Local Governments

LG1 – City of Valdez

20190916-5123 FERC PDF (Unofficial) 9/16/2019 3:09:00 PM

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Alaska Gasline Development Corporation	)	Docket No. CP17-178-000

THE CITY OF VALDEZ'S
REQUEST FOR EXTENSION OF THE PUBLIC COMMENT PERIOD FOR THE ALASKA LNG PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT

The City of Valdez ("City"), hereby requests an extension of time for the public comment period on FERC's draft Environmental Impact Statement (DEIS) for the Alaska LNG Projects. The City of Valdez is reviewing the DEIS and the substantial amount of additional information submitted by AGDC and other agencies to FERC after publication of the draft DEIS. In order for the City and the public to provide meaningful comments on the DEIS, additional time is required for sufficient review of both recently filed information and additional information expected to be made available in the near future. The City joins the Trustees for Alaska in their request for an extension of time as stated in their request dated August 29, 2019, and filed with FERC on September 9, 2019. Due to the complexity of the issues involved in the project and the fact that key information that is still outstanding, the City requests a 30-day extension of the DEIS comment period from the date additional information set forth in the Trustees for Alaska's request is made available or from October 4, 2019, whichever date is later. LG1-1

Respectfully Submitted this 16th day of September, 2019.

By *//Jake W. Staser//*
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LG1-1 See the responses to comments CM3-1, CM3-7, and CM6-4.

LG1 - City of Valdez (cont'd)

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Alaska Gasline Development Corporation	)	Docket No. CP17-178-000

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused to be served, electronically, copies of the Request for Extension of the Public Comment period for the Alaska LNG Project Draft Environmental Impact Statement filed by the City of Valdez upon each person designated on the official service list as compiled by the Office of the Secretary in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213.

Dated at Anchorage, Alaska, this 16th day of September, 2019.

//s// Jake W. Staser

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LG1 - City of Valdez (cont'd)

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Document Content(s)

Extension.DEIS Comment.2019-09-16.Valdez.Final.PDF.....1-2

LG2 – Matanuska-Susitna Borough

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of the Application of:	)	Docket No. CP17-178-000
	)	
Alaska Gasline Development Corporation	)	

MOTION BY MATANUSKA-SUSITNA BOROUGH TO ISSUE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

Pursuant to Rule 212 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.212 (2019), the Matanuska-Susitna Borough ("MSB") hereby moves the Federal Energy Regulatory Commission ("FERC" or the "Commission") to issue a supplemental draft environmental impact statement for the Alaska LNG Project (the "Project") in order to cure the foundational defects in the current draft. LG2-1

MSB intends to submit comments on the draft environmental impact statement ("DEIS") to address technical deficiencies of the report. However, MSB is filing this motion with the Commission separately in an effort to draw attention to, and correct, certain significant flaws in the report. First, the DEIS does not perform an adequate analysis of Port MacKenzie as a reasonable and practicable alternative site for the Project's liquefaction facility. Second, the DEIS does not provide enough factual information to determine whether the proposed location for the Project's liquefaction facility is the least environmentally damaging practicable alternative, as is required for the Project to secure a permit under Section 404 of the Clean Water Act ("CWA"). Regardless of the technical merits of the DEIS, these legal shortcoming should be immediately addressed and corrected so that the DEIS is able to withstand scrutiny upon review by the Commission or a federal court. LG2-2

LG2-1 See the responses to comments CM3-1, CM3-7, and CM6-4.

LG2-2 The Port MacKenzie Alternative is evaluated and compared to the Project in section 3.8.1.3 of the final EIS. Section 4 of the final EIS evaluates the impacts of the proposed action, not alternatives. The Port MacKenzie Alternative, as proposed, would provide for two of the three in-state interconnection points proposed for the Project. See the updates to our analysis of the Port MacKenzie Alternative in section 3.8.1.3 of the final EIS.

LG2 - Matanuska-Susitna Borough (cont'd)

I. Background

LG2-2

On June 28, 2019, FERC issued a Notice of Availability for the DEIS for the Project proposed by Alaska Gasline Development Corporation ("AGDC"). FERC is obligated to issue an environmental impact statement for the Project under the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 *et seq* ("NEPA") and FERC's implementing regulations (18 C.F.R. Part 380).

The DEIS analyzed various alternative site locations for the Project's proposed liquefaction facility, including the Port MacKenzie Alternative, which is based on information submitted to FERC by MSB and AGDC over the last two years. After conducting a cursory analysis of the Port MacKenzie Alternative and several other options, the DEIS concludes that "the proposed Project [i.e., siting the liquefaction facility at the proposed location in Nikiski]…is the preferred alternative tha[t] can meet the Project objectives." DEIS at 3-43.

II. The DEIS Fails to Perform an Adequate Alternatives Analysis

NEPA requires that FERC "rigorously explore and objectively evaluate all reasonable alternatives" for the Project. 40 C.F.R. 1502.14(a). While the Alternatives Analysis section is referred to as "the heart of the environmental impact statement" (*id.*), the "scientific and analytical basis" for such analyses is provided in the Environmental Consequences section of the environmental impact statement. *See id.* at 1502.16.[1] The Council on Environmental Quality ("CEQ") has noted that the Alternatives Analysis section should provide a "concise descriptive summary" of the impacts associated with each alternative analyzed, while the Environmental

[1] *See also* Council on Environmental Quality, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18026, 18028 (Mar. 23, 1981) ("The 'environmental consequences' section of the EIS discusses the specific environmental impacts or effects of each of the alternatives including the proposed action").

CC-384

Consequences section "should be devoted largely to a scientific analysis of the direct and indirect environmental effects of the proposed action and of each of the alternatives. It forms the analytic basis for the concise comparison in the 'alternatives' section."[2] LG2-2

FERC and other agencies rely on the formulation of the Purpose and Need Statement within an environmental impact statement to determine whether it is necessary to take a "hard look" at a particular alternative. As FERC has recently stated, "an agency need only consider alternatives that will bring about the ends of the proposed action." *PennEast Pipeline Co., LLC*, 164 FERC 61,098, ¶ 83 (2018). In other words, FERC first determines whether an alternative is capable of satisfying the Purpose and Need Statement; if not, then such alternative may be excluded from the "hard look" analysis.

The DEIS provides a summary overview of the Port MacKenzie Alternative in the Alternatives section. However, it does not provide any analysis whatsoever of the Port MacKenzie Alternative in the Environmental Analysis sections.[3] Rather, FERC eliminates the Port MacKenzie Alternative from full consideration as a reasonable alternative site for the liquefaction facility because, according to the report, it fails to satisfy one particular "objective" of the Project:

> Unlike the proposed Project, the Port MacKenzie Alternative would not allow for a future interconnect with an existing ENSTAR pipeline at the southern end of the system near MP 806 for gas delivery nearer to the Kenai Peninsula area. The Kenai Peninsula interconnect is one of three future delivery points that have been identified as objectives of the proposed Project (see section 2.1.4).

DEIS at 3-37. *See also id.* at 3-39 ("the Port MacKenzie Alternative would allow for only two of the three currently identified gas delivery points within the state. Consequently, although the

[2] CEQ, Forty Most Asked Questions, 46 Fed. Reg. at 18028.

[3] The DEIS uses the term "Environmental Analysis" for the relevant section instead of "Environmental Consequences."

LG2 - Matanuska-Susitna Borough (cont'd)

Port MacKenzie Alternative would be technically feasible, it would not allow the Project to meet all its objectives").

However, there is no such "objective" stated in the DEIS which the Port MacKenzie Alternative fails to meet. The DEIS Purpose and Need Statement provides: LG2-2

> [T]he Project purpose is to commercialize the natural gas resources of Alaska's North Slope (North Slope), primarily by converting the existing natural gas supply to LNG for export and providing gas to users within the State of Alaska. Specifically, AGDC's stated objectives for the Project are to:
>
> - commercialize natural gas resources on the North Slope during the economic life of the Prudhoe Bay Unit (PBU) and the Point Thomson Unit (PTU) fields and achieve efficiencies through the use of existing common oil and gas infrastructure and economies of scale;
> - bring cost-competitive LNG from Alaska to foreign markets in a timely manner; and
> - provide interconnections along the pipeline to allow for in-state gas deliveries, benefiting Alaska gas users and supporting long-term economic development.

DEIS at 1-3. There is no reference whatsoever to a "Kenai Peninsula interconnect," or to any particular interconnect locations in the DEIS Purpose and Need Statement. Moreover, MSB is not aware of any document filed by AGDC in this proceeding which identifies an interconnect at the Kenai Peninsula as an "objective" of the Project. To the contrary, AGDC's filings make clear that such an interconnect is not an integral component of the Project and no specific location point has been finalized:

> Along the Mainline route, there would be at least five gas interconnection points to allow for future in-state deliveries of natural gas. The approximate locations of three of the gas interconnection points have been **tentatively identified** as follows: milepost (MP) 441 to serve Fairbanks, MP 763 to serve the Matanuska-Susitna Valley and Anchorage, and MP 807 to serve the Kenai Peninsula. The size and location of the other interconnection points are unknown at this time. None of the potential third-party facilities used to condition, if required, or move natural gas away from these gas interconnection points are part of the Project.

See AGDC Application, Resource Report No. 1 at 1-2 & Resource Report No. 9 at 9-2 (April 14, 2017) (emphases added). The DEIS similarly recognizes that the "tentatively identified"

LG2 - Matanuska-Susitna Borough (cont'd)

interconnection points are not currently proposed as part of the Project. DEIS at 4-1112-1113 (noting that AGDC has identified three potential interconnection points and that the "Kenai Peninsula Gas Interconnection near MP 806 would allow a future interconnect (not currently proposed) with an existing ENSTAR pipeline for gas delivery to the Kenai Peninsula area" and that "[t]here are currently no plans to construct additional facilities, such as off-take stations, lateral pipeline, or distribution systems, to provide future natural gas deliveries to in-state customers") (emphases added).

The third "objective" listed in the DEIS Purpose and Need Statement does not dictate any particular interconnection point locations. Rather, it relates generally to providing interconnections along the mainline to "allow for in-state gas deliveries." The DEIS plainly states that the Port MacKenzie Alternative satisfies this objective. *See* DEIS at 3-37 ("The mainline pipeline to the Port MacKenzie site would, like the proposed Project, connect to ENSTAR's distribution system, which serves the Municipality of Anchorage as well as the MSB and Kenai Peninsula Borough"). LG2-2

MSB recognizes that "[a]lternatives that do not accomplish the purposes of the project may properly be rejected," and generally there is no need to conduct a full analysis of such alternatives. *See Arizona Past & Future Foundation, Inc. v. Lewis*, 722 F.2d 1423, 1428 (9th Cir. 1983). This is not the case here. The Port MacKenzie Alternative is not only technically feasible – as the DEIS has already found (*see* DEIS at 3-39) – but it also satisfies the DEIS Purpose and Need Statement for the Project (including each of the three listed objectives). Courts have long held that "[t]he existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Nat. Resources Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 813 (9th Cir. 2005) (internal quotations omitted). In order to avoid an eventual

LG2 - Matanuska-Susitna Borough (cont'd)

finding by the Commission or a federal court that the EIS for the Project is inadequate, the DEIS should be supplemented with a full "hard look" analysis of the Port MacKenzie Alternative.

III. The Alternatives Analysis Is Inadequate As a Matter of Law for the Army Corps of Engineers to Determine the LEDPA LG2-3

The DEIS states:

> The [U.S. Army Corps of Engineers ("COE")], Alaska District, Regulatory Division received a Department of the Army (DA) application from AGDC (file POA-2015-00329) for a permit under Section 404 of the CWA (33 USC 1344) and Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 USC 403). Under Section 404 of the CWA, the COE has the authority to issue or deny permits for proposed discharges of dredged and/or fill material into waters of the United States. Under Section 10 of the RHA, the COE has authority to issue or deny permits for work and structures in, on, over, or under navigable waters of the United States. The COE would adopt the EIS per 40 CFR 1506.3(c) if, after an independent review of the document, it concludes that the EIS sufficiently provides information to support decision making under its statutory authorities.

DEIS at 1-6. In order for the DEIS to be adopted by the COE and to serve as the factual basis to justify issuance of a permit to discharge under Section 404 of the CWA, the DEIS must provide sufficient information for the COE to determine the "least environmentally damaging practicable alternative" ("LEDPA"). *See* 40 C.F.R. 230.10(a) ("no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences").[4] If the DEIS does not provide sufficient factual information to make this determination with regard to the Project's liquefaction facility, then the COE will be required to supplement the DEIS at a later date. *See* 40 C.F.R. 230.10(a)(4) (Section 404(b)(1) Guidelines stating that, if NEPA document has not "considered

[4] *See also* DEIS at 1-6 ("as part of the public interest review, and in accordance with 33 CFR 320.4(b)(4), the COE is also required to review actions in accordance with regulations developed by the EPA under the CWA Section 404(b)(1) guidelines, including a determination of the [LEDPA]. The CWA Section 404(b)(1) guidelines restrict the COE from issuing a permit for any alternative other than the LEDPA") (emphasis added).

LG2-3 Comment noted. The COE will determine the LEDPA for the Project.

