



THE STATE  
*of* **ALASKA**  
GOVERNOR BILL WALKER

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DATE: November 2, 2017

Nanushuk Draft Environmental Impact Statement, State of Alaska consolidated comments

Ms. Lyons,

The State of Alaska appreciates the opportunity to comment on the Nanushuk Draft Environmental Impact Statement (DEIS). We are encouraged by this milestone and look forward to working with you moving forward. Attached our the State of Alaska's consolidated comments for the DEIS. If you have any questions please contact the new State of Alaska Nanushuk coordinator, Don Perrin (907-269-7476).

Jeff Bruno  
Director  
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**Nanushuk Draft Environmental Impact Statement Comment Form:**

Name of Reviewer: \_\_\_\_\_

Agency: \_\_\_\_\_

**All comments due October 16, 2017 - Please send comments as sections are complete rather than waiting until the end of the review period**

Instructions and Use Codes	
Chapter #:	Use "G" for general/applies throughout document or appears in Table of Contents, etc.
Priority:	1 Critical issue requiring discussion/resolution
	2 Substantive comment (including issues pertaining to Agency policy or precedent setting conclusions)
	3 Factual or substantive issue (regarding legal principles or regulatory error that should be corrected prior to publication)
	4 Editorial comment (suggestions to improve readability of the document/report or typographical error)

Comment No.	Chapter # (select)	Chapter/Section (select)	Page No.	General Comment (Y/N)	Paragraph No.	Figure or Table No.	Priority (select 1 - 4)	Reviewer Comment
<i>Example</i>	<i>ES</i>	<i>Executive Summary</i>	<i>2-4</i>	<i>Yes</i>	<i>4</i>	<i>N/A</i>	<i>2</i>	<i>&lt;Insert your comment that relates to critical issues that require immediate attention; please quote specific items/issues where necessary to provide clarity and context&gt;</i>
1	3.6	Hydrology and Floodplains	3-125	No	3			The first bullet point refers to lakes "that contain sensitive fish", rewriting the bullet point to say "that contain <b>species of fish sensitive to low oxygen levels</b> " will add clarification to what a "sensitive" fish is.
2	3.6	Hydrology and Floodplains	3-131	No	3			"Thaw bulb" is bolded but there is no definition on the side (or in the chapter.)
3	3.6	Hydrology and Floodplains	3-134	No	2			The text says: "The figure shows the daily average discharge peaks following snowmelt in the last week of May or the first 2 weeks of June." This sentence is a bit confusing- perhaps it could be clarified by saying "following snowmelt at the end of May."
4	3.6	Hydrology and Floodplains	3-137	No	3			Text in this paragraph says that ice jams in the East Channel at Helmerick Homestead were observed three time, but this isn't represented in Figure 3.6-4 which depicts locations and frequencies of ice jams on the Colville River.
5	3.7	Water Quality	3-189	No	3			The text says ADF&G habitat permits are issued under under AS 16.05.871 and 5AAC 95.700. It should be added that permits are also issued under AS 16.05.841.
6	3.12	Fish and Invertebrates	3-466	No	1			Typo - "...widespread fresh5water fish..."
7	3.12	Fish and Invertebrates	3-481	No	5			Water intakes are required to be screened under ADF&G water withdrawal permits. Stating that it will be required will clarify the obligation.
8	3.17	Subsistence and Traditional Use	3-587	No	4			The text says that state subsistence law is based on Title 16 of AS (16.05.841 or 16.05.871). This is in error, those are habitat statutes; the correct subsistence statute is <b>AS 16.05.258</b> .
9	3.12	Fish and Invertebrates	3-485	Yes		3.12-6		Likelihood of spill for very small to small spills (in tables throughout Chapter 3) is defined as "very low to low", but in Chapter 4 a key finding is that "all North Slope oil projects, including the Project, would likely encounter (or continue to encounter) small spills in the future, despite continued improvements in engineering design." It seems as if these statements are at odds with each other: if the Project is likely to encounter small spills, the likelihood of a very small to small spill cannot be very low to low.
10	2.0	Alternatives	2-31	Yes	2	N/A		2.3.2.4: ice roads are permitted by both the North Slope Borough and the Department of Natural Resources, Division of Mining, Land and Water, Northern Region Office, depending on land ownership.
11	2.0	Alternatives	2-50	No	2	N/A		2.3.2.9: recommend adding "per regulatory requirements" after "validate their integrity before operations begin"
12	2.0	Alternatives	2-50	No	3	N/A		2.3.2.9.1: Recommend adding the language in red: "Pipeline spill prevention measures include multiple forms of leak detection, isolation valves or vertical loops, and regular maintenance, testing and cleaning. Leak detection systems and surveillance would be compliant with the American Society of Mechanical Engineers (ASME) codes and state and federal standards. Pipeline river crossings would use either isolation valves or vertical loops, depending on the type of pipeline. Pipeline facilities would include pig launchers and receivers capable of handling in-line inspection, maintenance, and cleaning tools. In the event of a <b>ny suspected</b> leak, pipeline operations would be shut down immediately, and appropriate agency notifications would be made. The cause of the incident would be identified, and repairs would be implemented after regulatory <b>oversight and</b> approval. Spill containment and mechanical cleanup would begin as soon as possible. "
13	2.0	Alternatives	2-50	No	6	N/A		2.3.2.9.2: recommend striking "avoid" in this sentence, "The equipment would be used to avoid, contain, control, clean up, store...", as the equipment is not there to avoid a spill.

