

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:

TransCanada Alaska Company, LLC
Alaska Pipeline Project
Docket No. PF09-11-000

April 23, 2012

Ms. Irene T. Garcia
EIS Project Manager
Alaska Pipeline Project
16945 Northchase Drive; Room 422
Houston, TX 77060

Re: Additional Comments on TC Alaska's Draft Resource Reports

Dear Ms. Garcia:

The two enclosures with this letter contain additional comments on TransCanada Alaska Company, LLC's (TC Alaska) draft environmental resource reports. These comments consist of input from various Alaska State agencies as well as comments on Resource Report 10 (Alternatives) from the Office of the Federal Coordinator and the U.S. Environmental Protection Agency. TC Alaska should consider these comments a supplement to the set of comments we sent on March 30, 2012, and should include responses with its revised draft environmental resource reports.

Thank you for your continued cooperation. If you have any questions regarding these comments, please contact Dave Swearingen at (202) 502-6173.

Sincerely,

Michael J. Boyle
Deputy Director
Division of Gas – Engineering
and Environment

Enclosures

cc: Public File, Docket No. PF09-11-000

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Additional Comments on
TransCanada Alaska Company's Draft Environmental Resource Reports from the Various Alaska State
Agencies Forwarded by the State Pipeline Coordinator's Office

Comment Number	RR Location Reference	Comments on Draft RR 1 – General Project Description	Source¹
1-147.	General	State in the text that TC Alaska would conform to the requirements adopted by 13 Alaska Administrative Code 50-55. All temporary and permanent construction to include fuel systems being developed to support port and airport operations during construction and future operational use of the pipeline must be reviewed and construction permits issued.	ADPS
1-148.	General	Evaluate old, no longer used roads and pads within oil fields for gravel sourcing.	ADNR-DMLW
1-149.	Table 1.3.2-1	Include land owner and administrative type with location of facilities.	ADNR-SPCO

¹
 ADFG = Alaska Department of Fish and Game
 ADNR = Alaska Department of Natural Resources
 DGGS = Division of Geological and Geophysical Surveys
 DMLW = Division of Mining, Land, and Water
 SHPO = State Historic Preservation Office
 SPCO = State Pipeline Coordinator's Office
 ADPS = Alaska Department of Public Safety

1-150.	1-36	TC Alaska intends to request an exception to the mitigation measure for pipelines that begin upslope of roads. This mitigation measure is intended to aid in spill containment. Indicate what other measures would be implemented to provide equal or better resource protection.	ADNR-DMLW
1-151.	1-55	Indicate that all surveys must be done in accordance with platting authority standards.	ADNR-SPCO
1-152.	1-58, 1-59, 1-77	Regarding blasting, state in the text that the storage magazine type, location, and any barricade requirements must meet the International Fire Code requirements and that proper Federal Alcohol, Tobacco, and Firearms licensing permits would be required.	ADPS
1-153.	1-91, Table 1.11-1	Alaska Statute 38.35 (rather than AS 38.35.050) is the proper citation for addressing the authorization that will be issued by the SPCO. Add ADFG Title 16 Fish Habitat Permits for instream activities in fish-bearing waterbodies to the table of major state authorizations required for the project.	ADNR-DWLW, ADFG
1-154.	Appendix 1A	Include a single page map showing the entire Pt. Thomson Corridor indexed to the detailed alignment maps to allow the reader to determine the distance of the Pt. Thomson line from the Badami Pipeline and from the Beaufort Sea coastline.	ADFG
1-155.	Appendix 1A	There are maps (e.g., US-03-094-014) that show access roads to some unknown structure, lake, material site, etc. The scale on these maps should be altered to include all proposed project facilities, including water sources, material sources, or disposal areas. Alternatively, an additional map could be included to depict the off-alignment resources.	ADFG
1-156.	Appendix 1B	The old Dietrich Camp and airstrip used during construction of TAPS is apparently not proposed for use as a storage yard or camp. Explain why new pads for a camp and storage yard in the same general area are proposed. Using previous sites would minimize habitat disturbance.	ADFG
1-157.	Appendix 1E	Appendix 1E “Construction Typical Drawings” does not include fuel storage locations, incinerators, or potential vehicle refueling in any of the camps. These could directly affect setbacks and could impact pad size and camp layout plans.	ADPS