LG2 - Matanuska-Susitna Borough (cont'd)

the alternatives in sufficient detail to respond to the requirements of these Guidelines," then "it may be necessary to supplement these NEPA documents with this additional information"). LG2-3

The DEIS currently fails to provide adequate information for the COE to determine the LEDPA for the Project's liquefaction facility. As described more fully above, the DEIS only provides a cursory review of the Port MacKenzie Alternative but excludes it from full analysis. The COE requires an apples-to-apples comparison of AGDC's preferred site for the liquefaction facility and all practicable alternatives in order to determine whether the preferred location is indeed the LEDPA.[5] Therefore, the COE is unable to utilize the DEIS to compare the environmental impacts of all practicable alternatives. Instead of waiting for the COE to determine in the future that it needs additional information regarding the Port MacKenzie Alternative, FERC should begin this work now to issue a supplemental DEIS that provides the COE with the information it requires to fulfill its statutory obligations. Failure to begin this work now likely is delaying the inevitable.

The Port MacKenzie Alternative is clearly a "practicable alternative."[6] Moreover, even though the DEIS lacks adequate analysis, the current draft appears to show that Port MacKenzie LG2-4

[5] *See, e.g.*, COE, Portland District, *Alternatives Analysis Framework* at 5 (Apr. 18, 2016) (available at https://www.nws.usace.army.mil/Portals/27/docs/regulatory/Forms/Alternative%20Analysis%20Framework%20NWS%20(4-18-16).pdf?ver=2016-06-07-111159-147) ("Once a set of potentially practicable alternatives has been identified within the geographic area based on the project purpose and project criteria, an environmental evaluation of those alternatives must be conducted. A typical alternatives analysis includes a detailed evaluation of the applicant's preferred alternative, several other on-site or off-site alternatives as applicable, and the no action alternative. The environmental evaluation should be in terms of impacts to the aquatic environment, particularly waters of the U.S., and other environmental consequences and not in terms of critical or sensitive areas that are not under the direct purview of the Corps…Upon completion of the analysis, only the LEDPA can be permitted") (emphasis added).

[6] 40 C.F.R. 230.10(a)(2) ("An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes").

LG2-4 Section 3.8.1.3 of the final EIS has been updated to address this comment. Also see the responses to comments LG2-2 and LG2-3.

LG2 - Matanuska-Susitna Borough (cont'd)

is in fact the LEDPA. The brief comparison contained in the DEIS of the Port MacKenzie Alternative and AGDC's preferred site is striking[7]: LG2-4

Environmental / Engineering Factor	Proposed Site	Port MacKenzie
Mainline Pipeline (miles)	807	749
Waters of the United States within LNG plant site (acres)	14	4
NWI-mapped wetlands affected by mainline pipeline, Livengood to liquefaction site (acres)	1,618	1,591
Number of residences displaced	16	0
Number of displaced industrial/commercial facilities	10	0
Road relocation necessary	Yes	No

As shown in the data above, the Port MacKenzie Alternative would result in measurably fewer impacts to NWI-mapped wetlands.[8] This finding alone should have prompted FERC to conduct a full analysis of the Port MacKenzie Alternative so that the COE would be able to conduct an adequate LEDPA analysis based on the DEIS. Moreover, while the Alternatives Analysis addresses impacts to the Cook Inlet beluga whale, it fails to even mention other endangered and threatened species impacted by selection of AGDC's preferred site at Nikiski. For example, the DEIS Biological Assessment describes expected impacts to the Steller sea lion (endangered) and Steller's eider (threatened) that would result from AGDC locating the liquefaction facility at Nikiski, which is within the recognized range for both of these species.

[7] *See* DEIS at 3-34, Table 3.8.1-1. While the Table contains additional comparison criteria not included here, permanent impacts to jurisdictional wetlands are "considered to be among the most severe environmental impacts covered by [Section 404] Guidelines." 40 C.F.R. 230.1(d). The Section 404 Guidelines explicitly state: "The guiding principle should be that degradation or destruction of special sites [such as wetlands] may represent an irreversible loss of valuable aquatic resources." *Id.* In addition, as will be addressed in MSB's forthcoming comments on the DEIS, Table 3.8.1-1 contains errors. When corrected the table will show even fewer impacts for Port MacKenzie. For example, the DEIS notes *all* waters of the United States within the LNG plant site can be avoided at Port MacKenzie. *See* DEIS at 3-36.

[8] AGDC recently amended its application in this proceeding to adopt a minor pipeline route variation that marginally decreases impacts to wetlands crossed by the mainline. *See* AGDC, Application Amendment filed on Aug. 16, 2019 (Document No. 20190816-5165). The purpose of this minor variation was to ensure that the Project's mainline route would be determined as the LEDPA by the COE. Therefore, it is clear that the measurable difference between Port MacKenzie and Nikiski with regard to impacted wetlands similarly will be directly relevant to (and potentially determinative of) the COE's LEDPA analysis.

LG2 - Matanuska-Susitna Borough (cont'd)

See DEIS at O-30-41 & O-133-140. However, the DEIS Alternatives Analysis section includes no mention of these impacts and ignores the fact that such impacts to the Steller sea lion and Steller's eider likely would be mitigated or eliminated by locating the facility at the Port MacKenzie Alternative, since Port MacKenzie is not located within the range for these species. LG2-4

FERC should anticipate that the COE will need enough information to perform an apples-to-apples comparison of the Port MacKenzie Alternative and AGDC's preferred alternative to determine the LEDPA. As noted above, the COE may only grant a Section 404 permit to the LEDPA. Unfortunately, the current DEIS provides the COE with an incomplete analysis of the environmental impacts associated with the Port MacKenzie Alternative and muddled statements that are unclear as to which practicable alternative causes the fewest environmental impacts. As a result, either FERC or the COE will need to perform additional analysis in the future. FERC should begin this work now in order to avoid prolonged delay.

IV. Conclusion

For all of the reasons set forth above, MSB respectfully requests that FERC grant this Motion for a Supplemental DEIS so that FERC, the COE, and all cooperating agencies may ensure compliance with their statutory obligations in the most efficient and effective manner and so that FERC may avoid disputes in the future as to whether adequate environmental analysis was performed in connection with the Project. LG2-5

Respectfully Submitted,

LG2-5 See the response to comment LG2-1.

LG2 - Matanuska-Susitna Borough (cont'd)

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Counsel for the Matanuska-Susitna Borough

Dated: September 27, 2019

LG2 - Matanuska-Susitna Borough (cont'd)

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of the Application of:	)	Docket No. CP17-178-000
	)	
Alaska Gasline Development Corporation	)	

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C., this 27th day of September, 2019.

/s/ John B. Mavretich
John B. Mavretich

LG2 - Matanuska-Susitna Borough (cont'd)

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LG3 – Denali Borough

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Clay Walker, Mayor

Docket # CTP17-178-000

Comments to FERC regarding the Draft Environmental Impact Statement for the Alaska LNG Project

Thank you for this opportunity to provide comment upon the Draft EIS for the AKLNG project. LG3-1

The statement describes the many benefits the project would provide Alaskans such as jobs, economic expansion, and access to clean energy. The statement also describes impacts of the project and recommends mitigation efforts to lessen these impacts. In reviewing, it appears that more work lies work ahead in the realms of gas interconnections, land use, and local revenue or impact aid.

The Denali Borough appreciates the consideration given to pipeline alignment in relationship to Denali National Park. The borough concurs with AGDG that the Denali Alternative is the Least Environmentally Damaging Practicable Alternative. LG3-2

The borough would like to specifically support a number of mitigation measures proposed in the draft statement. To visually conceal a proposed pipeline bridge over the Nenana River at Moody, a pedestrian pathway is recommended atop the enclosed pipe bridge. This feature would greatly improve safety and access at this key location. LG3-3

At the Healy Compressor Station, audio mitigation measures are recommended to lessen the noise impacts of this station. LG3-4 Also, visual impact mitigation measures are recommended to lessen the impacts of lighting the facility. LG3-5 Healy is a destination for northern lights viewing. A lighting plan for this facility which conforms with the International Dark Sky Guidelines is appreciated and supported.

The expansive, uninterrupted natural beauty of mountainous landscapes are a key component of our regional economy. For that reason, it is concerning that six of the eleven identified high impact Key Observation Points along the entire route fall within the Denali Borough. All mitigation efforts to lessen these high visual impacts will be beneficial in both the near and long terms. LG3-6

The project as proposed in the draft statement does not identify a gas take off point between the Fairbanks and the Enstar inter connections. We repeatedly heard from constituents at the many gasline public meetings that we need to have access to the gas that is coming through and impacting our communities. The Denali Borough supports a planned interconnection which can serve Denali National Park and the broader communities. LG3-7

The project as described intends to use many miles of Denali Borough land for the pipe mainline and many acres of Denali Borough land for work camps, additional temporary work spaces, and pipe storage yards. While I understand these requests to be forthcoming, it appears presumptuous to plan a project on another's land without any assurances or agreements in place. LG3-8

The economic impact analysis in 4.11.4.2 identifies the impact on public services during construction in the Denali Borough to be negative. Should the project move forward, the borough requests the State of Alaska reconvene the LG3-9

LG3-1 Comment noted.

LG3-2 Comment noted.

LG3-3 Comment noted.

LG3-4 Comment noted.

LG3-5 Comment noted.

LG3-6 Comment noted.

LG3-7 This issue is discussed in section 4.19.2.5 of the final EIS.

LG3-8 As discussed in sections 4.9.2.2 and 4.9.7 of the final EIS, AGDC would lease the federal, state, municipal, borough, and Alaska Native lands affected by the Project, and abide by the conditions of leases, easement agreements, and associated permits for these lands. The permits required for use of borough lands in Denali Borough are listed in table 1.6-1 of the EIS.

LG3-9 Comment noted.

LG3 - Denali Borough (cont'd)

inactive Municipal Advisory Gasline Projects Board. The MAGP Board was previously working on a PILT (Payment In Lieu of Taxes) framework to address both impact aid to communities during construction and an agreeable operational payment based upon throughput. LG3-9

Thank you for your consideration of our comments.

Sincerely,

Clay Walker
Denali Borough Mayor

LG3 - Denali Borough (cont'd)

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Document Content(s)

FERC AKLNG Comments.DOCX.....1-2

LG4 – Kenai Peninsula Borough

Office of the Mayor
144 N. Binkley Street, Soldotna, Alaska 99669 • (907) 714-2150 • (907) 714-2377 Fax

Charlie Pierce
Borough Mayor

October 2, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Re: Public Comment in Docket CP17-178-000: Alaska LNG Project & DEIS

Dear Ms. Bose:

As Mayor of the Kenai Peninsula Borough, I am writing to strongly support the Alaska LNG Project and the decision to locate the liquefaction plant and marine terminal in the Nikiski community, which is located in the Kenai Peninsula Borough. In February 2018 the Kenai Peninsula Borough Assembly formed the Alaska Liquefied Natural Gasline Project Advisory Committee to monitor and receive public comments on activities and developments relating to this project, and inform the borough administration and assembly of related activities and developments. My comments below reflect my views and points brought to my attention by that committee as well as other interested parties. LG4-1

To begin, I strongly support this project and believe that it will provide tremendous economic opportunities and many other benefits throughout the State of Alaska. It will result in substantial economic benefits throughout Alaska. It will result in the re-gasified LNG displacing coal-fired generation in parts of the world such as China and India and lead to the reduction of greenhouse gas emissions. It will make gas more readily available to remote areas and, as discussed in the DEIS, the impacts to wildlife will not be significant. LG4-2

Liquefaction Plant Located in Nikiski: I fully support the Alaska Gasline Development Corporation (AGDC)'s recommendation to locate the LNG plant and marine terminal in Nikiski, Alaska. This location is adjacent to other heavy industrial facilities which utilize Cook Inlet to transport oil and gas products to and from the nearby dock.

LG4-1 Comment noted.

LG4-2 Comment noted.

LG4 - Kenai Peninsula Borough (cont'd)

The construction and operational phases of this LNG project will fit in well at the chosen location. LNG has been safely manufactured and shipped from Nikiski to world markets for over 40 years. Locating the LNG plant and marine facilities in Nikiski will similarly provide a tremendous boost in economic and social opportunities for Nikiski, the Kenai Peninsula Borough and beyond. LG4-2

Pipeline Routing - Boulder Point Area: I support the proposed West Alternative pipeline approach into Nikiski Bay as opposed to the route that would reach landfall at Boulder Point. That area is aptly named as it is littered with boulders which I believe would increase short term and long term project costs. Further, this would address concerns raised by residents of the Boulder Point community regarding the proposed pipeline route to and through their neighborhood. LG4-3

Public Beach Access: As noted in Section 4.9.4 of the DEIS, the project footprint overlaps with commercial and recreational fishing areas, including four shore fishery leases within the Mainline Facilities construction footprint in Cook Inlet. The DEIS states that AGDC will negotiate with leaseholders and the Alaska Department of Natural Resources to identify mitigation measures to address fishing restrictions and ways to accommodate fishing activities during project construction, referencing safety setbacks and permanent exclusion areas. It is important that AGDC work to accommodate these fishing leases and activities to allow their continuation to the extent possible. These activities are very important to the local economy and the social well-being of the community. AGDC's indication that it will develop an alternate beach access point, so as not to restrict beach access following initial construction, is similarly important and appreciated. LG4-4

Water Supply for proposed LNG processing facility: In Section 4.19.4.3, the DEIS indicates the Kenai water system will be upgraded to provide water to the liquefaction facilities. I strongly encourage the project to further examine and consider obtaining water supply from Nikiski as final designs are developed. LG4-5

Local Hire, Work camps and Transient Workers: In Section 4.11.5.2, the DEIS provides that construction workers already living in existing housing in the Kenai LG4-6

LG4-3 See the updates to section 3.6.1.2 of the final EIS regarding the Cook Inlet West Alternative.

