



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

1200 Sixth Avenue, Suite 900  
Seattle, Washington 98101-3140

DEC 10 2010

OFFICE OF THE  
REGIONAL ADMINISTRATOR

Colonel Reinhard W. Koenig  
District Engineer, Alaska District  
U.S. Army Corps of Engineers  
P.O. Box 6898  
Elmendorf AFB, Alaska 99506-0898

**Re: Public Notice POA-2008-53, Tanana River, Alaska Railroad Corporation**

Dear Colonel Koenig:

This is in further reference to the application by the Alaska Railroad Corporation (ARRC) for a Standard Permit, which was placed on Public Notice (PN) POA-2008-53 by the U.S. Army Corps of Engineers, Alaska District (Corps) on September 15, 2010. EPA's review concludes that the project as proposed does not comply with the Clean Water Act Section 404(b)(1) Guidelines (Guidelines) and will have substantial and unacceptable adverse effects on an Aquatic Resource of National Importance (ARNI), the Tanana River.

PN POA-2008-53 identifies the proposed activities associated with Phase 1 of the approximately 80-mile long railway extension from Fairbanks to Delta Junction. This entire project was the subject of an Environmental Impact Statement (EIS) on which EPA provided detailed comments (see enclosed). The principle components of Phase I of the Northern Rail Extension (NRE) project are a 3,300-foot long bridge across the Tanana River and an 11,065-foot long levee along the river's east bank. The PN indicates that Phase I of the NRE would place fill material into 145.5 acres of the Tanana River.

The stated purpose of the NRE project is to: (1) provide freight and passenger rail service to the region as a safe, reliable and efficient transportation alternative to the Richardson Highway; (2) allow reliable, year-round access to training areas used by the U.S. military; and (3) foster the development of Alaska's economy by expanding the state-owned railroad's passenger and freight network to an area not currently served by rail.

On November 15, 2010, the United States Environmental Protection Agency, Region 10 (EPA) provided comments on the proposed permit pursuant to Part IV, Paragraph 3(a) of the August 11, 1992 Memorandum of Agreement (MOA) between our agencies regarding Section 404(q) of the Clean Water Act (CWA), 33 U.S.C. 1344(q), (404(q) MOA). We stated in our letter that we do not believe the project as proposed complies with the Guidelines. EPA also expressed concerns that the project as proposed may result in substantial and unacceptable adverse effects to the Tanana River, an ARNI.

As expressed in our earlier letter, we are concerned that the applicant has not clearly demonstrated that the proposed project is the least environmentally damaging practicable alternative (LEDPA) and that it would not result in significant degradation to the Tanana River.

Both of these factors must be satisfied to comply with the Guidelines. The burden of proof to demonstrate compliance with the Guidelines rests with the applicant. If an application contains insufficient information to establish compliance with the Guidelines, then a Section 404 permit cannot be issued.

The project purpose identified in the EIS is used to define the scope of alternatives analysis. As EPA stated in our comments on the EIS, we believe that there is insufficient information provided to justify the applicant's need and purpose. In such a case, the Corps may consider that an alternative which uses other measures, such as additional shuttle service to meet the basic project purpose of providing transportation to meet future demand may be practicable. We ask that the applicant be required to provide more detailed information to support its basic project purpose, so that the scope of alternatives may be appropriately defined.

The applicant has not provided sufficient information to support a determination that alternative bridge designs and/or crossing locations are not practicable. The U.S. Army Alaska conducted an independent evaluation of potential crossing locations and bridge designs. This analysis indicated that crossing the Tanana River at other locations—such as at Flag Hill or the Little Delta River— would be practicable and actually preferable from the standpoint of providing access to Army training areas (Metz, 2005). Likewise, a State of Alaska Joint Commission identified Flag Hill as the preferred location for a rail extension corridor across the Tanana (Metz, 2005).