1-158.	Appendices 1E and 1H	<p>1) Snow removed from the construction ROW may not be placed outside of the construction ROW boundary as depicted on the APP winter construction diagrams. Provide alternative location for the removed snow.</p> <p>2) Reevaluate the construction ROW widths so sufficient space is accounted for. In all cases the construction ROW dimensions appear to have a very limited allowance of space for extra traffic, greater spoils, unanticipated equipment requirements, compliance oversight observers, etc.</p>	ADNR- SPCO
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Comment Number	RR Location Reference	Comments on Draft RR 2 – Water Use and Quality	Source
2-111.	2-24, Table 2.3.5-1	Include the Shaviovik River in this list as it is crossed by the proposed Point Thomson pipeline. Also, the proposed crossing method for streams listed in this table and also for fish streams listed in appendix 2B (table 2B-1) will need to be carefully evaluated to determine if the proposed crossing method is compatible with the documented fish resources of the stream.	ADFG
2-112.	Appendix 2F, Point Thomson MP 42	<p>The proposed alignment crosses the East Channel Sagavanirktok River slightly upstream of the buried crossing of the Badami Pipeline. The proposed route also crosses the wetland complex slightly upstream of the Badami Weir, a structure put in place by BP Exploration (Alaska) Inc. to stop headcutting of the outlet channel that occurred when outflow was intersected and eroded the unconsolidated fill over the Badami Pipeline ditch. Substantial resources have been focused on keeping this wetland from being drained. The alignment should be altered to eliminate the possibility of a repeat of this incident.</p> <p>In addition, overwintering of anadromous broad whitefish has occurred upstream and downstream of the proposed crossing location. Appropriate means need to be used to ensure viable fish overwintering can be maintained downstream of the winter open-cut crossing location. Alternatively, horizontal directional drilling (HDD) or an elevated or aerial crossing could be used.</p>	ADFG
2-113.	Appendix 2F, Point Thomson MPs 49-50	The proposed alignment goes through a known anadromous fish overwintering area along the bluffs of the West Channel Sagavanirktok River. As this crossing is proposed to be constructed in winter by open cut, the alignment should be shifted either upstream or downstream to cross shallow areas that will freeze to the bottom, thus avoiding adverse effects to this important fish overwintering area. Alternatively, HDD or an elevated or aerial crossing could be used.	ADFG

2-114.	Appendix 2F, Point Thomson MPs 49-50	<p>Carefully assess the effects of soil disturbance caused by burial of the pipeline to permafrost integrity, particularly through streambanks and wetlands. Ditching through stream banks, especially in unstable, ice-rich soils, may cause physical and thermal degradation, causing loss of riparian habitat, drainage of wetland complexes, potential changes in stream morphology, and increased sedimentation, with a resultant loss of aquatic habitat.</p> <p>The pipeline ditch can intercept overland flow that may erode backfill material from the pipeline ditch and potentially serve as a canal carrying water with a high sediment load into nearby streams or wetlands. The interception of stream flow and wetland cross drainage can pose significant problems, particularly in areas of continuous and discontinuous permafrost in rolling or mountainous terrain.</p> <p>Rehabilitation, especially in ice-rich soils, may require extensive, repeated ditch maintenance and long-term thermal stabilization activities before the habitat can return to its former stability and productivity. This may be particularly problematic if chilled gas is not added to the pipeline for several years following installation, thereby slowing the rate of re-freezing of the disturbed permafrost soils. These factors should be taken into consideration and assessed in the text.</p>	ADFG
2-115.	Appendix 2F, Point Thomson MPs 49-50	<p>Present a detailed evaluation of the Point Thomson gas transmission pipeline with respect to water movement across the pipeline ditch, particularly as the proposed route is generally perpendicular to water movement in the area. Present an evaluation of the measures that will be used to ensure water movement (e.g., sheet flow) across the buried pipeline is accommodated; measures to stabilize the ditch as backfill thaws and loses volume; measures and techniques that will be used to bring additional backfill material to areas needing remediation along the generally roadless 58-mile alignment; and measures to ensure vegetation regrowth.</p>	ADFG