14	3.10	Terrestrial Mammals	3-400	No	1	N/A	3.10.6.4.2 "Using the Mustang Road would reduce effects on caribou crossing success between the Mustang facilities and Kuparuk DS2M, although the addition of another set of pipelines in would likely slow crossings." - sentence seems incomplete. "...pipelines in [missing something here] would likely slow crossings."
15	3.6	Hydrology and Floodplains	3-158	Yes	3	N/A	<p>There are several times throughout this section where there is a discussion of impacts that would result from an applicant not complying with a State issued permit (i.e. Temporary Water Use Authorizations). It has worked best with other EIS's when we stay away from this type of hypotheticals. We request that these types of discussions be restructured to describe that the State is responsible to assure protection of said resources. This comment is a general comment to section 3.6 but please consider it through out the document.</p> <p>For example rather than saying "Discharges from contaminated secondary containment could increase petroleum hydrocarbons concentrations and change pH in receiving waters" explain that secondary containment is a DEC requirement that is intended to prevent the release of hydrocarbons on to the surrounding tundra and aquatic resources (or something along those lines).</p>
16	3.6	Hydrology and Floodplains	3-158	No	4	N/A	The way that this reads it seems to address impacts if DNR ice road permit conditions/BMP's are not followed. Suggest not giving hypotheticals about what impacts would occur if an applicant potentially violates or doesn't follow permit conditions. For EIS's it has worked best if you defer to State authorities and explain how they protect the resource from impact if it relates to a State authority. In this case DNR is responsible for permitting ice roads on State land.
17	3.7	Water Quality	3-202	No	1	N/A	Might be worth adding in this section that there is a potential for water quality to naturally exceed TDS limits as required by Alaska Water Quality standards.
18	3.7	Water Quality	3-215	No	4	NA	<p>While the statement below is true this type of discharge would be in violation of SOA permits. Since this scenario has not been identified as a potential impact I do not think the statement below is warranted. Secondary containment is a BMP to prevent this type of impact. For this discussion on secondary containment this impact would only occur in a worse case scenario and under a permit violation. Suggest removing statement unless it has been an identified impact.</p> <p>"Discharges from contaminated secondary containment could increase petroleum hydrocarbons concentrations and change pH in receiving waters."</p>
19	3.8	Wetlands and Vegetation	3-269	yes	2	N/A	This comment is specific to this section but is a general comment for the discussion of ice-roads vs off road/tundra travel. Please delete reference to "off-road travel" from discussion of ice road impacts. Off-road/tundra travel and ice roads and construction are different activities and should be discussed separately.
20	3.8	Wetlands and Vegetation	3-277	No	3	N/A	Recommend revising; if sufficient recharge occurs in the spring, there would be no effect. If sufficient recharge did not occur, effects would likely be possible and temporary due to regulations requiring demonstration of recharge.
21	3.9	Birds	3-329	No	3	N/A	Rather than stating "withdrawals could cause lower lake levels and exceed natural charge" (this seems to imply that the operator would violate permit conditions), might be better to state that the State of Alaska, DNR, MLW manages water withdrawal authorizations. Water withdrawals limits the amount of water and recharge rates to assure that lake levels are properly maintained for a variety of purposes.
22	3.9	Birds	3-329	No	4	N/A	<p>This paragraph seems to discredit DNR and ADF&amp;G permitting and responsibility to manage and protect these resources.</p> <p>The paragraph states "and water withdrawals that cause fish mortality, or result in lower water levels and expose shorelines in June, could make those lakes unsuitable for breeding".</p> <p>What water withdrawals is this paragraph referring to. We need to be careful about implying fish mortality and loss of habitat as an impact as a result of a permit intended to protect those resources. Has this been identified as an actual impact or is this a hypothetical scenario? It appears to be a hypothetical that implies water withdrawals authorizations would allow for the impacts described in this paragraph which we feels strongly needs to be removed as currently described.</p>
23	3.10	Terrestrial Mammals	3-365	No	N/A	Table 3.10-5	As discussed in Section 3.10.6.3.4, bears and foxes are attracted to human infrastructure, such as human modified areas. Recommend apply F or U to human modified for grizzly and D and/or U to human modified for foxes.
24	3.10	Terrestrial Mammals	3-388	No	2	N/A	<p>"The Applicant would consider sensitive grizzly bear habitat and coordinate with ADF&amp;G when finalizing the design of the pipeline alignment crossings over the Miluveach River to reduce potential effects to bears." as this was already done.</p> <p>Please note that the applicant has already begun meeting with ADF&amp;G. Might be worth stating this as a process that is already occurring/started.</p>