LG4-4 Comment noted.

LG4-5 Comment noted.

LG4-6 Comment noted.

LG4 - Kenai Peninsula Borough (cont'd)

Peninsula Borough would be exempted from the requirement to live in work camps. Transient workers relocating to the area would live in work camps and not be allowed to purchase or rent housing locally, but workers assigned to offices in the Anchorage area would live in the local community, not work camps. I support these efforts that would encourage AGDC to hire local employees and also minimize impacts on the local housing market during the construction phase. LG4-6

Population, Quality of Life Impacts, Visual Resource Impacts: Nikiski and other borough residents have a lot of pride for their rural lifestyle, wildlife, lakes, ponds, trails, and scenic beauty. I support AGDC's efforts to minimize the impacts of transient workers as described above and encourage the development of further plans to limit or prevent conflicts between the transient work force and the quality of life values the residents currently enjoy. LG4-7

Payment in Lieu of Taxes (PILT): Given the number of people who will be employed to work on this project in the Kenai Peninsula Borough, it is anticipated that the local population will significantly increase especially during the construction phase, resulting in substantial socioeconomic impacts that go beyond the ability of local and state governments' ability to mitigate. While the borough understands the need to reduce taxation to encourage this development, a fair tax structure or local payments in lieu of taxes will be needed to compensate the local communities for these impacts on the services they provide. It is especially important that forward funding of some amount is provided to fund mitigations in advance of construction. It is also important that any PILT or taxation structure is biased toward the communities most impacted by the project which would be Nikiski and the Kenai Peninsula Borough. LG4-8

Alternative Road Access: While the DEIS states the existing Kenai Spur Highway would be relocated to accommodate the LNG plant, the final details of the relocation and other project impacts on traffic and transportation in and out of the Nikiski community will need additional consideration in the final design and construction phase of the project. The Kenai Spur Highway relocation and associated traffic and transportation concerns registered the most input and concern from the local community throughout the development of this project. While all of these considerations do not fall directly LG4-9

LG4-7 Comment noted.

LG4-8 See the response to comment CM4-32.

LG4-9 Section 4.19.2.3 of the final EIS addresses the design and development of the Kenai Spur Highway Project, which is outside of FERC's jurisdiction.

LG4 - Kenai Peninsula Borough (cont'd)

under the design of the project, these are substantial concerns that local and state government must address and this underscores the importance of appropriate ad valorem taxation or PILT funding. LG4-9

In summary, I ardently support this entire project and locating the LNG plant and marine terminal in Nikiski. It will provide major socio-economic benefits for Nikiski, the Kenai Peninsula Borough and the State of Alaska.

Sincerely,

Charlie Pierce
Borough Mayor

LG4 - Kenai Peninsula Borough (cont'd)

20191003-5015 FERC PDF (Unofficial) 10/2/2019 7:36:36 PM
Document Content(s)

KPB Comments to DEIS 10-2-19.PDF.....1-4

LG5 – City of Kenai

"Village with a Past, City with a Future"

210 Fidalgo Avenue, Kenai, Alaska 99611-7794
Telephone: 907-283-7535 / Fax: 907-283-3014
www.kenai.city

October 3, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Letter of Support for the Alaska LNG Project

Dear Ms. Bose:

The City of Kenai unanimously supports the construction and operation of the Alaska Liquefied Gas (LNG) Project. The Project would be largely located in existing corridors and industrial areas with measures to minimize disturbance to wildlife, provide Alaskans and Alaska companies with economic opportunities, improve air quality in Alaska, and reduce emissions on a global scale. LG5-1

In December 2018, the Kenai City Council passed Resolution 2018-65 supporting Nikiski, Alaska, as the preferred alternative for the siting of the LNG facility and marine terminal. A copy of Resolution 2018-65 was submitted to FERC upon passage. The City of Kenai is adjacent to the community of Nikiski and the closest incorporated City to the liquefaction facility. This location has been an important industrial area on the Kenai Peninsula for over 50 years. The route for the gas pipeline from Prudhoe Bay to Beluga would follow the existing corridors for the Trans-Alaska Pipeline System (TAPS) and the George Parks Highway right-of-way and is the same route permitted by the United States Army Corps of Engineers for the Alaska Stand Alone Pipeline (ASAP) Project.

The Alaska LNG Project will create much needed, high-paying jobs for Alaskans. Table 4.11.2-7 on page 4-608 of the draft Environmental Impact Statement estimates 2,000 residents of the Kenai Peninsula Borough to be employed by the Alaska LNG Project from indirect and induced job opportunities during peak construction. The liquefaction facility in Nikiski would employ approximately 240 people during operation, and approximately 980 jobs would be concentrated in the Kenai Peninsula Borough. Additional direct and indirect employment throughout the State of Alaska from the Alaska LNG Project would increase economic opportunities in most industries.

The Alaska LNG Project would also bring natural gas to Alaskans and improve air quality. In-State gas could also potentially fuel new resource development projects in Alaska. Potential sales of natural gas to Asian countries will reduce greenhouse gases on a global scale by providing a cleaner energy source.

LG5-1 Comment noted.

LG5 - City of Kenai (cont'd)

The Alaska Gasline Development Corporation (ADGC) has responded to public concerns and comments about the Alaska LNG Project. The City of Kenai is ready to see the liquefaction facility developed in the neighboring community of Nikiski and fully supports the permitting of the Alaska LNG Project by the Federal Energy Regulatory Commission.

Thank you for the opportunity to provide input on the Draft Environmental Impact Statement.

Sincerely,

CITY OF KENAI

Mayor Brian Gabriel | Vice Mayor Tim Navarre | Council Member Knackstedt

Council Member Pettey | Council Member Molloy | Council Member Peterkin

Council Member Glendening

cc: Kenai City Council
Paul Ostrander, Kenai City Manager

LG5 - City of Kenai (cont'd)

Comment	Commenter	
Consider using the City of Kenai Dock as part of the Project design for some Project activities to avoid displacement of fishing and smaller traditional uses from existing facilities.	City of Kenai	LG5-2
Workcamps may not be a sufficient mitigation measure in the Kenai area. Project Management staff will be primarily located in the Kenai Peninsula Borough and many of them will locate in the City of Kenai. Additionally, the project will attract people to the area looking for work who will not be living in the construction workcamp or alternatively move to the area to avoid living in the workcamp.	City of Kenai	LG5-3
How will home prices and rental prices be affected by the Project? Please address this more fully in your analysis or make additional comment as to this potential impact.	City of Kenai	LG5-4
Comment/question: How would the Project mitigate for the lag time in tax dollars to fulfill societal needs from instant impacts? Concern that initial expenditures by local governments may be underestimated.	City of Kenai	LG5-5
Add: The lag between increases in local government revenues and initial increases in expenditures on education and public health and safety would be a challenge for local government during the construction phase.	City of Kenai	LG5-6
Add sentence to state: The exemption for Kenai Peninsula Borough workers from living in the work camps may attract additional workers or people hoping to find employment with the Project to the Kenai Peninsula Borough.	City of Kenai	LG5-7
Add/replace the following text: Upgrades to the Kenai Municipal Airport terminal would depend upon the size of the aircraft and frequency of operations for air	City of Kenai	LG5-8

LG5-2	Comment noted.
LG5-3	Section 4.11.4.2 of the final EIS addresses socioeconomic impacts from the influx of workers to the Project area.
LG5-4	This issue is addressed in sections 4.11.5.2 and 4.11.5.4 of the final EIS, which indicate that impacts on individual properties would vary and cannot be predicted.
LG5-5	This issue is addressed in section 4.11.4.2 of the final EIS. Also see the response to comment CM4-32.
LG5-6	Sections 4.11.4.2 and 4.11.2.2 of the final EIS has been updated to address this comment.
LG5-7	Section 4.11.5.2 of the final EIS has been updated to address this comment.
LG5-8	Section 4.12.2.4 of the final EIS has been updated to address this comment.

LG5 - City of Kenai (cont'd)

travel for the Alaska LNG Project. A lower degree of adverse impacts would be created by private charter flights as compared to those created by public charter or scheduled air service. Depending on the aircraft size, there may need to be increased security screening and/or airfield improvements. There is room to the north for expansion and City-owned parcels are available for lease adjacent to the Kenai Municipal Airport to accommodate potential additional hangars, parking lots, or other ancillary facilities related to air travel for the Alaska LNG Project and a remodel of the terminal will be completed in 2020.		LG5-8
"These conditions would likely occur only during scheduled rotation periods every 2 weeks." Amend this sentence to reflect that there would still likely be increased traffic at the Kenai Municipal Airport from the Alaska LNG Project other days besides once every two weeks.	City of Kenai	LG5-9
Do you mean the Kenai Peninsula Borough Economic Development **District** (KPEDD)? (add word District)	City of Kenai	LG5-10
Please note that the Kenai LNG Plant for which Marathon has filed to import LNG would likely be constructed prior to the Alaska LNG liquefaction facility and would not be likely to be a simultaneous construction. Suggest not using the word "simultaneous" and instead state that construction of some geographically grouped projects is expected to be close in timing (or other similar wording). Also suggest stating that there could be positive impacts if timing is such that one project in same geographic area would be finished just before construction on the Alaska LNG Project began.	City of Kenai	LG5-11
Add to this section a sentence to state: Reductions in State of Alaska revenues to local governments may impair the ability of local municipalities to respond to adverse impacts from the Project.	City of Kenai	LG5-12
After the first two sentences add the following sentence: Some workers or those speculating to find work either directly or indirectly from the Project may choose to relocate in the Kenai Peninsula Borough to avoid the requirement to reside in the temporary housing camp.	City of Kenai	LG5-13
Add to the paragraph on housing or add a new paragraph discussing increased potential demand for social services and law enforcement. Homeless or other illegal camps on both public and private lands have been an increasingly visible	City of Kenai	LG5-14

LG5-9 Section 4.12.2.4 of the final EIS has been updated to address this comment.

LG5-10 Section 4.19.4.9 of the final EIS has been updated to address this comment.

LG5-11 Section 4.19.4.9 of the final EIS has been updated to address this comment.

LG5-12 Section 4.19.4.11 of the final EIS has been updated to address this comment.

LG5-13 Section 4.19.4.11 of the final EIS has been updated to address this comment.

LG5-14 Section 4.19.4.11 of the final EIS has been updated to address this comment.

LG5 - City of Kenai (cont'd)

and key issue in the City of Kenai, Municipality of Anchorage, and potentially the entire state. There may be an increase in illegal dry cabins, RV-camps, or other illegal makeshift camps from both workers trying to avoid the requirement to live in project work camps and from workers who migrate to the project area seeking employment directly or indirectly with the project.		
Add: The plan shall also include plans for wastewater disposal for all camps. The plan shall also identify water sources and volumes for emergency use, such as in case of fire, during construction and operation of the Project.	City of Kenai	LG5-15

LG5-15 See the discussions and updates regarding water uses and discharges in section 4.3.4 of the final EIS. Additional information on water uses and discharges is provided in AGDC's Project Water Use Plan and Waste Management Plan. Instructions for accessing these plans were provided in table 2.2-1 of the draft EIS and likewise are provided in table 2.2-1 of the final EIS. AGDC has committed to filing an updated Water Use Plan prior to construction.

LG5 - City of Kenai (cont'd)

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Document Content(s)

City of Kenai Comments.PDF.....1-5

LG6 – City of Soldotna

SOLDOTNA
City of Soldotna, Alaska

City Manager
177 North Birch Street
Soldotna, AK 99669
907.262.9107
www.soldotna.org

Wednesday, October 2, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Re: Letter of support for the Alaska LNG Project
Project Docket Number CP17-178-000

Dear Ms. Bose:

In December 2018, the Soldotna City Council passed Resolution 2018-047, supporting the Alaska Gasline Development Corporation's work on the Alaska LNG Project. The resolution specifically supported the selection of Nikiski, Alaska as the preferred site for the Liquefied Natural Gas (LNG) facility and marine terminal. LG6-1

A copy of the resolution is enclosed for your consideration. Thank you for the opportunity to provide public comments, in response to the Draft Environmental Impact Statement.

Sincerely,

Stephanie Queen
City Manager, City of Soldotna

Cc: Soldotna City Council Members
Shellie Saner, Soldotna City Clerk

LG6-1 Comment noted.