Comment Number	RR Location Reference	Comments on Draft RR 3 – Fish, Vegetation, and Wildlife Resources	Source
3-90.	3-3	Fish life histories should include major rivers crossed by the project and used by each species (e.g., Chinook salmon in the Chena, Salcha, Chatanika rivers).	ADFG
3-91.	3-11	Revise text to indicate that Burbot occur in the Colville River Basin. Alaska whitefish likely occur in the Chandalar-Christian river drainage basin. Least cisco occur in all of the major drainage basins in the project area.	ADFG
3-92.	3-12	Identify that Longnose suckers also overwinter in large rivers such as the Tanana River.	ADFG
3-93.	3-20	No streams that enter Tea Lake are crossed by the pipeline. All streams within the Atigun River valley crossed by the pipeline flow into the Atigun River.	ADFG
3-94.	3-22	The text cites Johnson and Kloehn (2009) and Johnson and Weiss (2007) - both references to ADFG Catalog of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes - for distribution of anadromous fish species in this and other locations. Cite the most current version of the Catalog to ensure the most current data are used.	ADFG
3-95.	3-22	Correct the text to state that most creeks crossed by the pipeline in the Tanana River basin empty into the Tanana River rather than the Delta River as indicated in the current text.	ADFG
3-96.	3-22	Correct the text to state that the Tok River supports a small run of coho salmon, not chum salmon as described in the current text.	ADFG
3-97.	3-29	Stream-resident Dolly Varden occur in the Atigun River and its tributaries upstream of Atigun Gorge. No anadromous forms of Dolly Varden have been observed or captured in the Atigun River upstream of Atigun Gorge. Revise the text accordingly.	ADFG
3-98.	3-74	Include the timing of den emergence by both grizzly and black bears in the species descriptions.	ADFG

3-99.	3-75	State that muskoxen were reintroduced to the North Slope at Barter Island within the Arctic National Wildlife Refuge (ANWR) in March and April 1969. In June 1970, muskoxen were released at Kavik Camp, to the west of ANWR.	ADFG
3-100.	3-76	The Delta River area where bison are present is not in the Tetlin National Wildlife Refuge. Revise the text accordingly.	ADFG
3-101.	3-78	Address in the text that northern red-backed vole, snowshoe hare, coyote, North American river otter, and American mink all are species documented and likely to occur in the project area.	ADFG
3-102.	3-108	Regarding construction impacts on bears, mortality to bears could occur from defense of life and property incidents. The authors should refer to literature that described human-carnivore interactions and the problems that ensued during construction of TAPS. In addition, a bear-human interaction plan will need to be developed and implemented before pre-construction and construction activities occur.	ADFG
3-103.	3-108	Acknowledge in the text that temporary work camps as well as permanent facilities would need to be surrounded by electric fences to minimize human interactions with foxes and brown and black bears that were common during construction of TAPS. The temporary storage and proper disposal of wastes will be an important part of minimizing human/carnivore interactions. The direct feeding of animals should be prohibited	ADFG
3-104.	3-109	Contrary to the discussion regarding construction impacts and mitigation, Dall sheep may be subject to increased mortality from increased vehicle traffic during construction, particularly in the area from Atigun Camp to the Chandalar Shelf. Sheep commonly spend time and cross the road in this area. Dall sheep are known to use exposed rock cuts along the Dalton Highway in the Atigun Camp and Pass area as mineral licks in spring. Revise the text accordingly.	ADFG
3-105.	3-110	Contrary to the discussion regarding construction impacts and mitigation, muskoxen commonly occur in and near the Sagavanirktok River floodplain during winter and have been killed by collisions with trucks on the Dalton Highway in winter. Thus, construction activities may contribute to muskoxen mortality. Revise the text accordingly.	ADFG