25	3.10	Terrestrial Mammals	3-393	No	2	N/A	Seems that impacts to grizzly bears should be minor as oppose to moderate. It seems like there should be historical data that supports the minor rating (i.e. control numbers, defense of life, etc.). If that is not correct than the data should point to a moderate impact and quantify that conclusion.
26	3.10	Terrestrial Mammals	3-409	Yes	1	N/A	It does not appear that all mitigate measures discussed earlier in this section are included. For example, in the sections discussing grizzly bears, it was noted that ADF&G required a 0.5 mile setback from known dens and the Applicant would work closely with ADF&G to identify those dens with collared bears prior to construction.
27	3.17	Subsistence and Traditional Use	3-585	No	2	N/A	Please include the ADF&G (2016b) study referenced in Table 3.17-1 above.
28	3.17	Subsistence and Traditional Use	3-641	Yes	3	N/A	The authors have stated that water intakes for water withdrawal could cause injury or mortality to fish species but do not recognize the standard practice of placing screens on the intakes to prevent this from happening. Companies work with the ADFG on determining screen size, etc. The impact of water intakes is described in this section as unlikely, moderate and long-term. This is inconsistent with the impact description in Section 3.12.6.3.2.2 (which does recognize that water intakes would be screened) of unlikely, minor and long-term.
29	3.22	Unavoidable Adverse Effects, Irreversible and Irretrievable Loss of Resources	3-760	No	2	N/A	Bullet 3: Please remove this statement. The title suggest these impacts would result. Bullet 3 is a hypothetical scenario (and does not meet the intention of this list which identifies known impacts and it also ignores the state's authority to manage these resources including recharge.
30	G	General				N/A	<i>Oil volumes associated with uncontrolled well blowouts, catastrophic pipeline failure, or a catastrophic tank rupture that is not contained by secondary containment were not used for the assessment of environmental impacts within this EIS. Instead per Section 4.2.2, the EIS was developed using "...a qualitative analysis of the potential for oil spills based on historical oil spill data on the North Slope (as discussed below) is considered a better representation of what can reasonably be expected to occur as part of the Project." Although local historical spills can help predict future spills, the potential for catastrophic events such as an uncontrolled well blowout, pipeline rupture, and a tank rupture with a breached secondary containment still exist, and should be included in analyses of potential impacts.</i>
31	ES	Executive Summary	ES-59			Table ES 6-2	<i>In the Water Quality row for the large to very large spill type column it states that the effect of a spill this size would have "minor to moderate" impact on the water quality. This should be revised so that it would read "minor to major" impact on the water quality.</i>
