or logical way."[3] Moreover, when conducting an analysis of impacts, agencies cannot "put a thumb on the scale" by selectively considering or quantifying negative impacts.[4]

In direct conflict with past practice and guidance from federal courts, the DEIS distorts the climate change analysis by:

(i) Significantly underestimating GHG emissions, including by neglecting to consider the impacts of the Proposed Action with respect to the continued operation of the Trans-Alaska Pipeline System and melting permafrost; and

(ii) Failing to present GHG emissions data in a meaningful or logical way, including by neglecting to estimate GHG emissions for each alternative, presenting misleading annual emissions figures, and using metrics that obscure the significance of the Proposed Action's GHG emissions.

A. The DEIS Does Not Adequately Consider the Proposed Action's Impacts on GHG

[2] *See e.g. WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, 870 F.3d 1222, 1228-29, 1234-35 (10th Cir. 2017) (combustion of coal is indirect effect and must be included in the EIS).

[3] *AquAlliance v. U.S. Bureau of Reclamation*, 287 F. Supp. 3d 969, 1031 (E.D. Cal. 2018) (citing *Wild Fish Conservancy v. Irving*, 221 F. Supp. 3d 1224, 1233 (E.D. Wash. 2016)) (emphasis original).

[4] *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198 (9th Cir. 2008).

Emissions.

The DEIS underestimate's the GHG emission impacts of the Coastal Plain leasing by failing to consider the Proposed Action's (i) effect on the continued operation of the Trans-Alaska Pipeline System ("TAPS") and the attendant GHG emissions, and (ii) contribution to permafrost thawing that would increase levels of atmospheric GHG.

The Trans-Alaska Pipeline System

The 800-mile pipeline that conveys oil from Prudhoe Bay to Valdez, Alaska is the heart of TAPS, which also includes nearly a dozen pump stations and the Valdez Marine Terminal. TAPS was designed to handle a high volume of warm crude oil. As production in Prudhoe Bay (and consequently the volume of oil passing through the pipeline) has dropped, the pipeline system has experienced ice formation and wax accumulation. From 2012 to 2018, TAPS' average daily throughput fluctuated between approximately 550,000 and 510,000 barrels per day.[5] Alyeska Pipeline Service Company—the designer, builder, and operator of the pipeline system—estimates that if throughput drops below 300,000 barrels per day, the pipeline, and thus TAPS, will have to be shut down.[6] If TAPS shuts down, a 1974 right-of-way agreement requires Alyeska to dismantle the pipeline system.[7] In October 2017 (before Congress authorized production on the Coastal Plain), Alyeska estimated that the TAPS average daily throughput would approach the shutdown level of 300,000 barrels per day around 2027.[8]

The status of TAPS is strongly correlated with the future of Alaskan oil production, and is thus an impact that must be factored into the analysis of environmental impacts from Coastal Plain leasing. The FEIS should thus consider the Proposed Action's impacts on TAPS and resulting GHG emissions in both (i) the "baseline" of the no-action Alternative A, and (ii) the analysis of the action alternatives (B, C, D1 and D2). As described by BLM, "Alternative A [the no-action alternative] is being carried forward for analysis to provide a baseline for comparing impacts under the action alternatives, as required by the [Council on Environmental Quality ("CEQ")] NEPA regulations."[9] As discussed above, absent new supply into TAPS, the no-action alternative baseline should reflect the strong possibility that TAPS would become inoperable in the coming years. By ignoring the future of TAPS in the analysis of Alternative A, the DEIS omits a crucial consideration and distorts the baseline against which the environmental impacts of the Proposed Action are measured. If TAPS were to shut down, tens of millions of barrels of oil would be either stuck in Alaska or would need to be transported to market by other,

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[5] *Pipeline Operations Throughput*, ALYESKA PIPELINE SERV. CO., https://www.alyeska-pipe.com/TAPS/PipelineOperations/Throughput (last updated Jan. 7, 2019).

