

State will submit rest of Cook Inlet crossing information by September

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It will be next September before the state's Alaska LNG project team submits some of the detailed information requested by federal regulators for the proposed 27-mile underwater pipeline crossing of Cook Inlet.

The Alaska Gasline Development Corp. (AGDC) on Dec. 7 answered many of the questions asked by the Federal Energy Regulatory Commission (FERC) on Oct. 2 and by the U.S. Pipeline and Hazardous Materials Safety Administration on Nov. 15. But AGDC said it will take until September 2019 to fully respond to more than a dozen of the information requests about the Cook Inlet crossing.

The state project team proposes to bury the 42-inch diameter pipe near shore as it enters the water on the west side of Cook Inlet near Beluga, lay the concrete-coated pipe directly on the seafloor across the inlet, then again bury it as it comes to shore on the east side near Suneva Lake, about 14 pipeline miles from the gas liquefaction plant site in Nikiski.

FERC is working to finish the project's draft environmental impact statement (EIS) for its scheduled release date in February. If federal regulators follow their schedule — dependent in part on AGDC providing enough information — the final EIS would come out in November, and FERC commissioners could vote in February 2020 on the state application.

The state corporation is striving to reach a final EIS after taking over the project two years ago when North Slope oil and gas producers ExxonMobil, BP, and ConocoPhillips declined to proceed with the costly permitting and final design work due to weak market conditions. AGDC is looking to raise money next year from private investors, as its state funding could run out by late 2019. It also is trying to lock in Chinese interest in helping to finance the \$43 billion project and contract for most of its output.

FERC authorization is required to construct and operate a U.S. LNG export terminal. Multiple federal agencies will rely on the EIS for their own authorizations and permits. The 807-mile pipeline from Prudhoe Bay to Nikiski is part of the FERC review.

Among FERC's questions that the state team told regulators it will answer by September are:

- Will tidal flow and other currents move debris and boulders across the pipeline? And how much movement is expected, particularly during tidal currents?
- What effect will the movement of debris and boulders have on the pipeline?
- Will the project anchor the pipeline against tidal currents during construction, especially at the starting point for the pipe-laying operations?

- Does AGDC plan to use any additional weights or supports along the pipeline after construction to stabilize the line against currents?
- Will concrete mats be used to protect the pipeline after it is set on the seafloor? If so, under what conditions and where?
- How does the project propose to stabilize the pipeline’s shoreline entry and exit trenches after construction?
- Will the anchor chains that hold the pipe-laying barge in place affect other vessels using Cook Inlet? Some of the anchor chains could reach out a maximum of 6,650 feet from the barge.
- Has AGDC conducted any soil borings across the Cook Inlet pipeline route?
- Has the state team collected and reviewed any site-specific geotechnical data to confirm that the bottom soil is firm enough so that the weighted 42-inch pipe “will not continue to sink,” placing high-strain loads on the pipe welds during construction and operations?
- The regulators also asked the state team to furnish a technical review of pipe stability.

In its Dec. 7 filing with FERC, the state project team provided almost 50 pages of information, alignment sheets and detailed drawings of its proposed pipeline entry, crossing, and exit from Cook Inlet, along with drawings that show the reach of the pipeline barge anchoring system.

AGDC proposes that the pipeline at both the approach and exit from the water would be trenched and buried under at least six feet of cover. “If manual backfilling is required, the backfill would be placed by reversing the flow of the trailing suction-hopper dredger used offshore or (placed) mechanically with the use of excavators,” AGDC said.

Separate from the Cook Inlet crossing information, AGDC on Dec. 14 submitted 468 pages of data, drawings, and details that FERC requested in October for four of the pipeline’s river crossings: Middle Fork Koyukuk, 211 pipeline miles from Prudhoe Bay; the Yukon, at Milepost 356; Tanana, 473 miles; and the Deshka, at Milepost 705. Federal regulators had asked for more site-specific geotechnical information for the proposed trenchless crossings.

“The revised assessment utilizes the most recent borehole data with associated laboratory information at each crossing,” AGDC said, concluding that no further field work or review “of the subsurface to greater depths is required to assess the feasibility of the trenchless crossing(s).”