32	ES	Executive Summary	ES-59			Table ES 6-2	<i>In the Management and Use row for the medium to medium large spills, and the large to very large spill type column it states in both columns that the effect spills of these sizes would have are "Possible, moderate, short term for land use. No effect on land ownership or management." This statement should be modified to reflect the effect as indicated in the Water Quality, and Wetlands and Vegetation rows for the impact duration for use. This statement also does not reflect any lands that may be managed differently due to the spill and a potential contaminated site status.</i>
33	ES	Executive Summary	ES-59			Table ES 6-2	<i>The Subsistence Resources row for the large to very large spill type column states that the effect of a spill this size would have "short to medium term" impacts. This should be amended to reflect the Birds, and Terrestrial Mammal rows and their correlating duration of impact.</i>
34	1.0	Introduction, Purpose, and Need	1-28			Table 1.8-1	<i>Under ADEC's Oil and Hazardous Substances Pollution Control Regulations (18 AAC 75; AS 46.04.040, AS 46.04.050), the third bullet should express that an oil terminal/storage facility applies to those capable of storing of 5,000 barrels or more of crude, or 10,000 barrels or more of refined petroleum products.</i>
35	2.0	Alternatives	2-21		1		The final sentence in paragraph one on this page notes that "The flares would be designed in accordance with regulatory requirements..." Please cite to the specific federal or state regulatory requirements.
36	3.1	Introduction and Analysis Methods	3-9			Figure 3.1-1	A text box at the bottom left side of Figure 3.1-1 notes "Projects <b>Note Shown</b> ". It appear that this is a typo and it should read "Projects <b>Not Shown</b> ".
37	3.2	Climate Change	3-27 thru 3-28				The topics discussed in the bullets on page 3-27 through 3-28 appear to be duplicated in the paragraph following the bullets. Specifically bullet two on page 3-27 is duplicated in sentence six on page 3-28. Please review and eliminate duplicates.
38	3.5	Air Quality	3-76			Table 3.5-1	The units used for NAAQS and AAAQS are not the same, which could cause some readers to assume that the federal and state standards are different. Please standardize on units to eliminate confusion. This is done well in Table 3.5-8.
39	3.5	Air Quality	3-79 thru 3-80				The discussion of air quality related valued (AQRVs) in section 3.5.3.4 should also include a brief discussion that the discussion of the federal land managers (FLMs) and AQRVs is based upon a memorandum of agreement (MOA) between the Department of Interior, the Environmental Protection Agency and the USDA Forest Service regarding oil and gas exploration and development activities and how they should be addressed under the National Environmental Policy Act (NEPA). It should also be noted that the Corp of Engineers is not a signatory to the MOA, and therefore the AQRVs and the FLMs have no role in this air quality discussion, but that the discussion is included out of an abundance of caution since similar analysis have been done on adjacent BLM lands for the GMT-1 and GMT-2 projects.
40	3.5	Air Quality	3-86 thru 3-87			Table 3.5-5 and 3.5-6	Both these tables refer to Barrow, while other references refer to the Utqiagvik in the document. Please standardize or footnote that the Barrow weather station is located in Utqiagvik.