[6] ALEYSKA PIPELINE SERV. CO., TRANS ALASKA PIPELINE SYSTEM LOW FLOW OVERVIEW, at 11 (Oct. 2017), https://www.alyeska-pipe.com/assets/uploads/pagestructure/TAPS_LowFlow_Overview/editor_uploads/2017%20Low%20Flow%20Comm%2010.4.17.pdf [hereinafter, "*Trans Alaska Pipeline System Low Flow Overview*"].

[7] Philip Wight, *How the Alaska Pipeline Is Fueling the Push to Drill in the Arctic Refuge*, YALEENVIRONMENT360 (Nov. 16, 2017), https://e360.yale.edu/features/trans-alaska-pipeline-is-fueling-the-push-to-drill-arctic-refuge.

[8] TRANS ALASKA PIPELINE SYSTEM LOW FLOW OVERVIEW, *supra* note 6, at 3.

[9] BUREAU OF LAND MANAGEMENT, COASTAL PLAIN OIL AND GAS LEASING PROGRAM: DRAFT ENVIRONMENTAL IMPACT STATEMENT, at Vol. I, 2-2 (Dec. 2018) [hereinafter, "DEIS"]; *see also* 40 C.F.R. § 1502.14(c).

potentially costlier and higher emitting methods. The FEIS' Alternative A "baseline" analysis should account for the impacts on GHG emissions from the projected closure of TAPS. This would allow for a more accurate calculation of the relative increase in emissions from the Proposed Action.

The FEIS should also address the Proposed Action's impact on GHG emissions from the continued operation of TAPS in the analysis of the action alternatives (Alternatives B, C, D1, and D2). Shutting down TAPS would significantly reduce the economic feasibility of oil production in Alaska and would likely reduce GHG emissions. As a corollary, keeping TAPS open would result in higher GHG emissions relative to a TAPS-free baseline. Insofar as the action alternatives would increase the likelihood of TAPS remaining open and operational (by facilitating additional oil and gas production and throughput for the pipeline system), they would foreseeably lead to higher GHG emissions compared to the no-action alternative. Because this issue is not addressed in the DEIS, it likely underestimates the impact the action alternatives would have on GHG emissions and, consequently, climate change. If additional throughput from Coastal Plain oil has the effect of keeping TAPS operational, the net increase in oil production (and resulting GHG emissions) would be much higher than is reflected in the DEIS.

The inextricable tie between the issuance of oil and gas leases on the Coastal Plain and the future of TAPS should be reflected in the FEIS in order to fully assess the environmental impacts of the Proposed Action.

Permafrost

Permafrost is a major source of terrestrial carbon and permafrost loss releases GHGs into the atmosphere.[10] Thermokarst features—formed through rapid permafrost thaw—can lead to large and abrupt releases of GHGs into the atmosphere.[11] Increased atmospheric GHGs from permafrost loss are predicted to increase global average temperatures; according to at least one study, this change could be approximately 0.5° F by 2100.[12] Several times throughout the DEIS, BLM mentions potential permafrost loss from oil and gas activities.[13] For example:

- "[F]uture construction of infrastructure would affect topography in the program area and could reshape geomorphological features, such as water bodies and permafrost features."[14]

[10] Zimov, Schuur, and Chapin, *Permafrost and the Global Carbon Budget*, 312 Science 1612, 1613 (2006), http://science.sciencemag.org/content/sci/312/5780/1612.full.pdf.

[11] Anthony et al., *21st-century modeled permafrost carbon emissions accelerated by abrupt thaw beneath lakes*, NATURE COMM. (Aug. 15, 2018), https://www.nature.com/articles/s41467-018-05738-9.

[12] *Id*.

[13] *See* DEIS, *supra* note 9.

[14] *Id*. at 3-25.

- Other future activity "including vehicular travel on snow and ice-covered tundra, [would] change and disturb the insulating surface vegetation layer and increase the active layer thickness, thawing the permafrost, and developing thermokarst structures."[15]

Furthermore, the DEIS notes that "[e]ach of the hypothetical development scenarios could affect over 2,000 acres of soils and permafrost."[16] However, while the DEIS contemplates oil-and-gas-related permafrost loss, it neglects to discuss the corresponding climate impacts of this permafrost reduction. The FEIS should estimate the GHG emissions from permafrost loss associated with the Proposed Action.