The width of the flood zone at the proposed crossing location is wider than other potential crossing locations. Crossing the river at another location, like Flag Hill or Little Delta River, would (a) not constrict the flood zone as much as the proposed crossing, (b) not require construction of a levee, and (c) have less impact on the aquatic environment. Alternatively, crossing the river at the proposed location, but with a design that provides additional flow capacity (e.g., adding bridge spans or spanning the entire breadth of the braidplain without using any solid fill embankment) would also have less adverse effect on the aquatic environment than the proposed project.

In sum, the applicant's alternatives analysis was too narrow to demonstrate that the proposed action is the LEDPA. The presumption that there are alternatives to non-water dependent activities which would not involve a discharge of fill has therefore not been rebutted.

Since our letter of November 15, 2010, EPA has seen no new information which would change our opinion that the project as proposed could cause substantial and unacceptable adverse effects on the Tanana River. The proposed components of Phase I of the NRE would permanently alter the ecological and hydrological processes of the Tanana River at the crossing location, and will have substantial and unacceptable adverse effects on numerous fish species and fisheries.

The solid fill embankment and levee are intended and designed to permanently restrict lateral channel migration and confine the majority of the river's flow to a single channel under the proposed bridge. The proposed crossing will intentionally alter processes that generate and maintain the complex matrix of aquatic habitats within the river's braidplain. This habitat complexity is key to the ecological productivity of the Tanana River and critical for the eighteen (18) species of fish it supports.

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The ARRC predicts that the loss of flow capacity due to the proposed solid fill embankment will impound the river and lead to a stage height increase equivalent to the difference between a 100-year and 500-year flood event. The proposed levee is specifically designed to address the predicted magnitude of this impoundment effect. The proposed levee would not address Salcha's existing flood risk; rather it would protect Salcha from the risk of increased flooding caused by the crossing structure.

The ARRC's consultants made this same distinction regarding the levee's purpose relative to the proposed Salcha crossing in their 404(b)(1) evaluation. That document states:

Since it is reasonably foreseeable that any Tanana River bridge configuration would cause a rise, with debris loading, in excess of that permitted under 44 CFR 60.3(c)(10), ARRC would construct a levee to protect structures within the potentially impacted community. ARRC could thus certify that no structures would be affected by an increase in flood elevations created by Phase 1 of the NRE Project.

In 2003, the Corps evaluated the annual flooding of the community of Salcha. The Corps concluded that a seven mile long levee would be needed to prevent flooding from the river topping its bank; but that the levee would not reduce flooding due to groundwater upwelling. The groundwater flooding is due to the very high transmissivity of the river bank material, and the stage (and hydraulic head) increase caused by the crossing structure may lead to increased groundwater upwelling.

The levee is also designed to prevent Tanana River surface flows from entering Piledriver Slough. This would impact the habitat within Piledriver Slough, which is an historic secondary channel of the river. Surface flows from the Tanana River during high water events are the channel-forming flows for the Slough. Without these flows, successional processes will reduce and eventually eliminate the habitat value of the Slough for fish and other wildlife.

Confining the river's flow to a single, larger channel will result in the elimination of secondary channels within the disturbance footprint up- and downstream of the crossing. These channels typically account for a high percentage of the total aquatic habitat within braided river systems. This is true for total channel length, but also for habitat diversity in terms of substrate, water depth, flow velocity, total suspended solids (TSS) and turbidity, and the occurrence of up- and downwelling flow.

The lateral movement of channels across the river's braidplain generates a great diversity of aquatic and riparian habitats. The Alaska Department of Fish and Game (ADF&G) has identified five distinct water types in the Tanana River based on source water, TSS, and turbidity. The predominant water types are: glacial, groundwater, and tannic-stained runoff water. Many areas present a combination of these types, and the ADF&G has identified two mixed-source classes. These are: mixed glacial/tannic and mixed glacial/groundwater. Fish species utilize different water types preferentially, and fish habitat use patterns shift seasonally in response to changes in water type at the same location over time.