41	3.5	Air Quality	3-105 thru 3-112			Figure 3.5-4 thru 3.5-11	There is not a clear explanation before or after Figures 3.5-4 through 3.5-11 to explain what is being displayed and why this is important to relay to the reader. The explanation provided on page 3-102 through 3-103 are not clear to the non-technical reader and do not provide a big picture overview of what is being discussed. Please explain in plain English for the nontechnical reader what the isopleths show and how those related to the air quality standards discussed in prior pages.
42	3.5	Air Quality	3-116				Paragraph two on this page using the acronym Pb. Please spell out "lead" for the nontechnical reader the first time the acronym is used in a new section.
43	3.6	Hydrology and Floodplains	3-174			Table 3.6-15	The summary of potential Effects to Hydrology and Floodplains for All Action Alternatives does not include information for very large spills. Please include information for very large spills.
44	3.7	Water Quality	3-187				The final sentence in paragraph one on this page cites to ADEC's antidegradation policy at 18 AAC 70. The correct citation is 18 AAC 70.015.
45	3.7	Water Quality	3-188				Page 3-188 and its text appear twice in the document.
46	3.7	Water Quality	3-204			N/A	The final sentence in paragraph three notes that " <i>Contaminant migration to surface waters is a concern, though it has not been documented to date.</i> " There is documentation of contamination at a site near Umiat, where barrels of hazardous materials were buried in a pit that has subsequently been eroded by the Colville River, exposing the buried materials. This contamination has been discussed at prior cooperating agency meetings.
47	3.19	Contaminated Sites	3-693	4		N/A	Sentence one in section 3.19.3 states that " <i>The ADEC is responsible for oil spill prevention and response, for regulating contaminated site, and for disposal of hazardous material.</i> " This final statement is incorrect. The EPA is responsible for the disposal of hazardous materials, because ADEC has chosen to have EPA exercise that regulatory authority.
48	3.19	Contaminated Sites	3-702			N/A	The first sentence in section 3.19.6.3.1 states that " <i>The likelihood of encountering existing contamination near the Project infrastructure for all action alternatives was assessed and rated from very low to high.</i> " This last part of the sentence is confusing because in the later text there are not any areas rated high. Perhaps this sentence could be re-written to say that a rating system was used that rated areas from very low to high. This reader spent time looking for an area rated high, but did not find one in any of the alternatives. A clearer sentence would minimize confusion for the reader.
49	3.20	Human Health and Safety	3-709				The third sentence in section 3.20.1 states that " <i>Increases in fuel-burning equipment and road traffic on gravel roads can increase air emissions that aggravate existing respiratory issues.</i> " It is not clear what point is being made by this sentence. It would appear to imply that existing regulatory standards are not protective of human health. Please clarify.
50	3.20	Human Health and Safety	3-710				The text in section 3.20.3 states that " <i>There are no federal, state or local regulations specific to the analysis of potential effects of human health and safety, and no agencies have specific regulatory authority over human health and safety.</i> " The latter part of this sentence is confusing, since both the federal agencies of EPA, CDC, NRC and OSHA, as well as the State agencies of ADEC, Labor and HSS have specific standards that are protective of human health and safety. Please clarify this sentence.
51	3.20	Human Health and Safety	3-731				References are made in section 3.20.6.3.2.3, paragraphs one and two to the NAAQS. Since air emissions in Alaska are regulated by ADEC it would be useful to refer the "NAAQS/AAAQS" in order to acknowledge that the Alaska standards exist and that they are regulated by the State.
52	3.20	Human Health and Safety	3-738				The acronym RFFA is used in the first sentence for section 3.20.6.6. Please spell out acronyms the first time they are used in a section. This helps the nontechnical reader to understand what is being discussed without having to search through hundreds of pages to find the acronym defined.
53	4.0	Spill Risk Assessment, Prevention, and Planning	4-1				The acronym ODPCP is used in paragraph three on this page. Please spell out "oil discharge prevention and contingency plan" the first time it appears in a section.
54	4.0	Spill Risk Assessment, Prevention, and Planning	4-1				The acronym OPA is used in the second sentence in section 4.1.1. Please spell out the Oil Pollution Act of 1990 the first time it appears in a section.
55	4.0	Spill Risk Assessment, Prevention, and Planning	4-2				Bullets two and three in the first paragraph on this page use the acronym FRP. Please spell out this acronym the first time it appears in a section.
56	4.0	Spill Risk Assessment, Prevention, and Planning	4-2	2		N/A	In the second to last paragraph for this section, please include the statement that AS 46.04.200 and AS 46.04.210 are Alaska State Statutes that supply the statutory framework for the alignment of ODPCPs and the Unified Plan and the appropriate Subarea Plan.
57	4.0	Spill Risk Assessment, Prevention, and Planning	4-2	3		N/A	In the last paragraph for this section, please include Alaska Statutes AS 46.04.030 in addition to 18 AAC 75 as part of the statutory and regulatory framework requiring the Applicant to develop an ODPCP.