LG6 - City of Soldotna (cont'd)

Introduced By: Mayor
Date: December 12, 2018
Action: Adopted
Vote: 5 Yes, 0 No, 1 Absent

CITY OF SOLDOTNA
RESOLUTION 2018-047

A RESOLUTION OF SUPPORT FOR THE ALASKA GASLINE DEVELOPMENT CORPORATION'S SELECTION OF NIKISKI, ALASKA AS THE TERMINUS OF THE ALASKA LNG PROJECT, AND LOCATION OF A LIQUEFACTION PLANT AND MARINE TERMINAL

LG6-1

WHEREAS, the history of Alaska Gasline Development Corporation (AGDC) dates to 2009 when declining Cook Inlet gas supplies caused concern in communities throughout Southcentral Alaska; and

WHEREAS, in 2013 the Alaska State Legislature formally established AGDC to advance an in-state natural gas pipeline; and

WHEREAS, in 2014 the mission and authority of AGDC expanded to include having primary responsibility for developing an Alaska liquefied natural gas (LNG) project on the State's behalf; and

WHEREAS, in April 2014 AGDC joined with ExxonMobil, BP, and ConocoPhillips to become a twenty-five (25) percent owner in the AK LNG Project; and

WHEREAS, in December 2016 AGDC assumed one hundred (100) percent of the responsibility to progress an Alaska LNG project to build the infrastructure necessary to monetize North Slope natural gas resources; and

WHEREAS, in April 2017 AGDC filed its application with the Federal Energy Regulatory Commission (FERC) to construct and operate the Alaska LNG project; and

WHEREAS, the application submitted to FERC identifies Nikiski, Alaska, as the preferred location for the LNG plant and marine terminal; and

WHEREAS, the Alaska LNG project will bring great benefits to the people of Alaska in revenues to the state and municipalities, guaranteed supplies of gas for in-state use, jobs for Alaskans and Alaska business through construction and operation, and continued in-state exploration for natural gas;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SOLDOTNA, ALASKA:

Section 1. That the City Council of Soldotna, Alaska, supports AGDC's application to FERC with the siting of the LNG plant and marine terminal in Nikiski, Alaska.

Section 2. That copies of this resolution be sent to U.S. Senator Lisa Murkowski, U.S. Senator Dan Sullivan, U.S. Congressman Don Young, Alaska Governor Mike Dunleavy, Alaska Senator Peter Micciche, Alaska Representative Gary Knopp, and Kenai Peninsula Borough Mayor Charlie Pierce.

Section 3. This resolution shall become effective immediately upon its adoption.

LG6 - City of Soldotna (cont'd)

ADOPTED BY THE CITY COUNCIL THIS 12TH DAY OF DECEMBER, 2018.

Nels Anderson, Mayor

ATTEST:

Michelle M. Saner, MMC, City Clerk

Yes: Ruffridge, Cox, Cashman, Chilson, Whitney
No: None
Absent: Parker

LG6 - City of Soldotna (cont'd)

20191003-5099 FERC PDF (Unofficial) 10/3/2019 1:06:46 PM
Document Content(s)

FERC letter 10.2.19.PDF.....1-3

LG7 – Matanuska-Susitna Borough

Matanuska-Susitna Borough

Matanuska-Susitna Borough
Comments on the Draft Environmental Impact Statement
For the Alaska LNG Project

FERC Docket No. CP17-178-000
FERC/EIS-0296D

Prepared by James E. Wilson, MPA, Internal Auditor
October 3, 2019

James E. Wilson, MPA
* 350 E. Dahlia Avenue * Palmer, Alaska 99645 *
* 907.861.8452 * james.wilson@matsugov.us *

LG7 - Matanuska-Susitna Borough (cont'd)

Matanuska-Susitna Borough

October 3, 2019

Attached please find comments of the Matanuska-Susitna Borough ("MSB") on FERC's release of the Draft Environmental Impact Statement ("DEIS") for the AKLNG Project (the "Project"). This response is focused primarily on Section 3.0 ALTERNATIVES. LG7-1

This response is divided into three parts:

- Part A responds to the DEIS Section 3.0 narrative description of Port MacKenzie;
- Part B responds to the DEIS Table 3.8.1-1, the side-by-side comparison between the alternative sites; and
- Part C provides an in-depth review of the impacts on endangered and threatened species at the Nikiski alternative. This Part also explains how such impacts are avoided by utilizing the Port MacKenzie alternative for the liquefaction facility.

Based on the results of this review and analysis, which found extensive inaccuracies and omissions, a supplemental DEIS is needed to fully develop a reliable and valid alternatives analysis. As such, MSB hereby incorporates its Motion for a Supplemental DEIS, filed with the Commission on September 27, 2019, into these comments.

In addition, it appears that much of the information submitted by MSB over the past two years has not been incorporated into or addressed by the DEIS. Moreover, the DEIS does not perform a full analysis of any alternative except for Nikiski and overlooks multiple environmental impacts associated with Nikiski that would be avoided by siting the proposed liquefaction facility at Port MacKenzie. If FERC does not issue a supplemental DEIS, FERC must, at the very least, update the DEIS to correct the erroneous information highlighted in these comments and fill in the substantive missing information. LG7-2

MSB is prepared to respond to any questions FERC may have in connection with these comments.

James E. Wilson, MPA
Internal Auditor

James E. Wilson, MPA
* 350 E. Dahlia Avenue * Palmer, Alaska 99645 *
* 907.861.8452 * james.wilson@matsugov.us *

LG7-1 Comment noted. Section 3.8.1.3 of the final EIS has been revised to include additional analysis for the Port MacKenzie Alternative. See also the responses to comments CM3-1, CM3-7, and CM6-4.

LG7-2 Comment noted.

LG7 - Matanuska-Susitna Borough (cont'd)

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Part A

MSB Response to DEIS Narrative Section 3.8.1.3 Cook Inlet Alternative Sites.
Port MacKenzie is discussed on pages 3-36 to 3-39.

Prepared by James Wilson, MPA
Internal Auditor, MSB
October 3, 2019

This is a response to the narrative portion of the DEIS, Section 3.8 LIQUEFACTION FACILITIES ALTERNATIVES, beginning on page 3-30 to 3-43. The DEIS narrative related to Port MacKenzie is shown below *in italics*, followed by MSB's specific comments. LG7-3

> *The Matanuska-Susitna Borough (MSB) requested an evaluation of an alternative liquefaction facility site north of Anchorage near Port MacKenzie on the west bank of the Knik Arm in Cook Inlet (see figure 3.8.1-1). The MSB first identified a potential configuration that would locate most of the liquefaction facilities about 2 miles from the shoreline. This location consists almost entirely of wetlands, based on National Wetland Inventory (NWI) data.**6** According to AGDC, the distance of the site from the shoreline would also present significant design, construction, and operational challenges; therefore, we did not analyze this site in detail.*

MSB Response
MSB did not first identify a potential site 2 miles from the shoreline and mostly in wetlands. This was a site AGDC initially proposed when FERC requested that AGDC perform an analysis of Port MacKenzie and in spite of the information provided by MSB. MSB promptly pointed out the unnecessary environmental impacts that would arise at the site analyzed by AGDC and provided precise details regarding the "Optimal Site" at Port MacKenzie. *See* MSB Comments dated September 14, 2018 (hereinafter the "September 2018 Comments").

* * *

> *A second configuration, which is the one analyzed in this section, would locate the liquefaction facilities near the shoreline in proximity to marine facilities. This location would reduce wetland impacts associated with liquefaction facilities by 10 acres compared to the proposed site at Nikiski. Up to 4 additional acres could be avoided by shifting the site slightly northward or by configuring the facilities with avoidance of this wetland in mind. In its letter to FERC, the MSB indicated that shifting the site to the north about 0.1 mile would be optimal from an environmental standpoint, and so this slight adjustment to the location of the alternative site was made.* LG7-4

LG7-3 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-4 Table 3.8.1-1 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

MSB Response
The site consistently proposed by MSB throughout this process provides more than 1,000 acres for the liquefaction facility without impacting any NWI wetland acres. This provision of the DEIS narrative acknowledges that the Optimal Site at Port MacKenzie would impact no wetlands. However, DEIS Table 3.8.1-1, which compares all alternatives for the proposed liquefaction facility, shows that the Port MacKenzie alternative would impact 4 acres of wetlands. Table 3.8.1-1 must be corrected, as it is directly contradictory to this provision of the DEIS narrative, as well as all of the information provided to FERC regarding the Optimal Site. LG7-4

* * *

(fn 6) The MSB indicated in its September 14, 2018 comment letter to FERC that these wetlands no longer exist. LG7-5

MSB Response
This is incorrect. The last site proposed by AGDC impacted four acres of NWI wetlands; MSB informed FERC that these wetlands no longer exist. However, the Optimal Site, which FERC subsequently directed AGDC to analyze, impacts zero acres of NWI wetlands. Any amount other than zero is incorrect.

* * *

The Port MacKenzie Alternative would shorten the mainline pipeline length by almost 60 miles (reducing construction-related land disturbance by about 1,090 acres), eliminate one stand-alone heater station, avoid the subsea pipeline construction within Cook Inlet, and avoid the need to relocate the Kenai Spur Highway[7] (see section 4.19.2 for discussions regarding non-jurisdictional facilities). LG7-6

(fn 7) The Port MacKenzie Alternative would also eliminate the need to upgrade the City of Kenai's municipal water system; water supply infrastructure requirements, if any, for a liquefaction facility at Port MacKenzie have not been identified.

MSB Response
MSB agrees with this statement. In addition to these stated benefits, the Port MacKenzie alternative would also eliminate the construction of a new Marine Terminal MOF, a Mainline MOF, and avoid impacts to both the Steller's Eider (threatened) and the Steller Sea Lion (endangered).

* * *

LG7-5 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-6 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

Due to the shorter pipeline length, impacts on wetlands would be reduced by an estimated 27 acres. LG7-7

MSB Response

The actual reduction in wetlands impacts is drastically greater than 27 acres. MSB's analysis of NWI maps (see Attachment A) shows that wetlands impacts for Port MacKenzie's pipeline route from Livengood is 1,161.7 acres (compared to 1,618 from Livengood to Niksiki). Therefore, Port MacKenzie has 456.3 fewer pipeline wetland acres than Nikiski.

* * *

The mainline pipeline to the Port MacKenzie site would, like the proposed Project, connect to ENSTAR's distribution system, which serves the Municipality of Anchorage as well as the MSB and Kenai Peninsula Borough. LG7-8

MSB Response

As noted in MSB's Motion for a Supplemental DEIS (dated September 27, 2019), this provision of the DEIS narrative acknowledges that the Port MacKenzie alternative would provide gas to all in-state locations proposed by AGDC. Gas currently flows from the Kenai Peninsula to Anchorage. Reverse flow would allow gas to flow from Anchorage to the Kenai Peninsula.

* * *

Unlike the proposed Project, the Port MacKenzie Alternative would not allow for a future interconnect with an existing ENSTAR pipeline at the southern end of the system near MP 806 for gas delivery nearer to the Kenai Peninsula area. The Kenai Peninsula interconnect is one of three future delivery points that have been identified as objectives of the proposed Project (see section 2.1.4). LG7-9

MSB Response

As noted in MSB's Motion for a Supplemental DEIS (dated September 27, 2019), a future interconnect location at MP 806 and/or interconnect location within the Kenai Peninsula are not identified as objectives by AGDC or the DEIS. Regardless, the existing ENSTAR gas pipeline infrastructure will allow for delivery of gas to the Kenai Peninsula if the Port MacKenzie alternative is utilized. This is specifically acknowledged in the DEIS narrative.

* * *

LG7-7 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-8 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-9 See the updates to section 1.1 of the final EIS.

LG7 - Matanuska-Susitna Borough (cont'd)

AGDC has indicated that the existing deepwater dock at Port MacKenzie could not accommodate the LNG carrier vessels and would have to be demolished and rebuilt.[8] *Demolition would involve undersea detonations at 60 piles.* LG7-10

MSB Response

MSB understands that AGDC has continued to make this representation. However, MSB has previously documented that AGDC's assertion is false and would result in the completely unnecessary demolition of existing dock facilities that exceed the needs associated with this project. *See* MSB Comments dated January 25, 2019 at 7-17 (hereinafter the "January 2019 Comments").

As described in the DEIS, AGDC requires two marine facility components at the Liquefaction Facility site: a Product Loading Facility ("PLF") and a Marine Terminal Material Offloading Facility ("MOF").

The first marine component needed at a Liquefaction Facility site is a PLF where LNG vessels can load LNG for export. Both Nikiski and Port MacKenzie require construction of a PLF. However, in the case of Port MacKenzie, the trestle length to reach sufficiently deep water is much less than compared to the Nikiski site. *See* January 2019 Comments at 23-24. Therefore, given its shorter ship trestle length, the Port MacKenzie alternative will result in fewer short- and long-term environmental impacts compared to Nikiski. Port MacKenzie's shorter trestle also result in significant construction (and long term maintenance) cost savings.

The second marine component needed is a Marine Terminal MOF, where supplies, materials, LNG modules, and equipment can be unloaded from both ships and barges. At Nikiski, an MOF does not exist, and a new facility must be constructed. At Port MacKenzie, there is an existing MOF **with capabilities that exceed requirements set by AGDC.**[1] Therefore, all of the environmental impacts associated with construction of the MOF at Nikiski could be avoided by siting the liquefaction facility at Port MacKenzie.

* * *

(fn 8) AGDC indicates that the reconstruction of the existing deepwater dock would still be necessary with the 0.1 mile northward shift of the site, as recommended by the MSB. LG7-11

MSB Response

As explained above, AGDC's contention is false. The existing "deepwater dock" exceeds the MOF capabilities required by AGDC, so no reconstruction is necessary. *See* January 2019 Comments at 7-17. Moreover, the "deepwater dock" is connected to the Optimal Site by a heavy haul road and connects to any other site along a three mile length fronting tidewater. There is no basis to reconstruct the "deepwater dock" under any circumstances, especially if the liquefaction facility were located at the Optimal Site.

[1] Based on the input of its engineering firm, MSB recommends only minor modifications to the existing MOF.