Comment Number	RR Location Reference	Comments on Draft RR 4 – Cultural Resources	Source
		<p>NOTE REGARDING CULTURAL RESOURCES: All material filed with the Commission containing location, character, and ownership information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "CONTAINS PRIVILEGED INFORMATION--DO NOT RELEASE."</p>	
4-59.	4-3	Recommend changing “cultural resources” to “historic properties.”	ADNR-SHPO
4-60.	4-3	The fifth paragraph starts with “Legislation that protects historic properties...”): revise this sentence to “Legislation that protects historic properties and other cultural resources in the state of Alaska also includes...”	ADNR-SHPO
4-61.	4-4	Revise first sentence to “TC Alaska, as the FERC’s non-federal representative, initiated the requisite consultations and has conducted some identification-phase cultural resource surveys...”	ADNR-SHPO
4-62.	4-4	In section 4.2.1, revise the second sentence to "These informal consultations have primarily involved discussing survey methodologies..."	ADNR-SHPO
4-63.	4-4	Add another Multiple Agency and APP Staff meeting that was held much more recently that was not included in Table 4.2.1-1 (Fall 2011).	ADNR-SHPO
4-64.	4-7	Change third sentence of second paragraph to "These agencies have not provided official comments on the APE; however..."	ADNR-SHPO

Comment Number	RR Location Reference	Comments on Draft RR 5 – Socioeconomics, Transportation, Environmental Justice, and Subsistence	Source
5-59.	5-3	Discuss that additional potential impacts of construction on subsistence resources include potentially interrupting animal migrations and thus resource availability to local communities. The availability of subsistence resources has an economic impact on those groups who rely on the availability of wild resources but who may not have access to wild foods because of the construction. Subsequent reliance on and the economics of acquiring non-native food should also be addressed.	ADFG
5-60.	5-6	In addition to what is requested in Comment 5-7 , provide additional information regarding the REMI model, particularly the basis for selecting and using this model, the credibility of the model, and other users of the model.	ADFG

Comment Number	RR Location Reference	Comments on Draft RR 6 – Geology	Source
6-70.	6-3	Include discussion of the role of tectonic processes in shaping physiographic regions; for example, uplift.	ADNR-DGGS
6-71.	6-7	Include discussion of the ice-gouge that is prevalent on the Beaufort Sea Shelf and of more importance to the project than some of the other shallow marine sediment processes described. See USGS OFR 83-706, OFR 81-950 and Wadhams, 2011: <i>New predictions of extreme keel depths and scour frequencies for the Beaufort Sea using ice thickness statistics.</i>	ADNR-DGGS
6-72.	6-9	Review the age of metamorphic rocks; age dates indicate predominantly Paleozoic rather than Precambrian origin.	ADNR-DGGS
6-73.	6-9, 6-10	Update references and data pertaining to Alaska mineral industry from most recent Alaska Mineral Industry Report; The latest report is available at: http://www.dggs.dnr.state.ak.us/pubs/id/22822	ADNR-DGGS
6-74.	6-9 - 6-11	Identify where mineral occurrences overlap the proposed pipeline route. A comprehensive list of Alaska mineral occurrences can be found at: http://ardf.wr.usgs.gov/digital.html . The digital dataset should be input into GIS to identify the overlaps.	ADNR-DGGS
6-75.	6-9 - 6-11	DGGS located anomalous gold values on a hill adjacent to the village of Dot Lake. This area may be of future interest for exploration. This information is available at http://www.dggs.dnr.state.ak.us/pubs/id/16021 .	ADNR-DGGS
6-76.	6-9 – 6-11	The Livengood gold deposit falls close to or within the proposed corridor. Consult International Tower Hill Mines regarding the extent of their property and any planned mining activity, etc. Web site: http://www.ithmines.com/project/livengood_alaska/	ADNR-DGGS
6-77.	6-9 – 6-11	Consult with the Alaska Department of Transportation and Public Facilities regarding any asbestos problems in construction materials along the planned route.	ADNR-DGGS