58	4.0	Spill Risk Assessment, Prevention, and Planning	4-2			N/A	4.2.1 Summary of Key Findings. For all action alternatives, would there be any difference in the total volume of oil stored in tanks, the size of the largest tank to be located at the facility? The volume and specific location of the tanks will not have an effect on the state's response planning standard for a crude oil pipeline, per 18 AAC 75.436. However, we may require the ODPCP to calculate a response planning standard for aboveground storage tanks as a terminal facility in addition to the crude oil transmission pipeline response planning standard.
59	4.0	Spill Risk Assessment, Prevention, and Planning	4-23			N/A	4.2.5.2.3.1.1 Well Blowouts. There are discrepancies between the area affected by a blowout as described in the last paragraph of this section and the referenced publication HDR and SLR 2015. What are the reasons for these differences? The department requires that well blowout depositional models for typical summer and winter wind directions be based on 18 AAC 75.434 and 18 AAC 425.(e)(1)(l). Is the affected area as described in the last paragraph of this section based off a winter or summer well blowout deposition model that will satisfy 18 AAC 425.(e)(1)(l) and 18 AAC 75.434?
60	4.0	Spill Risk Assessment, Prevention, and Planning	4-32		1	N/A	4.2.5.2.3.3 Aboveground Bulk-Storage Tanks. All aboveground storage tanks 10,000 gallons or larger must meet the requirements as described in 18 AAC 75.065 or 18 AAC 75.066. Also, ADEC Guidance No. PPRP 2017-01, Shop-fabricated Aboveground Oil Storage Tank Capacity Limit clarifies that shop-fabricated tanks exceeding 50,000 gallons capacity are subject to the requirements of 18 AAC 75.065.
61	4.0	Spill Risk Assessment, Prevention, and Planning	4-32		1	N/A	4.2.5.2.3.3 Aboveground Bulk-Storage Tanks. The department does not require that the secondary containment area (SCA) be constructed to hold equal to or greater than 110% of the volume of the single largest tank as stated in the last sentence of the first paragraph in this section. SCAs at this facility must meet all of the requirements as described in 18 AAC 75.075, one of which is that the SCA must have the capacity to hold the volume of the largest tank within the SCA plus enough additional capacity to allow for local precipitation. SCAs built on the North Slope that have the capacity to hold equal to or greater than 110% of the volume of the single largest tank within the SCA have been considered adequate per the requirements as described in 18 AAC 75.075.
62	4.0	Spill Risk Assessment, Prevention, and Planning	4-34			Table 4.2-9	Adjust as need in regards to the department's comment regarding Section 4.2.5.2.3.1.1, Well Blowouts, on page 4-23.
63	4.0	Spill Risk Assessment, Prevention, and Planning	4-38				Nowhere in the summary of results on this page or on any preceding pages are the potential impacts from produced water or seawater spills discussed. Since these type of spills can impact tundra vegetation, this risk should be discussed, at least briefly.
64	4.0	Spill Risk Assessment, Prevention, and Planning	4-38			N/A	The Summary of Results does not capture that the reason certain spill types like an uncontrolled reservoir well blowout, catastrophic pipeline failure, or a catastrophic tank rupture that is not contained by secondary containment were not used for the assessment of environmental impacts since these sort of events have not occurred on the North Slope. These types of events would have much larger impacts on humans, wildlife, and the environment than what is described in this summary. These types of events should not be ruled out because they have yet to happen on the North Slope.
65	4.0	Spill Risk Assessment, Prevention, and Planning	4-39			N/A	4.3.1 Oil Spill Prevention. This section lacks descriptions of training to be provided to prevent spills associated with the construction and operation of this facility. It also lacks descriptions of corrosion control and monitoring methods to be used on all of its regulated facility components.
66	4.0	Spill Risk Assessment, Prevention, and Planning	4-39			N/A	4.3.1.1 Leak Detection. Address how the following will be met: Leak detection for crude oil transportation pipelines that must meet the requirements of 18 AAC 75.055; leak detection if elected under 18 AAC 75.047(d) for flow lines that must meet the requirements in 18 AAC 75.047; leak detection for aboveground storage tanks that must comply with 18 AAC 75.065 and 18 AAC 75.066.
67	4.0	Spill Risk Assessment, Prevention, and Planning	4-41			N/A	4.3.1.4 Fuel and Hazardous Material Storage. During the construction phase and once permanent fuel storage tank infrastructure is constructed, fuel tanks should have appropriate secondary containment areas per 18 AAC 75.075.
68	4.0	Spill Risk Assessment, Prevention, and Planning	4-41			N/A	4.3.2 Oil Spill Response Planning. What sort of safety, source control, spill containment, storage, waste management, shoreline cleanup, and wildlife management tactics will be used? Describe the amount and type of responders and equipment Armstrong will have internally and onsite for these tactics and when and what external sources for these resources will be used. Will these resources vary during different phases of the project, and if so describe.
69	4.0	Spill Risk Assessment, Prevention, and Planning	4-41		1	N/A	4.3.2.1 Oil Spill Response Capability. Add local agencies to the last sentence as they are included in the Unified Command (UC) structure.
70	4.0	Spill Risk Assessment, Prevention, and Planning	4-41			N/A	4.3.2.1 Oil Spill Response Capability. Describe the amount and type of responders and equipment Armstrong will have internally and onsite for responding to spills for associated with this project.