LG7-10 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-11 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

* * *

No dredging for vessel docking would be required, as the offshore area at the terminal site is sufficiently deep; however, to allow for the existing barge dock to function as an MOF, AGDC estimates that expansions of that facility would require dredging of about 290,000 cubic yards and filling of approximately 268,000 cubic yards. MSB has conducted its own engineering analysis and estimates that Marine Terminal MOF dredging would require only about 257,000 cubic yards. MSB does not specify any fill requirements. LG7-12

MSB Response

As previously discussed above, the current PND Engineering dredging estimate (Attachment D) reflects a total of 91,500 cubic yards of dredging. No filling is required at Port MacKenzie.

* * *

AGDC indicates that dredging to enlarge and maintain the ship channel across the Knik Shoal would amount to about 700,000 cubic yards annually for the life of the Project, doubling the average volumes currently dredged from the shoal. This volume of dredging is based upon AGDC's recommended widening of the shipping channel across Knik Arm shoal to accommodate the safe passing of two vessels and to maintain the water depth at 53.5 feet MLLW. The COE maintains the navigational channel across Knik Shoal. Historically, the COE has performed dredging when depths are less than 38 feet (COE, 2017a). Annual surveys indicate that channel depths have remained at or below 38 feet MLLW since dredging occurred in 2014. Consequently, annual maintenance dredging may not be necessary. Although the dredging volume and frequencies are merely estimates, the need to maintain a deeper and wider channel across the Knik Arm Shoal suggests that more overall dredging would likely be required to operate at the Port MacKenzie Alternative site. LG7-13

MSB Response

MSB previously submitted the results of MSB's consultation with the COE. *See* September 2018 Comments, Exhibit B at 29. The COE informed MSB that, even with the size and frequency of the vessels associated with the Project, the COE did not see a need for additional dredging. Therefore, there is no justification for expanding the navigation channel.

* * *

Ice conditions are historically more severe in upper Cook Inlet, creating the potential for increased risk to vessels. With an abundance of freshwater draining into Upper Cook Inlet, ice floes can form rapidly around river drainages where freshwater begins to mix with saltwater. The ice floes are then carried out with the tide. Ice conditions are a regular occurrence in Upper Cook Inlet from about the end of November through April, triggering a set of standardized best LG7-14

LG7-12 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-13 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-14 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

practices for additional bridge manning, line handlers, assist tugs, and other precautions that mitigate the risk to vessels and the environment (Coast Guard, 2018). LG7-14

MSB Response

MSB has previously responded to this alleged environmental issue. *See* September 2018 Comments, Exhibit B at 23-25. The U.S. Coast Guard puts out Ice Rules for both Nikiski areas and Port MacKenzie areas. The additional environmental conditions are mitigated with routine winter ice practices.

* * *

In contrast, the portion of Cook Inlet south of the Forelands in the Nikiski area experiences ice conditions for a much shorter time frame from January through February, and some years not at all (Cook Inlet Harbor Safety Committee, 2017). Ice conditions would be anticipated to increase the risk of delays in vessel transit relative to the proposed site, which could impact the ability of the Project to meet proposed export volumes. LG7-15

MSB Response

As the environmental conditions change, so do marine best practices in order to maintain schedules and safety. MSB's previous comments document environmental mitigation practices related to marine vessels. *See* September 2018 Comments, Exhibit B at 17-18, 23-24. MSB is unaware of any instance where a vessel was unable to berth at Port MacKenzie or faced any other environmental condition that affected "proposed export volumes." As mentioned earlier, as environmental conditions change, so do USCG Ice Rules and the best practices for navigating Cook Inlet.

* * *

AGDC indicates that, unlike the proposed site, ice mitigation structures would likely be required at the Port MacKenzie site. These would consist of four octagonal concrete structures about 95 feet across that are set on the seabed and anchored with fill or pilings, or both. In its comment letter, the MSB indicated that due to improving ice conditions in the Port MacKenzie vicinity, ice mitigation structures may not be necessary. For the purposes of this comparison, we have assumed that the current conditions would persist and that ice mitigation structures would be necessary. Ice mitigation structures would increase the footprint of the facilities by about 0.7 acre, contributing to seafloor disturbance. LG7-16

MSB Response

This issue was previously addressed in MSB's prior comments. *See* September 2018 Comments, Exhibit B at 17-18, 23-24. What needs to be clarified is that current analysis and monitoring of environmental conditions have not risen to the level of requiring ice structures. Merely evaluating the need for additional mitigation structures and practices is not the same as requiring ice structures. As far as MSB is aware, there is no documentation that states ice structures are needed to meet minimum marine safety guidelines. Therefore, without further documentation, there is no basis to assume a footprint of

LG7-15 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-16 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

0.7 acres, for purposes of the DEIS alternatives analysis. The best available data suggests ice structures are not needed.

* * *

The Port MacKenzie location adds about 130 miles to the round-trip distance between the liquefaction facility site and any destination port. According to AGDC, the increased distance would result in 12 additional vessel transits annually to meet proposed export volumes compared with the proposed Nikiski site. LG7-17

MSB Response

MSB has previously addressed this issue in prior comments. *See* September 2018 Comments, Exhibit B at 20-21. Traveling a further distance does not require additional trips. It might take longer to make a trip, unless you went a fraction of a knot faster during the trans-Pacific journey, but there is no need for additional trips. As explained in MSB's prior comments, AGDC is using flawed logic to suggest a further distance requires additional vessel transits.

* * *

Offshore approaches to the Port MacKenzie site lie within Critical Habitat Area 1 for the beluga whale and ships would be required to reduce their speed upon a whale sightings. The summer density of Cook Inlet beluga whales in Knik Arm is more than 300 times greater than the density offshore of Nikiski (0.05 beluga per square kilometer [km2] vs. 0.000158 beluga/km2). LG7-18

MSB Response

Part C addresses the flaws in this statement. As a vessel slow to 8 knots, research shows Beluga risks drop significantly. MSB has been unable to identify the basis for the claim that summer density in Knik Arm is "more than 300 times greater" than offshore of Nikiski. Specifically, MSB has been unable to verify the 0.05 and the 0.000158 figures based on any research cited in the DEIS. Unless these calculations can be verified, they should be set aside.

* * *

LG7-17 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-18 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

In considering the density in addition to the greater distances / vessel transit times within Cook Inlet for Port MacKenzie, we estimate that there would be about an 80 percent higher probability of a whale strike from LNG carriers transiting to and from Port MacKenzie during operation. Consequently, beluga whale vessel strikes and other disturbances are more likely for the Port MacKenzie site, particularly if additional transits are necessary. LG7-19

MSB Response

Similar to the "300 times greater" claim, MSB could not independently verify this "80 percent higher probability" figure. Part C addresses this issue. Unless calculations used in the DEIS can be verified, the figures should be set aside.

* * *

Additionally, belugas tend to travel in shallow areas, which limits their ability to avoid noise impacts associated with shipping traffic (Braund, 2016). LG7-20

MSB Response

Part C addresses marine transit and mitigation to Beluga impacts.

* * *

Finally, the additional distance would result in increased air emissions. The increase in annual air emissions stemming from the increased vessel transit time to and from the Port MacKenzie site are estimated at 247 tons per year (tpy) of nitrogen oxides, 226 tpy of carbon monoxide, and 28,481 tpy of CO2. LG7-21

MSB Response

MSB has previously addressed this issue in prior comments. *See* January 2019 Comments at 22-23. By taking a small portion of the savings achieved by avoiding the Cook Inlet pipeline crossing, vessels could be converted from diesel to LNG. This conversion of marine vessel is part of many of AGDC's PowerPoint presentations. See, for example, Attachment E. This would result in world-wide emission reductions, and not just reductions in U.S. waters.

* * *

LG7-19 This estimate is based on information contained in Goetz, 2012. See the update to section 3.8.1.3 of the final EIS.

LG7-20 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-21 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

The Knik Arm of Cook Inlet has the second highest tidal range in North America (up to 40.0 feet, compared to 30.2 feet at Nikiski). The high tidal range, in combination with the water's relatively high silt content, creates an abrasive environment for marine infrastructure. A site at Port MacKenzie would experience conditions similar to those at the Port of Alaska, which lies across Cook Inlet from Port MacKenzie. The Port of Alaska is seeking funding to rebuild dock facilities that have experienced significant deterioration since their construction. Marine facilities at a Port MacKenzie site would need to be engineered and constructed (or reconstructed) to withstand these conditions at greater construction and operating cost, or face a shorter life expectancy, relative to the proposed Nikiski site. LG7-22

MSB Response

Port MacKenzie's construction, design and installation is different from the Port of Alaska. Within the last two months, PND Engineering completed a full engineering inspection of Port MacKenzie on marine components. There were no major issues and there were no restrictions or downgrades to any capacities for any of the marine facilities. This shows that the design and installation of Port MacKenzie have worked as planned. While major maintenance has been carried out, it had nothing to do with the issues facing the Port of Alaska. The PND Engineering inspection report is available upon request.

* * *

AGDC indicates that constructing the liquefaction facilities at Port MacKenzie is likely to extend construction by a year due to the greater vessel travel distance, increased risk of ice conditions from November to April, and the greater tidal range, which narrows the windows within which LO/LO vessels can unload material. The risk of construction delays could be mitigated to some extent by utilizing ice class module characters, if available, or by adding another LO/LO berth, which would increase the footprint of marine construction. LG7-23

MSB Response

As explained in MSB's responses above, the greater travel distance will have no impact on construction or operations. Moreover, the DEIS identifies no legitimate concerns regarding potential ice conditions or tidal ranges at Port MacKenzie. Therefore, FERC should not accept AGDC's contentions. Given the availability of vessels to transport LNG modules, and existing berthing capacities that exceed Project needs, there is every likelihood that construction schedules would not only be met, but would very likely be accelerated with a Port MacKenzie site using the existing marine facilities.

* * *

LG7-22 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-23 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

The Port MacKenzie site is near the City of Anchorage, where over 50 percent of the state's population lives. In addition, LNG carriers would pass near the Port of Alaska, which, because it receives material and supplies for the Elmendorf Air Force Base, is classified as a strategic port by the Department of Defense. Whether the LNG vessel transits would be compatible with the operation of Elmendorf Air Force Base and with the dense commercial and population centers associated with Anchorage would need to be assessed during the determination of suitability of the waterway for LNG marine traffic by the Coast Guard. This review process includes consideration of the density and character of marine traffic in the waterway; locks, bridges, or other man-made obstructions in the waterway; water depths, tidal range, protection from high seas, natural hazards, underwater pipelines and cables, and distance of berthed vessel from the channel, and any other issues affecting the safety and security of the waterway. LG7-24

MSB Response

Neither the Port of Alaska nor Port MacKenzie have ever had an issue with vessels of any type or size utilizing either port. MSB previously provided a marine study and related information regarding the year-round use of Port MacKenzie. *See* September 2018 Comments, Exhibit B at 22-23. MSB approached AGDC several times to ask if they would provide the authorization required for marine consultants to move forward with a Waterway Suitability Analysis in conjunction with the USCG. AGDC would not provide the required authorization. Without authorization the Waterway Suitability Analysis could not be completed. MSB stands ready to support a Waterway Suitability Analysis once AGDC provides authorization.

* * *

Overall, the Port MacKenzie site offers certain environmental advantages, which include a shorter mainline pipeline length, avoidance of the Cook Inlet pipeline crossing, and elimination of the need to relocate the Kenai Spur Highway. LG7-25

MSB Response

This statement overlooks various other environmental advantages of Port MacKenzie when compared to Nikiski. Attachments F and J provide an overview analysis of these two sites and display the many advantages of Port MacKenzie.

* * *

Impacts on wetlands would be reduced by about 27 acres, and by avoiding a Cook Inlet pipeline crossing, short-term impacts on beluga whales during construction would be reduced. LG7-26

MSB Response

As discussed above, the NWI-mapped wetlands for Port MacKenzie's pipeline route from Livengood is 1,161.7 acres while selection of the Nikiski alternative would impact 1,618 acres. *See* Attachment A.

LG7-24 Comment noted.

LG7-25 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-26 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

Therefore, the mainline to Port MacKenzie impacts 456.3 fewer wetland acres than Nikiski. This correction must be incorporated into FERC's alternatives analysis. LG7-26

* * *

The proposed Project is superior in certain other respects to the Port MacKenzie Alternative. Beluga whale impacts associated with operation of the liquefaction facilities would be greater with the Port MacKenzie Alternative, and these impacts would persist for the life of the Project, as opposed to the short term impact presented by the Cook Inlet pipeline construction for the proposed route. LG7-27

MSB Response

This provision relies on incorrect information submitted by AGDC and overlooks impacts to other endangered and threatened species at Nikiski. Part C provides additional information on overall impacts.

* * *

Operational air emissions would be greater for the Port MacKenzie Alternative owing to the increased shipping distances. LG7-28

MSB Response

As explained above and in MSB's previous comments, a small portion of the savings from avoiding construction of a pipeline under Cook Inlet could be used to convert LNG carriers from diesel fuel to LNG. This would reduce world-wide emissions in addition to reduced emission in U.S. waters.

* * *

Additionally, ice conditions in Upper Cook Inlet could hamper the ability to meet the proposed export volumes required to meet the Project's principal commercial objective. LG7-29

MSB Response

As mentioned above and in MSB's previous comments, ice mitigating practices are commonly implemented in Cook Inlet and would not impede AGDC's operations. In the worst case scenario, a vessel speed might be reduced and extra lines used at berthing.