6-78.	6-9 – 6-11	Potential metallic resources are not limited to gold, silver, lead, and zinc. Refer to http://ardf.wr.usgs.gov . Update text accordingly.	ADNR-DGGS
6-79.	6-19	List the fault or seismic zone in which the earthquake occurred in the table. Ruppert et al., 2008, AGU monograph 179, Table 1, lists notable earthquakes in the interior, several of which are not included in the table.	ADNR-DGGS
6-80.	6-20	The report lists only three of the northeast trending seismic belts. List and describe two additional seismic zones (Dall City and Rampart) that have generated historic earthquakes.	ADNR-DGGS
6-81.	6-22	The report states that a youthful fault was identified near Harding Lake but that no evidence of historic rupture was observed. Expand the discussion to describe what the evidence is that allows the conclusion that the 1937 rupture did not occur on the youthful fault identified in 2011. Discuss any field work conducted along the identified surface rupture.	ADNR-DGGS
6-82.	6-22	The report states that a fault is considered active if, based on its history of seismicity, it has a relatively high potential for future rupture. Describe what criteria of seismicity would indicate a high probability of future rupture.	ADNR-DGGS
6-83.	6-26	The text states that Buzzard Creek Maars <i>last</i> erupted 3,000 ybp. That was also the <i>only</i> eruption. The maars are the product of a single eruption; there is no evidence of repeated volcanic activity. Remove the word “last” to improve clarity.	ADNR-DGGS
6-84.	6-27 to 6-36	Potential mass movement hazards can extend well beyond the limit of the mapped margins of a particular feature on the landscape due to runout as well as headwall expansion and lateral growth. Include an assessment of potential hazards posed by proximal features as well as those that cross the centerline in the evaluation. Tables show that multiple features were identified proximal to the centerline, but the text implies that only those that actually intersect the centerline are of concern. Clarify that distal effects of mass movement features are being taken into consideration.	ADNR-DGGS
6-85.	6-28	Identify the basis for identifying the landslides as active. Indicate whether these landslides are being monitored to confirm activity/inactivity.	ADNR-DGGS

6-86.	6-38	Compare mainline to more recent maps; geology is more varied than just schist and orthogneiss.	ADNR-DGGS
6-87.	6-43	Explain why old deposits that are no longer subject to flooding are included as part of this section on erosion and scour. While flooding is not a risk to the pipeline, what are the potential impacts of flooding on the GTP?	ADNR-DGGS
6-88.	6-45	The report states that mudflows are depositional in nature and not considered a threat and require no additional investigation. It should be mentioned that some scour could occur during mudflows. This possibility should be noted and mitigation described.	ADNR-DGGS
6-89.	6-48	Not all the animals listed are extinct - saiga antelope ("Siberian steppe antelope") and horse still exist today, just are no longer native to Alaska. Correct the text. Also use "Siberian steppe antelope" as the more commonly known term for "saiga antelope."	ADNR-DGGS
6-90.	6-49	"Blue ox" is not an accepted formal term; assume "bison" is meant by this, which is already listed. The "blue ox" cited is probably a reference to the characteristic blue color that some Pleistocene remains take on due to permafrost preservation and the growth of the phosphate mineral vivianite. Revise text accordingly.	ADNR-DGGS

Comment Number	RR Location Reference	Comments on Draft RR 8 – Land Use, Recreation, and Visual Impacts	Source
8-48.	General	Expand Comment 8-1 regarding BLM land to include State land: Throughout the document there is a lack of landownership information that is important for understanding the context of the presented information. It is noted that in draft RR 8 the administrative types of State land are identified; however, in many tables throughout the document these specifics about landownership, known land status, and administrative type of land are necessary for authorizations to be properly assessed.	ADNR-SPCO
8-49.	8-8	The agricultural discussion seems to indicate that only those land parcels being actively used for agriculture or cultivated will benefit from TC Alaska’s proposed measures. However, the intent of this section must be protection of soils of agricultural value, regardless of active status. A number of agricultural tracts throughout Alaska are in some form of conservation reserve, temporary disuse and/or not yet sold or developed. These fallow or unexploited agricultural lands or agricultural designated lands and underlying soil resources should have the same protection as actively producing agriculture tracts.	ADNR-Division of Agriculture
8-50.	8-12	Existing Land Use - When the State is identified as the land owner, include in this table, and all similar tables, the State Classification/Designation or Special Use Area Designation in addition to the Borough's classification/zone/designation.	ADNR-SPCO
8-51.	Appendix 8B and 8C	Provide a map illustrating the location of all borrow sites and temporary workspace areas along with landownership/land status of each site/area.	ADNR-SPCO