In addition to restricting channel migration, the proposed project will also disrupt river processes associated with bedload movement, sediment and woody debris transport, high flow and ice jam events. The disruption of these processes will alter the distribution of specific aquatic habitats within the braidplain and watershed.

The habitat needs of the various resident and anadromous fish species for spawning, rearing, feeding, overwintering and migration are specific and discrete. Indeed, habitat needs may vary for different ecotypes within a single species, as is the case for humpback whitefish (*Coregonus pidschian*). Humpback whitefish display wide plasticity in life history behavior; lake resident, river resident, allacustrine (moving between lakes and rivers), and anadromous (moving between salt-and freshwater) ecotypes may occur within the same watershed.

The occurrence of necessary aquatic habitats may be limited even within a large watershed. For example, research conducted by the U.S. Fish and Wildlife Service on humpback whitefish in the upper Tanana River watershed has indicated that two spawning areas account for a majority of production (Brown, 2006). Similarly, recent research by the ADF&G indicates that as much of twenty percent (20%) of chum salmon production within the extensive Susitna River drainage is attributable to a single tributary (Merizon, 2010). In much the same way, research by the National Marine Fisheries Service indicates that as much as twenty-five percent (25%) of Chinook salmon production in the entire Yukon River drainage is from the Tanana River and its tributaries (Eiler, 2006).

As referenced in our November 15, 2010 letter, a recent study identified what appears to be a whitefish spawning area of regional significance located downstream of the proposed crossing (Rozell, 2010). The multiple secondary channels in the braidplain at this location are utilized by several species of spawning whitefish, suckers, arctic grayling, northern pike, burbot, and lake chubs. Humpback whitefish, in particular, are a species of great subsistence value within the watershed. The project as currently proposed will likely impact this important habitat by reducing flow in these secondary channels, thereby increasing sediment deposition and substrate embeddedness. Source water composition could also potentially be altered. All of these changes would reduce habitat value.

The project as proposed will have substantial and unacceptable adverse effects on an ARNI, the Tanana River. It does not comply with the Guidelines and therefore should not be authorized. I therefore request, pursuant to Part IV(3)(c) of the Clean Water Act Section 404(q) Memorandum of Agreement (404(q) MOA) between our agencies, signed August 11, 1992, that you provide me with a copy of the draft permit and decision documents if the Corps proposes to issue the permit. Our detailed comments, addressing the applicant's 404(b)(1) Evaluation, overall project purpose, alternatives analysis, project phasing, practicability, substantial and unacceptable impacts to an ARNI, project footprint and jurisdiction, and compensatory mitigation, can be found in the enclosed Attachment 1.

Thank you for the opportunity to review this project. We greatly appreciate the coordination of information on this complex project which has been provided by the District and the applicant thus far. I have asked Michael Szerlog, Aquatic Resources Unit Manager, to provide your staff with our additional technical comments on this project. Should you have any questions or require any additional information, please do not hesitate to contact me at (206) 553-1234 or have your staff contact Tracy DeGering in our Alaska Operations Office at (907) 271-3419.

Sincerely,



Dennis J. McLerran *DJ*  
Regional Administrator

cc (via e-mail):

Kevin.D.Morgan@usace.army.mil, USACE, Anchorage  
Terri.L.Stinnett-Herczeg@usace.army.mil, USACE, Anchorage  
Christy.A.Everett@usace.army.mil, USACE, Fairbanks  
Ellen.H.Lyons@usace.army.mil, USACE, Fairbanks  
Bob\_Henszey@fws.gov, USFWS, Fairbanks  
Jewel\_Bennett@fws.gov, USFWS, Fairbanks  
Doug.Limpinsel@noaa.gov, NMFS, Anchorage  
Donald.Perrin@alaska.gov, ADNR, Anchorage  
James.Durst@alaska.gov, ADF&G, Fairbanks  
Sean.Palmer@alaska.gov, ADEC, Anchorage