* * *

LG7-27 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-28 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-29 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

Moreover, the Port MacKenzie Alternative would allow for only two of the three currently identified gas delivery points within the state. Consequently, although the Port MacKenzie Alternative would be technically feasible, it would not allow the Project to meet all its objectives. LG7-30

MSB Response

These statements are factually incorrect and must be corrected in order for the DEIS alternatives analysis to withstand Commission or federal court scrutiny. First, the "three currently identified gas delivery points within the state" are not stated objectives for this project. Second, selection of the Port MacKenzie site would be provide North Slope gas into the ENSTAR gasline system. This system would provide gas to the Matanuska-Susitna valley area, to Anchorage, and to the Kenai Peninsula.

* * *

Moreover, its environmental advantages are not sufficiently great to offset operational environmental impacts stemming from the increased vessel traffic in Upper Cook Inlet. Therefore, we conclude that it would not provide a significant environmental advantage over the proposed Nikiski site. LG7-31

MSB Response

This conclusion is clearly not based on current and best available information. Parts B and C show that the environmental advantages associated with Port MacKenzie are significant when compared to Nikiski. Despite the fact that AGDC has largely ignored the factual data presented by MSB, the DEIS should incorporate this information so that the alternatives analysis is based on accurate information.

LG7-30 See the updates to section 1.1 of the final EIS.

LG7-31 Section 3.8.1.3 of the final EIS has been updated to address this comment. We have reviewed the information provided by MSB. We concluded that the Port MacKenzie alternative would not provide a significant environmental advantage over the Project.

LG7 - Matanuska-Susitna Borough (cont'd)

Part B

MSB Response to DEIS Side-By-Side Comparisons between Alternative Sites.
See TABLE 3.8.1-1, Comparison of Alternative Sites for the Liquefaction Facilities, page 3-34.

Prepared by James Wilson, MPA
Internal Auditor, MSB
September 23, 2019

Table 3.8.1-1 in the DEIS provides a concise summary of FERC's comparative analysis of alternatives for the Project's liquefaction facility. However, this table contains numerous errors which substantively impact FERC's analysis of Port MacKenzie. The DEIS alternatives analysis will not be adequate until these errors are corrected and FERC's conclusion are based on the facts.

The erroneous figures from Table 3.8.1-1 which have resulted in an inaccurate analysis of Port MacKenzie are copied below, along with MSB's response.

* * *

	Proposed Site	Port MacKenzie
Waters of the United States within LNG plant site (acres)	**14**	**4**

LG7-32

MSB Response

The DEIS states that an initial site location identified at Port MacKenzie would "reduce wetlands impacts associated with the liquefaction facilities by 10 acres compared to the proposed site at Nikski." DEIS at 3-36. This 10-acre difference is reflected in Table 3.8.1-1. However, the DEIS goes on to acknowledge that "[u]p to 4 acres could be avoided by shifting the site slightly northward" to align with the Optimal Site proposed by MSB. While the DEIS states that "this slight adjustment to the location of the alternative was made," (i.e., shifting the liquefaction facility 0.1 miles north to MSB's proposed Optimal Site), Table 3.8.1-1 reflects the wetlands impacts of the initial site selection (4 acres) instead of impacts of MSB's optimal site (0 acres). Therefore, Table 3.8.1-1 should show Port MacKenzie impacting **0 acres of wetlands**. This is in line with the data previously submitted by MSB in September 2018 regarding the Optimal Site.

* * *

LG7-32 Section 3.8.1.3 and table 3.8.1-1 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

	Proposed Site	Port MacKenzie
NWI-mapped wetlands affected by mainline pipeline, Livengood to liquefaction site (acres)	**1,618**	**1,591**

LG7-32

MSB Response

MSB analyzed NWI-mapped wetlands affected by mainline pipeline, from Livengood to Port MacKenzie. MSB proposes two possible routes to Port MacKenzie. From Livengood to approximately MP 674, route 1 of 2 generally followed the ASAP route, continuing to follow the Alaska Rail Road – Rail Spur, ending at the Port MacKenzie LNG Optimal Site. The wetlands for route 1 of 2 totaled 1,161.7 acres. The second route went from Livengood to approximately MP 706.1, continuing to the SSE, and upon reaching the ASAP route, followed that route to the Alaska Rail Road – Rail Spur, ending at Port MacKenzie Optimal Site. The wetlands for route 2 of 2 totaled 1,174.1 acres. See Attachment A for details of analysis and Attachments B and C for maps of the two routes.

Since route 1 generally follows the ASAP line, it is logical to use that route for the wetland acreages, which is 1,161.7 acres. Therefore, on Table 3.8.1-1, the factor NWI-mapped wetlands affected by mainline pipeline, Livengood to liquefaction site (acres), **should be shown as 1,161.7 acres for Port MacKenzie**.

* * *

	Proposed Site	Port MacKenzie
Number of major waterbodies (>100 feet wide) crossed by mainline pipeline, Livengood to liquefaction site	**23**	**24**

LG7-33

MSB Response

A review was conducted where an accounting of waterbodies, > 100 feet in width, was carried out. See attached Attachment M, which lists the waterbodies, and the total crossed. Attachments B and C are maps of the two routes leading to Port MacKenzie.

Both routes that depart the AKLNG mainline, at MP 674 and 706.1, cross 21 water bodies. **Therefore, this factor in Table 3.8.1-1 should show 21 for Port MacKenzie.**

* * *

LG7-33 Section 3.8.1.3 and table 3.8.1-1 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

LG7-34

	Proposed Site	Port MacKenzie
Beluga whale Critical Habitat Area 2 crossed by mainline pipeline (miles)[a]	**27**	**0**

a No beluga whale Critical Habitat Area 1 would be affected by mainline pipeline construction for the proposed Project or any of the alternatives.

MSB Response

While the table is correct that the pipeline crossing Cook Inlet is approximately 27 miles in length, the statement that "No beluga whale Critical Habitat Area 1 would be affected" is incorrect and not based on the documentation presented in other sections of the DEIS.

Because of the complexities of this factor, a more detailed response is contained in Part C, which provides the basis for rejecting the premise that the mainline pipeline does not affect Beluga Critical Habitat 1. In fact, the mainline pipeline not only affects Beluga Critical Habitats 1 and 2, but it also significantly affects the Susitna Delta Exclusion Zone, an area within Beluga Critical Habitat 1 (and 2) that is extremely sensitive to construction impacts, as well as operational impacts.

* * *

	Proposed Site	Port MacKenzie
Beluga whale Critical Habitat Area 1 traversed by vessel traffic (miles)	**0**	**29**

MSB Response

This table reflects that marine vessels will traverse 29 miles of Beluga whale Critical Habitat Area 1. The 29 miles is an accurate distance. However, this is extremely misleading in a side-by-side comparison to have only a "mileage" through a critical habitat, because the implication is that all vessel traffic impacts Beluga whales to the same degree. Because of the complexities of this factor, a more detailed response is contained in Part C.

Part C shows several important considerations that should be used in evaluating this factor. Research shows, based also on NMFS recommendations, that if vessels reduce speeds to 10 knots, the risks associated with Beluga strikes drops significantly. In addition, Attachment L demonstrates the reduced risk in beluga strikes associated with incremental decreases in vessel speed.

A key finding in this report is that even with vessels traveling through 29 miles of Beluga Critical Habitat 1, the overall impacts to Beluga whales is greater for a Nikiski LNG site due to the construction of the mainline pipeline under Cook Inlet, construction of the mainline MOF, the continued long term use of the mainline MOF, and the maintenance of the mainline pipeline. All of the construction activities associated with project components and their long term maintenance impacts, which affect Beluga

LG7-34 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

LG7-34

whales, is significantly greater with a Nikiski site. A Port MacKenzie site avoids significant Beluga impacts compared to Nikiski.

Attachment N provides some insight as to where the Beluga impacts can occur. This map depicts the mainline pipeline route across Cook Inlet, and the concentration of Belugas in the area where both ends of the pipeline enter and exit the inlet. In addition, on the north side of Cook Inlet where the pipeline enters, there is also a mainline Material Off-loading Facility (MOF), in which **both the mainline pipeline and mainline MOF affects several miles of Beluga Critical Habitat 1**. This is in addition to affecting 27 miles of Beluga Critical Habitat 2.

As mentioned above, a more detailed response is contained in Part C. This attachment documents the extensive areas where the project components affect Beluga whale Critical Habitats 1 and 2, as well as the Susitna Delta Exclusion Zone. The significance is that a Port MacKenzie site avoids a number of significant impacts compared to a Nikiski site. In addition, Part C points out that, in addition to the Beluga whale being an endangered species, there is a second endangered species with a habitat range that includes the Nikiski site. There is another specie that is threatened, which also has a habitat range that includes the Nikiski site.

* * *

	Proposed Site	Port MacKenzie
Beluga whale Critical Habitat Area 2 traversed by vessel traffic (miles)	**138**	**175**

MSB Response

This factor reports that a Port MacKenzie site requires a marine vessel to travel thorough 175 miles of Beluga Critical Habitat 2. However, this amount is 271% larger than the actual measured size of Beluga Critical Habitat 2. Attachment O shows that a distance through Beluga Whale Critical Habitat Area 2 is **64.5 miles**, not 175 miles.

This amount is significantly incorrect and should be corrected to reflect 64.5 miles in order to make a fair and reliable comparison between sites.

* * *

LG7 - Matanuska-Susitna Borough (cont'd)

	Proposed Site	Port MacKenzie
Approximate assumed pipeline lateral length to Fairbanks (miles)	**30**	**30**

LG7-35

MSB Response

A Port MacKenzie site would not require a 30 mile lateral from the mainline pipeline extending to Fairbanks. LNG can efficiently and effectively be transported by either rail or truck from Port MacKenzie to Fairbanks. LNG currently goes by truck from the Port MacKenzie area to Fairbanks. The current Alaska railroad route would be from Houston to Fairbanks. A 32-mile Rail Spur from Port MacKenzie connecting to Houston is approximately 75% complete. Therefore, this factor should reflect "0" miles required for a lateral pipeline using a Port MacKenzie LNG site.

* * *

	Proposed Site	Port MacKenzie
Compression required (hp)	**276,235**	**276,235**

LG7-36

MSB Response

As shown on Attachment P, due to a 58 mile shorter mainline pipeline, the required mainline hp is reduced by 28,042. **Therefore, the accurate amount for Port MacKenzie is 248,193 (276,235 minus 28,042)**.

Attachment P also provides the reasoning for eliminating the Rabideus Creek pressure station, which eliminates 33,000 hp. The next pressure station further north is the Honolulu Creek pressure station, which would increase its hp from 33,000 to 37,958. All other pressure stations continuing north are at least 42,000 hp. Eliminating the Rabideus Creek pressure station reduces construction and operational impacts, including a reduction of related air emissions.

In evaluating hp requirements, DEIS Table 2.1.4.-3 Project Compressor Stations (*see* DEIS at 2-16) provides the data for analysis. While Table 2.1.4-3 shows that the proposed site at Nikiski requires 344,000 hp, Table 3.8.1-1 shows 276,235 hp for Nikiski. **Therefore, Table 3.8.1-1 should be corrected to reflect 344,000 hp for the Nikiski alternative.**

* * *

LG7-35 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-36 The information on hydraulic modeling with regard to horsepower requirements was provided by AGDC.

LG7 - Matanuska-Susitna Borough (cont'd)

	Proposed Site	Port MacKenzie
Approximate Dredging required (cubic yards)	**800,000**	**1,258,000**[c]

c 650,000 cubic yards (south face); 80,000 cubic yards (east face) barge dock; 700,000 cubic yards/year for 1 year (Knik Shoal).

LG7-37

MSB Response

In regards to footnote c included with this information, the amounts in the footnote total 1,430,000, while the body of the table shows 1,258,000. Regardless of this apparent discrepancy, neither amount is accurate based on the documentation provided.

In regards to the supposed need for 700,000 cubic yards of dredging of the Knik Shoal, it is not correct. The DEIS, on page 3-37, states that the 700,000 cubic yards of dredging is based upon AGDC's recommended widening of the shipping channel across Knik Arm shoal **to accommodate the safe passing of two vessels**. As discussed in MSB's previous comments, the U.S. Army Corps of Engineers has confirmed that no such widening is necessary, even with the projected frequency and size of vessels associated with the Alaska LNG Project. In addition, MSB has not been able to find any documentation regarding the reliability or validity of the 700,000 cubic yard estimate.

Regarding the 650,000 and the 80,000 cubic yard amounts, these were amounts that AGDC estimated without using the bathymetric surveys provided by MSB in this docket. AGDC has not provided any reasoning as to why it ignored MSB's data. AGDC's estimates were more than 350% higher than the survey data provided by MSB. FERC, on October, 2, 2018, just a few months before release of the Draft EIS, directed AGDC to "Provide an estimate of dredging volumes utilizing the **bathymetry provided by MSB**." MSB, again for the second time, provided bathymetry to AGDC and they responded to FERC on November 20, 2018, with an estimate of 289,910 cubic yards, a reduction of 39.7%.