Comment Number	RR Location Reference	Comments on Draft RR 11 – Safety and Reliability	Source
11-27.	11-12	There are a very limited number of emergency response organizations that would or could respond to an emergency on the APP or to one of its facilities. Identify who responds when there is no service available.	ADPS
11-28.	Appendix 11A	Indicate if the dormitory units are to be kept separated from one another or if they will be interconnected. The configuration will be the determining factor if a fire suppression sprinkler system will be required in the camps.	ADPS
11-29.	Appendix 11A	Project airports that move passengers will be required to provide FAA Aircraft Rescue Fire Fighting vehicle and crew requirements.	ADPS
11-30.	Appendix 11A	Appendix 11A references aboveground buildings housing and supporting the APP and attempts to apply 49 CFR Part 192 and some auxiliary references to design and construction of these facilities. Add a discussion of the applicable state-adopted building codes for building, fire, mechanical, or fuel gas.	ADPS

Additional Comments on
TransCanada Alaska Company's Draft Environmental Resource Report 10 (Alternatives) from the Office
of the Federal Coordinator and the U.S. Environmental Protection Agency

Comment Number	RR Location Reference	Comments on Draft RR 10 – Alternatives	Source
10-41.	10-3 (also RR 5)	The no-action alternative assumes robust state spending through 2050, which is highly speculative and unrealistic if there is no gas line and North Slope oil production continues to fall, especially if oil prices also fall, even temporarily. For example, section 5.5.5.2 reports that state budget surpluses will continue to 2040, a risky assumption considering the state's near total reliance on high and rising oil prices to maintain budget surpluses. It also assumes that federal spending per capita in Alaska will increase each year with inflation, a suspect assumption considering the federal budget deficit.	OFC
10-42.	10-3 (also 5-6)	Some of the assumptions in the no action alternative discussion seem questionable and also apply to the proposed project. These assumptions include the predicted development of the Donlin Creek gold mine, the Livengood gold mine, and Pebble mine. Some or all of these may not be fully developed or developed at all.	EPA
10-43.	10-3 (also Appendix 5D, 5D-12)	Explain or amend the assumption in the no-action alternative that a gas-to-liquids (GTL) plant will be built on the North Slope by 2025. GTL projects are expensive and economically challenging, as recent North Slope gas studies have shown. If the assumption is modified, amend the forecast of state revenues and economic impact derived from the existence of a GTL plant.	OFC
10-44.	10-3 (also Appendix 5D, 5D-14)	Explain the assumption that the Alaska's Constitutional Budget Reserve would last until 2040 (no-action alternative), when the state forecasts (Page 15 of the Department of Revenue Fall 2011 Revenue Sources Book) that the fund will run dry within a decade.	OFC

10-45.	10-3 (also Appendix 5D, 5D-16)	Elaborate on the assumption in appendix 5D that the state would impose unspecified new taxes. Update sections 5.5.2 and 5.5.5, especially an analysis of how such taxation would affect the state's economy, jobs, and population.	OFC
10-46.	10-38, 10-51	<p>The ocean dumping regulations, at 40 CFR Part 227, Subpart C, require an evaluation of alternatives to ocean dumping. More specifically: 40 CFR 227.15(c) requires evaluation of the relative environmental risks, impact, and cost for ocean dumping and other feasible alternatives; and 40 CFR 227.16(a)(2) requires evaluation of whether there are practicable alternative disposal locations and methods which have less adverse environmental impact or potential risk to other parts of the environment.</p> <p>Dredge Disposal Site Alternatives. The alternatives discussed in this section are very general and do not provide any analysis as to how and why Stefansson Sound would be a proposed alternative once barrier islands, beach replenishment, island building, and upland beneficial reuse are ruled out by TC Alaska based on cost and schedule. Both site designation and site selection require a more detailed analysis of options based on factors other than cost and schedule.</p> <p>This section is also inconsistent with the general and specific site selection criteria at 40 CFR 228.5 and 228.6 and the EPA guidance on ocean disposal site selection. Thus, it does not provide the information that the EPA needs to either designate a disposal site under Section 102 of the Marine Protection, Research, and Sanctuaries Act, or concur with a U.S. Army Corps of Engineers alternative site selection under Section 103 of the Act. The ocean dumping appendix should include a disposal site designation study, as defined at 40 CFR 228.2(d), and consistent with the EPA site selection criteria and guidance. This entire section should be revised based on the results of the disposal site study.</p> <p>See also Comments G-9, 1-110, 1-111, and 1-112.</p>	EPA