B. The DEIS Improperly Omitted Greenhouse Gas Emissions Estimates for Each of the Proposed Alternatives.

The DEIS neglects to calculate GHG emissions for each alternative considered, despite the directive in the NEPA implementing regulations for agencies to present the alternatives analysis in a comparative form so that the environmental impacts of the alternatives can be reasonably compared.[17] Instead, the DEIS estimates one value for the minimum and maximum carbon dioxide equivalent ("CO_2e") emissions from Coastal Plain oil and gas production, asserting that "hypothetical production rates and estimated ultimate recovery are not expected to change significantly under any of the alternatives."[18] However, without further elaboration this is not a logical explanation.

For example, Alternatives D1 and D2 offer only 1,037,200 acres for lease, compared to 1,563,500 acres under Alternatives B and C. If the total ultimate recovery is the same across each alternative, Alternatives B and C would not recover any additional oil in the 526,300 acres not leased under Alternatives D1 and D2. This raises the question as to why, then, BLM would offer those additional areas for lease under any alternative if they are estimated not to contain or lead to additional recoverable oil and gas.

Relatedly, Alternative C has 932,500 acres subject to a no surface occupancy (NSO) restriction whereas under Alternative B, only 359,400 acres are subject to an NSO restriction. Prohibiting surface occupancy forces producers to use more expensive extraction techniques, such as directional drilling.[19] In the FEIS, BLM should explain its assumption that the same amount of oil could be profitably recovered with such techniques despite the higher cost of directional drilling. Because the DEIS estimates GHG emissions based on economically recoverable oil—and not based on total reserve—higher recovery costs could result in fewer GHG emissions

[15] *Id*. at 3-46.

[16] *Id*. at 3-48.

[17] *See* 40 C.F.R. § 1502.14 (describing the analysis of alternatives as "the heart of the environmental impact statement").

[18] DEIS, *supra* note 9, at Vol. II, Appendices B through O, B-18.

[19] *See, e.g.*, Timothy Fitzgerald, *Evaluating Split Estates in Oil and Gas Leasing*, 86 Land Economics 294, 308 (May 2010), https://www.jstor.org/stable/pdf/27821425.pdf?refreqid=excelsior%3Ac01792291aa4bafbe38755e2f9e4c264.

under Alternative C compared to B. If total oil and gas recovery is different across alternatives, the FEIS needs to detail the estimated GHG emissions of each.

Any reasonable choice BLM makes between Alternatives B, C, D1, and D2 must consider the different amount of emissions produced under each alternative. To inform this decision, the FEIS should (i) estimate recoverable oil and gas (and the corresponding GHG emissions) under each of the proposed alternatives, and (ii) quantify the climate effects of each alternative so that a full range of comparative environmental impacts can be made available to public officials and citizens before an alternative is chosen.

C. BLM's Presentation of Greenhouse Gas Emission Impacts is Distorted by the Use of an Unreasonably Long Production Duration for Coastal Plain Leases and Annual Averages that Do Not Distinguish Between Development and Production Years

The total projected GHG emissions from the Proposed Action, both direct (from construction, extraction, and transportation) and indirect (from downstream combustion of oil and gas), is not contingent on the assumed production duration for the Coastal Plain leases.[20] However, because the DEIS presents GHG impacts as *annual* emissions, compared to annual emissions at the United States and global level, the assumed production duration influences the perception of the significance of the Proposed Action's impact on GHG emissions. For example, doubling the number of production years halves the annual emissions. In this instance, presentation matters: misleading or arbitrary assumptions are insufficient to meet NEPA requirements.[21]

The DEIS presents annual GHG emissions from the Proposed Action based on a 70-year construction, drilling, and production period.[22] However, this long a production period is not supported by other estimates in the DEIS. For example:

- As described in Appendix B, "the timeframe for production could be more or less than 50 years given the speculative nature of the development scenarios" and peak production from the Coastal Plain "is anticipated at some point before 50 years, potentially as early as 20 years after the first lease sale."[23] Production from a field could continue, at declining rates, for up to 35 years after peak production is reached;[24] and

- The DEIS assumes that the life of production facilities or access roads for the Coastal Plain will be approximately 50 years.