In regards to the specific construction activities that AGDC uses to calculate "dredging cubic yards", it was found that "fill" cubic yards is being used in the same manner as "dredging" cubic yards, for purposes of comparing sites. On page 3-35, the DEIS compares "fill" cubic yards at the Anderson Bay alternative site to the Nikiski site dredging. Therefore, the DEIS is using both fill and dredging amounts for comparison purposes in this factor. In addition, footnote d for this factor refers to "Approximate dredging required (cubic yards)", and in reference to Anderson Bay's 39,000,000 cubic yards of "fill", states: "This number represents the volume of overburden that would be removed from the site and used as off-shore fill, rather than dredged from the floor of the sound." This amount of 39,000,000 was included for this factor. Therefore, the use of "fill", for comparison purposes is included in MSB's calculations for dredging required in connection with the Nikiski site.

Attachment I reflects the corrected dredging amounts for both the Port MacKenzie Site and Nikiski site:

LG7-37 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7 - Matanuska-Susitna Borough (cont'd)

	Nikiski site	Port MacKenzie
DEIS:	**800,000**	**1,258,000**
Correct amount:	**1,682,581**	**91,500**

LG7-37

These amounts are not unexpected as the Nikiski site must construct a new Marine Terminal MOF, a new Mainline MOF, and a new pipeline under Cook Inlet. These project components are not needed at a Port MacKenzie site, aside from minor modifications to the existing dock facilities.

* * *

	Proposed Site	Port MacKenzie
Residences within 100 feet of mainline pipeline e	**1**	**1[e]**

LG7-38

e Estimate is based on aerial interpretation of individual residences.

MSB Response

A review was made with Google Earth, USGS topographic maps, and NWI maps, which did not reveal any residences within 100 feet of the potential pipeline routes to Port MacKenzie. Therefore, **this factor should reflect "0" residences within 100 feet of mainline pipeline for the Port MacKenzie alternative.**

Concluding Comment for Table 3.8.1-1 Comparison of Alternative Sites for the Liquefaction Facility Alternatives

The above suggested changes are based on the best available information. The information provided will withstand a detailed review and analysis by others. Attachment K provides a side-by-side comparison between the Nikiski site and Port MacKenzie using the corrected information. **This Attachment K is a critical summary to review.** A reasonable person reviewing this comparison table would likely conclude that the liquefaction facility LEDPA is Port MacKenzie.

LG7-38 The estimate of residences within 100 feet of the pipeline is based on our assumed routing for the Port MacKenzie Alternative.

LG7 - Matanuska-Susitna Borough (cont'd)

Part C

Review of AKLNG Impacts to Beluga Whales, Other Endangered Species Act Species, and Relationship to Marine Vessel Speeds.

Prepared by James Wilson, MPA
Internal Auditor, MSB
September 30, 2019

The primary purpose of this summary is to identify impacts and the areas that are impacted, identify marine traffic speeds to prevent Beluga risks, and then make comparisons between Nikiski and Port MacKenzie. This analysis is to examine the factual support for the side-by-side comparisons found in the DEIS Table 3.8.1-1, page 3-34. This summary is presented in 7 sections that are described below.

1. **Beluga Critical Habitat 1 and 2**
2. **Susitna Delta Exclusion Zone**
3. **Action Areas**
4. **Endangered and Threatened Species**
5. **Construction Impacts on Beluga Habitat**
6. **Vessel transit through Cook Inlet**
7. **Summary of AKLNG Impacts and Comparison between Nikiski and Port MacKenzie**

1. Beluga Critical Habitat 1 and 2 LG7-39

There needs to be a clear understanding of the boundaries of Beluga Critical Habitats. Attachment Q, Critical Habitat for Cook Inlet Beluga Whale, NOAA Fisheries, includes the Federal Register publication, dated April 11, 2011, which contains the legal descriptions of Critical Habitat 1 and 2, along with maps of the two areas.

2. Susitna Delta Exclusion Zone LG7-40

The next area that needs to be understood is the Susitna Delta Exclusion Zone. **The National Marine Fisheries Service ("NMFS") recommends avoiding activities in this sensitive area**, which is considered an "exclusion zone" from April 15 through October 15 due to its importance for feeding Beluga adults and young. *See* DEIS, Appendix O, page O-99, which provides a map of this area. **The map shows that the mainline pipeline goes through the southwest portion of the Susitna Delta Exclusion Zone and Critical Habitat 2**. The mainline pipeline and the mainline Material Offloading Facility ("MOF") will significantly impact these areas as well as Critical Habitat 1, as discussed below.

LG7-39 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-40 Section 3.8.1.3 of the final EIS has been updated to address this comment.

The Susitna Delta Exclusion Zone map not only displays its boundaries, but also Beluga Critical Habitat 1 and 2. The higher density beluga area, Critical Habitat 1, lies to the north with the southern boundary just north of where the mainline pipeline exits Cook Inlet. LG7-40

The map clearly shows that the **Susitna Delta Exclusion Zone overlaps much of Beluga Critical Habitat 1, and portions of Critical Habitat 2.**

3. Action Areas

The next concept to understand is "Action Areas". The DEIS, Appendix O, Section 3.0 ACTION AREA, page O-23, describes Action Areas. **An "action area" is defined by regulation as all areas that would be affected directly or indirectly by the federal action and not merely the immediate area involved in the action** (50 CFR 402.02). The Project's action area spans the State of Alaska from Cook Inlet to Prudhoe Bay.

The geographic extent of the action area includes those areas in which Project activities would have the potential to directly or indirectly affect threatened, endangered, or candidate species and their critical habitat, which includes a 1-mile buffer around all land-based facilities and a 6-mile buffer on marine facilities (seaward) and vessel routes.

An example of how "action areas" are used can be seen with the following example. DEIS, Appendix O, page O-31, states that during molting and wintering, Alaska-breeding Steller's eiders may occur in Upper Cook Inlet near the Liquefaction Facilities on the eastern shore of Cook Inlet near Nikiski. It goes on to say designated "critical habitat for Alaska-breeding Steller's Eider would fall outside the Project action area." This demonstrates that the 6-mile distance from Project activities is evaluated and considered when evaluating potential impacts of a project component. On the other hand, the LNG Liquefaction facility extends 6 miles, on either side, across Cook Inlet from the site, and therefore, must be considered when evaluating project component impacts on all species. This includes, not only the threatened Steller Eider, but also the endangered Steller Sea Lion, as both of these species' designated habitat overlaps the action areas of the Nikiski site.

The next step is to look at the project components such as the pipeline route and the Mainline Material Offloading Facility (MOF) and determine what areas are included in the Action Area. The pipeline location and Mainline MOF is shown on the Attachment R map. It shows the pipeline running from the south to the northwest passing through Beluga Critical Habitat2, with Beluga Critical Habitat 1 approximately .25 miles north of the construction boundary. It should be kept in mind that the area shown on this map is also within the Susitna Delta Exclusion Zone. See DEIS, Appendix O, page O-99, which show the boundaries of the Exclusion Zone.

The Action Area for Beluga whales extends both south and north for 6 miles, and therefore the pipeline affects both Beluga Critical Habitat areas 1 and 2. Going north from the construction corridor, the action area (where the pipeline can affect Beluga whales) extends 5.75 miles into Beluga whale Critical LG7-41

LG7-41 Section 3.8.1.3 of the final EIS has been updated to address this comment.

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LG7-41

Habitat 1. This impact on Critical Habitat area 1 is important to remember because this completely refutes Footnote "a", found in DEIS, Table 3.8.1-1, page 3-34, the side-by-side comparisons between Alternative sites, which states that "No beluga whale Critical Habitat Area 1 would be affected by mainline pipeline construction…" This is clearly a serious error in the Comparison of Alternative Sites table, page 3-34, that needs to be corrected before Critical Habitat comparisons are factored into the analysis.

In addition, the proposed **Mainland MOF would also be constructed in a location where the action area extends several miles into Beluga Critical Habitat 1**. In addition, the Action Area along the pipeline, and the Mainland MOF, also affects a portion of the Susitna Delta Exclusion Zone.

Attachment S is a map from DEIS, Appendix O, page O-25, which shows the action area boundary for the Mainline Pipeline, the Mainline MOF, and the on-shore pipeline. This map, which reflects the 6-mile action area boundaries, clearly shows the affected areas are within Beluga Critical Habitat 1, 2, and the Susitna Delta Exclusion Zone.

DEIS, Appendix O, page O-105, states that "impacts on habitat near anadromous river mouths, such as for the **Mainline MOF**, could affect the ability of Cook Inlet beluga whales to find prey in locations they normally visit in the summer." These types of impacts affecting Beluga whales need to be taken into consideration when developing a side-by –side comparison between Alternative sites.

The DEIS goes on to state: "Construction activities along the shoreline for the Liquefaction Facilities' Marine Terminal Facilities and the two MOF's would occur in the spring and summer, during birthing and feed times for Cook Inlet beluga whales."

Finally, the DEIS states: "In particular, activities at the Mainline MOF would interfere with Cook Inlet Beluga whales' ability to access food resources in the **Susitna Exclusion Zone**." It goes on to say: "From the Beluga River to the Little Susitna River is a sensitive area within critical habitat where NMFS recommends avoiding activities in this area, which is considered the '**exclusion zone**' from April 15 through October 15, due to its importance for feeding adults and young."

A color map, Attachment N, from the Petition for Incidental Take Regulations, page 62, shows higher levels of Beluga densities exactly where the pipeline enters the water on both sides of Cook Inlet. In addition, the Mainline MOF is also in higher density Beluga waters. This map is consistent with the above quotes that identified these areas as being critical to beluga.

The map in Attachment T depicts the pipeline and the 13,200 foot-wide "anchor" construction corridor. Again, keep in mind that the action areas extend six miles beyond the construction corridor. Another map, Attachment U, also shows how the construction corridor goes across Beluga Critical Habitats, then enters the Beluga "sensitive area," the Susitna Delta Exclusion Zone. On top of these impacts, considering the additional 6-mile action areas on either side of the mainline pipeline, there are serious and widespread impacts to Beluga whales from construction of the pipeline across Cook Inlet.

The DEIS, Table 3.8.1-1 Comparisons of Alternative Sites for the Liquefaction Facilities, has at least two major errors related to just Beluga whales that taint the data and prevents a valid and reliable comparison between sites. The first is that footnote "a" says "No Beluga whale Critical habitat Area 1 would be affected by mainline pipeline construction for the proposed Project or any of the alternatives." This is wrong. This also suggests a significant lack of understanding of the project components and the area affected by those components. A full and through alternatives analysis cannot be completed if basic environmental information is not being reflected in the DEIS. LG7-41

A second concern is that this DEIS Table 3.8.1-1, page 3-34, states, in regards to the factor "Beluga whale Critical Habitat Area 2 traversed by vessel traffic (miles)," that Port MacKenzie vessels would travel "175" miles through this area. This is false. Attachment V shows vessels would travel 64.5 miles through Beluga Critical Habitat 2. A difference between 64.5 miles and 175 miles just does not provide sufficient accuracy for the purposes of an alternatives analysis. With this type of false data there is no way a reasonable person can read the DEIS and be able to make valid and reliable decisions. This needs to be corrected along with all the analysis throughout the DEIS that might have used this type of information.

Therefore, because this is critical data, and the best available data needs to be incorporated into the DEIS, another set of maps are being presented to help understand the "action areas" and their relationship to project components, such as the mainline pipeline, the mainline MOF, Marine Terminal MOF, and the Product Loading Facility (PLF). These maps come from the U.S. Department of Commerce, National Oceanic Atmospheric Administration, National Marine Fisheries Service (NMFS), when they prepared an Endangered Species Act (ESA) Section 7(a) (2) Biological Opinion Revision, for the AKLNG project.

The maps are included in Attachment W and are identified as W "1" through "6". Attachment W(a), has two maps, an "A" and a "B" shows the pipeline corridor. Map "A" shows the Mainline Pipeline crossing Cook Inlet. This map also shows a "maximum ensonified area" which extends several miles from the pipeline. Map "B" shows the "action areas" associated with the mainline pipeline. It extends 6 miles along the pipeline route. Maps W (2) and W (3) are enlargements of map W (1). Details are easier to identify using the enlarged maps.

The map shown in Attachment W (4) reflects the boundaries of three areas. The three areas include Beluga Critical Habitat 1 and 2, and the Susitna Delta Exclusion Zone. You will notice that this Exclusion Zone extends largely through Beluga Critical Habitat 1 but also extends into Beluga Critical Habitat 2. The mainline pipeline and mainline MOF are both in Beluga Critical Habitat 2, in the Susitna Delta Exclusion Zone, and the action area extends several miles into Beluga Habitat 1.

The map shown in Attachment W (5) show the boundaries of these three areas, the mainland pipeline, and the action areas that are affected by this pipeline. Now looking at map shown on Attachment W (6), you can see, graphically, that the mainline pipeline affects each of the three areas. The issue at hand

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now is to compare the Nikiski site impacts of these project components, the mainline pipeline, the mainline MOF, the Marine Terminal MOF, and the Marine Terminal PLF, to the impacts that would be associated with a Port MacKenzie site. LG7-41

4. Endangered and Threatened Species LG7-42

The discussion up to this point has generally only addressed the endangered Beluga Whales. MSB completed a review to determine if any other species would be affected by any project components related to construction activities or operations. **The DEIS reveals there are three species that are either an Endangered or Threatened Species, that would be affected by both construction and operation activities at Nikiski: Cook Inlet Beluga whales (Endangered), Steller Sea Lion (Endangered), and Steller's Eider (Threatened).** In comparison, at a Port MacKenzie site, **only operational impacts (marine travel through Beluga whale habitat) would result**.