10-47.	10-38	Include all information pertaining to the CO ₂ stream, including information related to the expected activities of the Producers. The additional information should include a reasonable range of potential or anticipated uses or dispositions for part or the entire CO ₂ stream. Any anticipated uses or activities related to disposition of CO ₂ stream, including locations of such activities (e.g., in the territorial sea), should be included in the RRs, even if this information pertains to expected future activities of the Producers. See also Comment 1-10 .	EPA
10-48.	10-40	Analyze whether it is feasible to site the GTP closer to the Endicott causeway. Using the Endicott causeway (instead of West Dock) for module delivery may decrease the quantity of dredged material.	EPA
10-49.	10-47	Assess the feasibility of designing and building smaller modules (similar to the proposed Point Thomson and Alaska Stand Alone Pipeline projects) so that these smaller modules can be transported by smaller, shallow draft barges and tugs. This alternative could be combined with a shallower navigation channel alternative, a barge and bridge alternative, or both. This alternative would minimize, if not avoid, the need for ocean dumping of dredged material. Note that this alternative is different than the one discussed in draft RR 10 (i.e., breaking up the larger modules into smaller pieces, transporting them by rail or truck, and reassembling these pieces on site).	EPA
10-50.	10-48	Rail Transportation – This alternative should be described as a Rail/Truck Transportation alternative. Smaller modules could be shipped to a number of ports of entry – Anchorage, Seward, and Whittier, transported to Fairbanks via the Alaska Railroad, then trucked up the Dalton Highway to Prudhoe Bay. This alternative would preclude the need to modify West Dock (DH2), dredging a navigation channel, and open water disposal.	EPA
10-51.	10-50	Describe the criteria or factors used to evaluate the dredging alternatives and select the proposed method. Consider the feasibility of winter dredging and disposal. Explain how some of the dredging methods could be combined.	EPA, OFC

10-52.	10-48	<p>Consider the following dock alternatives:</p> <ol style="list-style-type: none"> 1. Improve West Dock from Dockhead 2 (DH2) to Dockhead 3 (DH3) and modify DH3 so that the GTP modules can be delivered to DH3 and then transported to the GTP site. 2. Improve West Dock from DH2 to the Seawater Treatment Plant (STP) and modify the STP site so that the GTP modules can be delivered to a dock at the STP site and then transported to the GTP site. 3. Improve the Endicott causeway and add or modify a dock so that the GTP modules can be delivered to the Endicott dock and then transported to the GTP site (may decrease quantity of dredged material). 4. Use the proposed Point Thomson dock and then truck over supplies via frozen sea or tundra ice road. 5. Deliver the GTP modules to a suitable dock (e.g., DH3 or at the STP site) in the summer, store them temporarily at a staging area, and then transport them to the GTP site in the winter via ice road (or a combination of ice roads and gravel roads). <p>Provide a map showing the various North Slope dock alternatives.</p>	EPA, OFC
10-53.	10-51	<p>Characterize the proposed disposal site and alternative ocean disposal sites in terms of whether each site is dispersive or nondispersive (or alternatively, predominantly dispersive or predominantly nondispersive).</p>	EPA
10-54.	10-51	<p>Add the following alternatives:</p> <ol style="list-style-type: none"> 1. Salt marsh creation, enhancement, or restoration in the vicinity of West Dock or Prudhoe Bay. 2. Borrow pit reclamation by dewatering the dredged material and then filling abandoned or spent borrow pits, or by filling abandoned or spent borrow pits with dredged material and then decanting the saline water back into estuarine or marine waters. (Note that this alternative is different than the upland beneficial reuse alternative because the reclaimed sites would be freshwater ponds and wetlands after reclamation.) 	EPA

10-55.	10-52	This paragraph mentions the need for soil testing. Our understanding was that testing had already been conducted. Update the text to reflect the latest testing results. Add a discussion about the surprise about the bathymetric data, and the need for increased fill should be discussed as a possible stimulus for a channel alternative.	OFC
10-56.	10-52	Discuss alternative navigation channels near West Dock DH3, West Dock STP, and the Endicott causeway.	EPA
10-57.	10-53	Was the area just north of the proposed site considered? This alternative looks like the site could potentially be moved farther away from the minor stream to the west.	OFC