71	4.0	Spill Risk Assessment, Prevention, and Planning	4-42		2	N/A	4.3.2.2 Mechanical Recovery. The application for an ODPCP for this project has not been submitted to the department so there is no way to validate that enough equipment and personnel have been dedicated to accomplish adequate mechanical recovery, per 18 AAC 75, Article 4. Describe the type, amount, and location of responders and equipment Armstrong will have for responding to spills associated with this project.
72	4.0	Spill Risk Assessment, Prevention, and Planning	4-43		5	N/A	4.3.2.3 Nonmechanical Recovery (In Situ Burning). Last paragraph in this section first sentence, should read "If the UC decided to use in situ burning and obtained the necessary authorization..."
73	4.0	Spill Risk Assessment, Prevention, and Planning	4-44			N/A	4.3.2.5 Oil Spill Tracking Capability. What sort of delineation, mapping, modeling, and surveying will be done to support the oil spill tracking operations listed in this section?
74	5.0	Consultation and Coordination	5-2				The scoping meeting discussed in sentence one of section 5.1.4.1 should also include ADNDR.
75	6.0	Avoidance, Minimization, and Mitigation	6-4			Table 6.3-1	It is not clear how some of the mitigation measure in table 6.3-1 will be enforced, especially mitigation measure 22 regarding dust control. It would be useful to discuss what agencies would be responsible for enforcing the mitigation measures. Some mitigation measures refer to existing regulatory standards and agency authority, but some do not.
76	Appendix III	Alternatives Development	III-24				Reference number in this list "ADOG" should be revised to read ADNDR, DOG. The Division of Oil and Gas (DOG) existing within the Alaska Department of Natural Resources, ADNDR.
77	Appendix V	Air Quality Impact Assessment	1				Paragraph three, sentence two contains an unnecessary "and" here " <i>The Project and is classified.....</i> "
78	Appendix V	Air Quality Impact Assessment	10			Table 2-3	Footnote 6 on this table appears to conflict with the text on pages 8-9 of this document, which note that that rates are not expected to exceed 7.0MMscf/day and 80 MMscf/year.
79	Appendix V	Air Quality Impact Assessment	22			Table 3-1	The units used for NAAQS and AAAQS are not the same in Table 3-1, which could cause some readers to assume that the federal and state standards are different. Please standardize on units to eliminate confusion. Table 3.5-8 in Chapter 3 of the DEIS addresses this perfectly and should be copied here.
80	Appendix V	Air Quality Impact Assessment	32				The discussion of air quality related values (AQRVs) in section 3.5.3.4 should also include a brief discussion that the discussion of the federal land managers (FLMs) and AQRVs is based upon a memorandum of agreement (MOA) between the Department of Interior, the Environmental Protection Agency and the USDA Forest Service regarding oil and gas exploration and development activities and how they should be addressed under the National Environmental Policy Act (NEPA). It should also be noted that the Corp of Engineers is not a signatory to the MOA, and therefore the AQRVs and the FLMs have no role in this air quality discussion, but that the discussion is included out of an abundance of caution since similar analysis have been done on adjacent BLM lands for the GMT-1 and GMT-2 projects.
81	Appendix V	Air Quality Impact Assessment	62-63			Table 5-3 and 5-4	It is not clear why the emissions cited for the GMT-2 project are based on the GMT-1 SEIS. Since the GMT-2 project air quality section of the Draft EIS was released on October 13, 2017, I would suggest updating the numbers to match the latest GMT-2 figures.
82	Appendix VI.1	Hydrology and Floodplains Technical Information	VI.1.1-15			Table VI.1.1-4	It is not clear why the peak stage data is provided with accuracy to two significant figures, when the discussions about water surface elevations and snow/ice coverage effects on channel geometry, slope and hydraulic roughness are subject to continuous change throughout breakup. Please explain.
83	3.5	Air Quality	3-73	No	3	N/A	Remove the word "construction" from the last sentence of Paragraph 3, which states "An air quality construction permit would be issued by ADEC..." In the ADEC Air Permits program's terminology, a "construction permit" is specifically for PSD major sources. This sentence is generally true regardless of whether the project is PSD major.
84	3.5	Air Quality	3-74	No	1	N/A	There is an unnecessary paragraph break here.
85	3.5	Air Quality	3-92	No	1	N/A	ADEC has only reviewed the January through December 2013 Nuiqsut ambient data. The 2012 and 2014 datasets have not been reviewed by ADEC.
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