The FEIS should assume a shorter production duration that better reflects the discussion in the

[20] DEIS, *supra* note 9, at Vol. I, 3-6.

[21] *City of Romulus v. Wayne Cty.*, 392 F. Supp. 578, 594 (E.D. Mich. 1975), *order dissolved*, (E.D. Mich. Oct. 31, 1975), *vacated*, 634 F.2d 347 (6th Cir. 1980).

[22] DEIS, *supra* note 9, at Vol. I, 3-7.

[23] DEIS, *supra* note 9, at Vol. II, Appendices B through O, B-7.

[24] *Id*.

DEIS. If the FEIS assumes a production duration of 35 years, its estimated annual CO_2e emissions range would *double* to 1.4 – 10.0 million metric tons.

Relatedly, the FEIS should:

1. Separate estimated annual GHG emissions for pre-production and post-production years. BLM estimates that direct emissions from construction and drilling during pre-production years would be around 85 times smaller than indirect emissions from consumption, which only occur during production years.[25] By lumping the pre-production and production years together, the DEIS distorts the estimated annual GHG emissions rate.

2. Present the total estimated GHG emissions over the lifespan of the Proposed Activity without comparison to annual figures. This approach would be consistent with BLM's approach in the EIS for the nearby Greater Mooses Tooth 2 Development Project.[26]

Such changes would improve the transparency and utility of the information presented in the FEIS.

D. <u>The DEIS Does Not Adequately Evaluate the Significance of the Proposed Action's GHG Emissions.</u>

The NEPA-implementing regulations require agencies to evaluate the "significance" of proposed actions' environmental impacts. 40 C.F.R. § 1502.16). When reviewing the sufficiency of such a "significance" analysis, courts have held that "meaningless numbers to the nonscientist with no guidelines to analyze the data presented in terms of acceptability for a human environment" do not fulfill NEPA's requirements.[27] In the DEIS, BLM acknowledges that "climate change and potential climate impacts, in and of themselves, are often not well understood by the public."[28] However, the DEIS does little to elucidate the issue by presenting the Proposed Action's estimated climate impacts as millions of metric tons of CO_2e as compared to total Alaskan, United States, and global GHG emissions (Table 3-5). These opaque figures are not meaningful to many of those reading the DEIS. Moreover, as explained by CEQ, "a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA."[29]

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[25] DEIS, *supra* note 9, at Vol. I, 3-8 (0.06 million metric tons for direct emissions and 5.0 million metric tons for indirect emissions in Table 3-5).

[26] The DEIS' prediction of GHG emissions per barrel of available oil from Coastal Plain oil and gas production is based on estimates that were calculated for the nearby Greater Mooses Tooth 2 GMT 2 Development Project ("GMT2"). However, the GMT2 project was able to utilize existing infrastructure, which does not exist in the Coastal Plain, to support production. The FEIS should account for this discrepancy and adjust projected emissions from the Coastal Plain leasing up to reflect the need for new infrastructure.

[27] *City of Romulus v. Wayne Cty.*, 392 F. Supp. 578, 594 (E.D. Mich. 1975), *order dissolved*, (E.D. Mich. Oct. 31, 1975), *vacated*, 634 F.2d 347 (6th Cir. 1980).

[28] DEIS, *supra* note 9, at Vol. II, Appendices B through O, F-3.

[29] Memorandum from Christina Goldfuss, CEQ, for Heads of Federal Departments and Agencies, *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate*

A more meaningful evaluation of the significance of effects of leasing in the Coastal Plain would use additional metrics to evaluate the Proposed Action's impacts. For example, rather than compare projected GHG emissions from the Proposed Action to total emissions in the United States, the FEIS should explain the emissions in the context of energy consumption in the United States. For example, in 2017, the United States consumed a total of 7.28 billion barrels of petroleum products[30] and CO_2 emissions from these products represented 81 percent of total U.S. transportation sector CO_2 emissions and 30 percent of total U.S. energy-related CO_2 emissions.[31] Leasing on the Coastal Plain is expected to produce up to 10 billion barrels of oil equivalent. Consequently, indirect GHG emissions from oil and gas extracted from the Coastal Plain could represent more than 30 percent of total U.S. energy-related CO_2 emissions in one year.