Attachment X is a map showing the habitat of the Stellar Sea Lion, in which the map inset shows the Nikiski site. As shown on this map, a portion of the pipeline falls within the habitat. Attachment Y is a map showing the habitat of the Steller's Eider. This map shows that the Steller's Eider habitat extends north to include a portion of the pipeline running under Cook Inlet.

In reflecting on the current DEIS it became apparent that its side-by-side comparison (Table 3.8.1-1 Comparison of Alternative Sites for the Liquefaction Facilities, page 3-34) of Alternative sites, does not provide information that enables a comparison of each LNG site alternative with regard to the impacts that may result to each endangered or threatened species.

5. Construction Impacts on Beluga Habitat LG7-43

While Appendix O, page O-105, shows construction components impacting only Beluga Critical Habitat 2, we have already shown that several construction components, such as the Mainline, the MOF and mainline pipeline affect not only Critical Habitat 2, but also Critical Habitat 1 and the Susitna Delta Exclusion Zone.

5.1 Comparing Nikiski to Port MacKenzie using Consolidated Impacted Areas

The next step in analysis is to compare the impacts that each project component could effect for Beluga Critical Habitat 1, 2, and the Susitna Delta Exclusion Zone. Acreages were calculated for each project component on the areas. The detailed results by each project component are shown in Attachment G. A summary of these construction component impacts is summarized below:

LG7-42 Section 3.8.1.3 of the final EIS has been updated to address this comment.

LG7-43 Section 3.8.1.3 of the final EIS has been updated to address this comment.

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LG7-43

	Nikiski	Port MacKenzie	Percent Difference
Beluga Critical Habitat 1 (acres):	33,107	22,706	-34.1%
Beluga Critica Habitat 2 (acres):	327,613	0	-100.0%
Susitna Delta Exclusion Zone (acres):	81,070	5,444	-93.7%

As shown in the table above, in all three areas Nikiski impacts more acreage than Port MacKenzie.

5.2 "Temporary" Impacts compared to "Permanent" Impacts

Another important consideration of impacts is whether or not the impacts are "permanent" or if they are "temporary". Therefore, MSB conducted a review of construction impacts that are temporary and impacts that are permanent. Attachment H lists the project components, including dredging, and using data from the DEIS, or other cited materials, a comparison was made between the acreages that each site impacted, identified as "permanent" impacts, or "temporary" impacts. The following are the results:

	Nikiski	Port MacKenzie
Temporary (Construction) Impacts (acres):	6,477	85.6
Permanent (Construction) Impacts (acres):	375	15

Attachment H shows, by a significant amount, that **Nikiski has the greatest amount of temporary impacts**. In addition, the results show that **Nikiski also has the greatest permanent impacts**.

5.3 Pipeline Construction Impacts - Dredging

Dredging can impact Beluga whales. The DEIS has cubic yards of dredging as one of the 16 factors in the Comparison of Alternative Sites for the Liquefaction Facilities, Table 3.8.1-1, page 3-34. Therefore, further analysis was conducted. After a thorough review was completed, Attachment I was developed to compare dredging amounts for Nikiski and Port MacKenzie.

In regards to Port MacKenzie, the first issue that should be pointed out in the Comparison of Alternative Sites for the Liquefaction Facilities, Table 3.8.1-1, page 3-34, relates to footnote "c". This footnote says selection of the Port MacKenzie alternative would result in 1,258,000 cubic yards of dredging. This error needs to be corrected.

Attachment I summarizes dredging amounts for Nikiski and Port MacKenzie. The following are the results:

	Nikiski	Port MacKenzie
Total Cubic Yards of dredging:	1,682,581	91,500

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LG7-43

The results show **that the Nikiski alternative results in significantly greater amounts of dredging.** These amounts should not be surprising as a Nikiski site is required to construct two MOFs, a 27 mile pipeline, a PLF, and then dredging due to removal of the Marine MOF, following the end of the construction period. The Port MacKenzie alternative, on the other hand, has minor modification to an existing barge dock and construction of a PLF.

5.4 Pipeline Construction Impacts – North Slope to Cook Inlet

While this document focuses on Beluga whales, at some point the impacts for the whole project need to be considered. The DEIS has a table that covers the whole Project from the North Slope to Nikiski. It addresses three areas, which include all "Lands Affected During Construction (acres)," "Land Affected During Operation (acres)," and "Land Affected with Permanent Surface Alterations (acres)." This table, 2.1.2-1, page 2-2, was used for the Nikiski data, and MSB added in Port MacKenzie data in order to make a side by side comparison for the whole project:

	Nikiski	Port MacKenzie
Land Affected During Construction (acres):	**35,548**	**26,800**
Land Affected During Operations (acres):	**8,510**	**7,246**
Land Affected with Permanent Surface Alterations (acres):	**16,478**	**14,538**

The results show that a Port MacKenzie site, when compared to Nikiski, would affect 23.6% less land during construction, 13.9% less land during operation, and 10.8% less land with permanent surface alterations. **This clearly shows that a Nikiski site, across the board, negatively impacts more acreages than a Port MacKenzie site.**

6. Vessel transit through Cook Inlet

LG7-44

6.1 Travel Distances through Beluga Critical Habitat (miles)

The DEIS uses two of the sixteen factors for comparing miles traversed by vessel traffic through Beluga whale Critical Habitat. The factor, "Beluga whale Critical Habitat Area 2 traversed by vessel traffic (miles)", reports that Port MacKenzie's marine vessels would go through "175" miles of Critical Habitat Area 2. This is false. Attachment V was prepared to document the distance a marine vessel would travel through Beluga Critical Habitat 2, which is 64.5 miles. This data needs to be corrected.

6.2 Air Emissions by Marine Traffic

Previous estimates of cost savings for a Port MacKenzie site, due to reduced construction costs and reduced long term maintenance, are in excess of 2.0 billion dollars. A very small amount could be used to convert vessels from diesel to LNG fuel.

LG7-44 Section 3.8.1.3 of the final EIS has been updated to address this comment.

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LG7-44

Keith Meyer, then President of AGDC, presented a PowerPoint presentation to the 39th Annual Alaska Resources Conference on November 15, 2018 where he showed a slide stating that the Alaska Marine Highway System spends $15 million annually on fuel and that if the marine vessels converted to LNG, there would be a savings of 60% and "reduce emissions (TPG)." *See* Attachment Z.

Then on January 10, 2019, Keith Meyer, then President of AGDC, attended the Alaska Gasline Development Corporation – Regular Board Meeting, where he made a presentation, along with a PowerPoint presentation. *See* Attachment AA. Mr. Meyer explained that LNG can be used as a marine fuel (see page 10 of the PowerPoint).

With a Port MacKenzie site, and using a portion of the savings, convert the LNG Carriers to LNG and then you reduce world-wide emissions, and not just in U.S. waters. Even with a longer transit time to Port MacKenzie, the overall emissions would be significantly less. This concept should be incorporated into the Alternative Analysis.

6.3 Sounds from a Moving Vessel

Belugas can be impacted by sounds. The document, Incidental Take Regulations, 6.2.4 Vessel Sounds Associated with Construction Activities, page 46 states that large ships produce broadband SPLs of about 180 dB re 1 uPa rms at 1 m (Richardson et al., 1995; Blackwell and Greene, 2003). However, because these sound levels are transient (the vessel is moving), NMFS does not consider transiting vessel sound to rise to the level of "take" (S. Guan, NMFS, pers. Comm.).

Noise associated with vessels transiting towards Port MacKenzie will be mitigated because vessels will be traveling at reduced speeds. See Attachment L for a discussion of marine vessel speeds.

6.4 Anchor Spread is 13,200 feet in Width Across Cook Inlet

The DEIS on page 4-382 states: "Marine mammals, particularly baleen whales such a minke whales, could become entangled in buoy and anchor lines use to install the Mainline Pipeline (James 2013)…" James, (2013), on page 36, Section 5.1.4 ENTRAPMENT, ENTANGLEMENT OR COLLISION, states: "The devices themselves and certain features in particular (such as rotating blades and **tethering lines**) may present risks of entrapment, entanglement and harmful, perhaps even lethal collisions." This is critically important research, as it was cited by AGDC, because it is estimated that the pipe laying activities across Cook Inlet will have 12 anchor lines, mid line anchor buoys, and will stretch more than 13,000 feet wide, for 27.3 miles over two seasons. This pipe laying process appears to have serious risks to whales, especially Beluga whales, as the pipeline begins and ends in higher density Beluga Critical Habitat. The map in Attachment N shows the pipeline entering and exiting Cook Inlet in the higher density Critical Habitat. That is in addition to having 100% of the 27.3 miles of pipeline in Beluga Critical Habitat 2 and impacting both Beluga Critical Habitat 1 and the Susitna Delta Exclusion Zone.

CC-441

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LG7-44

Potential lethal collisions during the pipe laying process is an obvious threat to Beluga whales in Cook Inlet. However, DEIS, Appendix O, on page O-90, shows a Table of Total Number of Beluga Strikes, which has a footnote "c", which states "Does not include vessels for pipe lay activities for Mainline Pipeline construction in Cook Inlet." This means that although research identifies serious risks with anchor lines, which could result in lethal collisions, the DEIS does not take these risks into consideration.

These 12 anchor lines, each stretching more than a mile in length with mid-line anchor buoy lines, is similar to a spider-web of guillotine wires stretched across Cook Inlet, more than two miles wide.

6.5 Vessel Speed Impacts on Beluga Whales

The DEIS, in Appendix O, 7.4.2.3, Vessel Strikes, page O-104, states that vessel speed is the primary factor in the probability of a vessel strike and of the strike being lethal (Vanderlaan and Taggart, 2007). The percent of lethal whale strikes is significantly reduced by vessels traveling at less than 12 knots (13.8 mile per hour) (Vanderlaan and Taggart, 2007).

A review of vessel speeds and the impact on LNG loading schedules was conducted. Attachment L shows that vessels traveling to a Port MacKenzie liquefaction facility could reduce typical marine traffic speeds, as they enter Beluga Critical Habitat 2, from 12 knots down to 10 knots, and then when approaching Beluga Critical Habitat 1, reduce speed to 8 knots.

A number of analyses were completed regarding the effect of slower speed on LNG loading schedules. The Attachment BB reviews and analyzes data from AGDC and shows that, even with the additional distances and slower speeds to reduce Beluga risks, there would be no delay in initiating the loading of LNG.

6.6 Nikiski Vessel Speeds and Risks of Beluga Strikes

The DEIS, in Appendix O, page O-104, states, in reference to a Nikiski site: "A variety of vessels would be in use for different phases of Project construction and operation. Vessel transit speeds would vary from less than 10 knots up to 26 knots." The DEIS goes on to note that NMFS recommends speed reductions between 10 and 13 knots to reduce ship strikes (page O-104).

Nikiski marine vessel speeds of "10 knots up to 26 knots" would result in high risks to Beluga whales from vessel strikes. As previously discussed, significant project construction would impact the action areas that are extremely critical to Beluga. Of specific concern are the mainline pipeline and mainline MOF that will affect several miles of Susitna Delta Exclusion Zone.

6.8 Route to Port MacKenzie Following Beluga Low Density Areas

As previously presented in Attachment L, marine vessels can reasonably reduce speeds to a rate lower than that recommended by NMFS, and still meet LNG loading schedules. In addition, there is a low

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density marine corridor that further reduces Beluga risks. There are two maps that use different styles, but based on the same research, which display the low density Beluga marine vessel corridor. Attachment N shows the low density areas are generally in the middle of Cook Inlet. With this map you can see the low density area going from the southwest and extending to the northeast. LG7-44

The map on Attachment W (2) shows the same low density Beluga corridor, continuing to the northeast, to Port MacKenzie. As a vessel approaches Port MacKenzie, it would further reduce its speed. See Attachment L for berthing speeds. The above discussions clearly show that the overall risks to Beluga whales can be, and would be, less than a Nikiski site.

6.9 LNG Carrier Port Time

The key to understanding why the LNG loading schedule would not be delayed by a longer and slower trip through Beluga Critical Habitats is that there is a planned Hoteling. This means that vessels are at berth, but are neither loading nor unloading. This period of time averages from a low of 9 hours to a high of 34 hours. Therefore, the longer distance to Port MacKenzie, and slower speeds to reduce risks to Belugas, would NOT result in any LNG loading delays. See Attachment BB for references used in this analysis and the results of the analysis.

7. Summary of AKLNG Impacts and Comparison between Nikiski and Port MacKenzie LG7-45

As has been previously discussed, the DEIS includes a Table 3.8.1-1 Comparison of Alternative sites for the Liquefaction Facilities, page 3-34. This is the table where Alternative sites can be compared side-by-side. Attachment K was prepared using the best available information to update the data, primarily for Port MacKenzie. This is a critical document to review as it provides the basis for identifying the Least Environmentally Damaging Practicable Alternative (LEDPA) among liquefaction facility alternatives.

A close review of Attachment K shows that Port MacKenzie is the LEDPA site. This actually makes common sense when you consider the fact that the Port MacKenzie site would require a pipeline that is 57 miles shorter, does not run under Cook Inlet, has an existing MOF marine facility, and more. Meanwhile, extensive construction must occur at Nikiski, including the Cook Inlet pipeline.

LG7-45 See the response to comment LG2-3.