At most of the project’s water crossings, contractors would dig trenches to lay the buried pipe. At crossings where trenching would not be suitable, the state team considered both horizontal directional drilling under the river and direct microtunneling as alternatives in areas of continuous and discontinuous permafrost — and selected tunneling in all cases.

The state corporation cited several reasons for its decision:

- Directional drilling requires successive passes to create a large enough path for the 42-inch-diameter pipe, whereas the pipe can be installed after one pass of the tunneling machine.
- Less drilling mud is required for tunneling.
- Tunneling instead of drilling does not require temporary casings for the bore hole.
- And tunneled holes are less susceptible to collapse.

In microtunneling, a laser-guided machine is lowered into a pit to start digging its way under the waterbody. It's "a relatively new steerable trenchless technique," which provides benefits in "variable soil and bedrock conditions, permeable and coarse granular soil conditions," AGDC said.

In providing site-specific information to FERC on the four river crossings, AGDC reported:

- The proposed Middle Fork Koyukuk crossing is 1,600 feet upstream of the Dalton Highway north bridge, with the trans-Alaska oil pipeline crossing about 260 feet downstream from the bridge.
- The estimated length for microtunneling under the Yukon River is 2,670 feet. The crossing would parallel the Dalton Highway and trans-Alaska oil pipeline bridge, which is about 2,900 feet upstream. "The detailed design of the Yukon River crossing ... will be determined during the detailed engineering phase," AGDC said.
- The Tanana River is more than 2,300 feet wide at the crossing and will require about 3,100 of pipeline tunnel under the river.
- Laying pipe under the Deshka River would require about 1,300 feet of tunneling.

Last month AGDC provided FERC with a comprehensive table of more than 600 waterbodies that would be crossed by the 62-mile Point Thomson-to-Prudhoe pipeline and the 807-mile mainline to Nikiski, including ditches, ponds, creeks, and rivers.

In addition to FERC and the pipeline safety administration, other federal agencies also are continuing to review AGDC's plans.

In a Dec. 10 letter to FERC, the U.S. Fish and Wildlife Service, after reviewing the state's answers to federal regulators in October, noted that proposed summer vegetation clearing along the pipeline route may not be consistent with measures in the project's Migratory Bird Conservation Plan. "Half the pipeline right of way is scheduled for construction activities during the summer (breeding) season. ... We recommend, when practicable, rendering the area less attractive to breeding birds prior to their spring arrival to facilitate summer construction without impacting nesting birds."

The letter continued, "We suggest the environmental review should address migratory birds and their habitats, not just Endangered Species Act-listed species and species of concern. ... This review should include identifying and evaluating direct, indirect and cumulative effects of the

proposed action on migratory birds, including detrimental alteration of important habitats such as breeding, migrating, roosting, or over-wintering habitats.”

As an example, the agency said the upper Cook Inlet region is the primary wintering range of the rock sandpiper subspecies, and scheduling construction outside of the winter season for the materials offloading facility near Beluga on the west side of Cook Inlet “would reduce impacts” to rock sandpipers during a critical period.

In another filing in the FERC docket this month, 18 property owners in the area where the pipeline would come ashore north of the LNG plant site in Nikiski continued to make their case that the EIS should consider a different routing for the line that bypasses their neighborhood.

“The residents of Boulder Point remain concerned from a myriad of points, in addition to the effects to wildlife habitat that would be compromised by the proposed industrialization of Boulder Point,” the Dec. 3 letter said. They invited FERC staffers “to walk the ground and to see for themselves the true nature of Boulder Point,” which the residents said is prime habitat for black bear and moose.

The residents also said the pipeline could be at risk if the small, manmade earthen dam holding back 2-mile-long Suneva Lake breached and scoured the ground cover over the pipeline. The dam is about 15- to 20-feet high, though the lake is shallow at that end.

At FERC’s request, AGDC in November presented an alternate route across Cook Inlet, running much more pipe on the west side of Cook Inlet before crossing the water and coming ashore closer to the LNG plant site. The residents Dec. 7, however, accused the corporation of proposing “a roundabout, difficult, obviously flawed routing (in) an attempt to bring the pipeline conversation back to Boulder Point.” The property owners presented FERC with their own alternate route that would avoid Boulder Point and Suneva Lake, asking that it be considered in the EIS.

A federal EIS is required to consider all economically viable alternatives in determining the least environmentally damaging, practical option.