GHG emissions data can be presented in many ways, but it is problematic if the data is consistently presented in a manner that skews the analysis by suggesting artificially small environmental impacts. The FEIS should better contextualize the projected GHG emissions arising from leasing activities in the Coastal Plain.

II. The DEIS Significantly Distorted the Analysis of Future Oil Spills and Consequently Underestimates Associated Environmental Impacts.

One significant impact from leasing on the Coastal Plain is oil spills, a type of indirect impact that must be considered in the EIS. 40 C.F.R. § 1502.16. The potential magnitude of such oil spills is exacerbated in this instance by the distance that the extracted oil and gas must be transported. As held by the D.C. Circuit, an EIS is improper when its analysis consistently underestimates harmful environmental consequences but never overestimates them;[32] "[such] discrepancies alone raise doubts about the validity of the government's impact conclusions."[33] In addition to underestimating GHG emissions from the Coastal Plain as explained in Section I, the DEIS underestimates the potential magnitude of future oil spills, including as follows:

- The DEIS describes the relative rate of spills from main sources of spills through the extraction process in Table 3-15. However, this table was cross-referenced from the Alpine Satellite Development Plan EIS, which, in turn, was based on spills that occurred

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Change in National Environmental Policy Act Reviews, at 11 (Aug. 1, 2016), https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf; *see also* 81 Fed. Reg. 51,866 (Aug. 5, 2016) (Notice of Availability). Although this guidance has been withdrawn, it is still cited by federal courts for its "persuasive value" and "to the extent the reasoning is logically sound and consistent with case law." *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1243 (D.N.M. 2018).

[30] *FAQ: How much oil is consumed in the United States?*, U.S. ENERGY AND INFO. ADMIN. (Oct. 3, 2018), https://www.eia.gov/tools/faqs/faq.php?id=33&t=6 .

[31] *FAQ: How much carbon dioxide is produced from U.S. gasoline and diesel fuel consumption?*, U.S. ENERGY AND INFO. ADMIN. (Dec. 27, 2018) https://www.eia.gov/tools/faqs/faq.php?id=307&t=10.

[32] *Greater Yellowstone Coal. v. Kempthorne*, 577 F. Supp. 2d 183, 198 (D.D.C. 2008).

[33] *Id.*

between January 1995 and August 2003 on the Alaska North Slope.[34] Thus, the DEIS does not account for spills after mid-2003, including the 2006 oil spill that released between 201,000 to 267,000 gallons of crude oil onto the arctic tundra and frozen lakes.[35] The lessons learned from one of the largest oil spills in Alaska since the Exxon Valdez incident—such as the time lag in initial detection, the difficulty for recovery crew to operate in frigid conditions, and the contamination of a nearby lake despite protective ramps[36]—are certainly relevant for BLM's present decision.

- The DEIS estimates that the mean estimate of 3.4 billion barrels of oil anticipated to be produced from the Coastal Plain will result in 4,496 barrels of spilled oil. However, the assumptions used to reach that estimate represent a significant departure from a 2013 report commissioned by the Bureau of Ocean Energy Management ("BOEM"),[37] which uses data from the entire Alaska North Slope instead of just NPR-A. For instance, the DEIS estimates the average spill size to be 2.8 barrels per small spill (<500 barrels); in contrast, the BOEM report suggests at least 9.8 barrels per small spill.[38] The DEIS estimates that there will be on average 2.2 large spills (>500 barrels) for the mean estimated production.[39] The BOEM report suggests that the best approach to estimate number of large spills is to assume 0 to 2 such spills per 1 billion barrels produced[40]. Using a median value of 1 large spill per billion barrels produced, BLM should predict 3.4 large spills for the mean production scenario for the Proposed Action. Substituting these two BOEM assumptions into the DEIS, and holding all else equal, one can expect 10,411 barrels spilled in connection with the Proposed Action, more than double the BLM's estimated 4,496 barrels. The FEIS should integrate BOEM's assumptions in its estimation of spill rates for the Proposed Action.

- The DEIS also asserts that the rate of oil spills on the Coastal Plain "is likely to be lower than the history of the past 30 years of oil exploration, development, production and

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[34] BUREAU OF LAND MANAGEMENT, ALPINE SATELLITE DEVELOPMENT PLAN ENVIRONMENTAL IMPACT STATEMENT, at 374 (Sept. 2004), https://www.blm.gov/eis/AK/alpine/eisdoc/final/09sec04.pdf.

[35] SITUATION REPORT FOR GC-2 OIL TRANSIT LINE RELEASE, ALASKA DEP'T OF ENVTL. CONSERVATION DIVISION OF SPILL PREVENTION AND RESPONSE (2006), https://dec.alaska.gov/spar/ppr/response/sum_fy06/060302301/sitreps/060302301_sr_16.pdf. There does not seem to be any reason not to include available data regarding spills in the Prudhoe Bay given the geographic proximity of the area to the Coastal Plain.

[36] *Alaska oil spill was largest ever on North Slope*, NBC NEWS (Mar. 10, 2006), http://www.nbcnews.com/id/11743346/ns/us_news-environment/t/alaska-oil-spill-was-largest-ever-north-slope/#.XDzm6c9KjOQ.

[37] NUKA RESEARCH AND PLANNING GROUP LLC, OIL SPILL OCCURRENCE RATES FOR ALASKA NORTH SLOPE CRUDE AND REFINED OIL SPILLS (Oct. 2013), https://www.boem.gov/uploadedFiles/BOEM/BOEM_Newsroom/Library/Publications/131104_BOEMOilSpillOccurrenceFinalReport.pdf.

[38] *Id*. at 29-30.

[39] DEIS, *supra* note 9, at Vol. I, 3-38.

[40] *OIL SPILL OCCURRENCE RATES FOR ALASKA NORTH SLOPE CRUDE AND REFINED OIL SPILLS*, NUKA RESEARCH AND PLANNING GROUP, supra note 37, at 63.

> transportation on the North Slope."[41] However, a report by the Alaska Department of Environmental Conservation on oil spills from piping infrastructure on the North Slope states the opposite: frequency of large spills (>10,000 gallons) trended upward over the study period of 1995 – 2009, and 75% of spills greater than 10,000 gallons occurred in the latter half of the study time frame, with the two largest spills occurring in 2006.[42]

These decisions all contribute to the DEIS' underestimation of the magnitude of oil spills. As interpreted by the Supreme Court, "NEPA ensures that the agency will not act on incomplete information."[43] Thus, for example, in the context of oil spills, agencies cannot constrain the time of study to a narrow historical period and ignore newer spills when estimating the likelihood or magnitude of future oil spills in an EIS.[44] This was illustrated by the District Court of Montana's decision in *Indigenous Envtl. Network v. United States Dep't of State*, which held that the State Department could not rely only on the time period from 2002 to 2012 to estimate oil spills but must also consider major spills that occurred between 2014 and 2017. The FEIS should address the deficiencies discussed herein to avoid artificially minimizing the potential adverse impacts of drilling and putting a thumb on the scale in favor of drilling.

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As discussed herein, the DEIS is deficient in its analysis, evaluation, and presentation of the Proposed Action's impacts on GHG emissions and oil spills. These issues should be addressed in the FEIS to ensure a full and objective analysis of the environmental impacts of oil and gas extraction in the Coastal Plain.

Thank you for your attention to these comments.

Sincerely,

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[41] DEIS, *supra* note 9, at Vol. I, 3-62.

[42] *North Slope Spills Analysis (NSSA) Reports*, ALASKA DEP'T OF ENVTL. CONSERVATION DIVISION OF SPILL PREVENTION AND RESPONSE, https://dec.alaska.gov/spar/ppr/response-resources/publications-conferences/nssa-reports/ (last visited Mar. 13, 2019).

[43] *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 371 (1989).

[44] *See, e.g., Indigenous Envtl. Network v. United States Dep't of State*, No. CV-17-29-GF-BMM, 2018 WL 5840768, at *11 (D. Mont. Nov. 8, 2018) (holding that the oil spill estimate cannot rely only on the time period 2002 – 2012 and must take into account major spills that occurred between 2014 and 2017).

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