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April 4, 2008

Ms. Victoria J. Rutson
Chief, Section of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Room 1106
Washington, D.C. 20423

Re: Finance Docket No. 34658, The Alaska Railroad Corp. -- Petition For Exemption From 49 U.S.C. §10901 To Construct and Operate a Rail Line Between North Pole, Alaska and Delta Junction

Dear Ms. Rutson:

On behalf of the Alaska Railroad Corporation ("ARRC"), enclosed for your information please find "ARRC's Tanana River Crossing Concept Development." Exhibits referenced are being provided on CD.

Please let me know if you have any questions.

Sincerely,

Kathryn F Floyd

Kathryn Kusske Floyd

Enclosure

cc: David C. Navecky, SEA
Alan Summerville, ICF
Eileen Reilly, ARRC (w/o encl.)
Brian Lindamood, ARRC (w/o encl.)

ARRC's Tanana River Crossing Concept Development

The overall phasing of the Northern Rail Extension (NRE) project will continue to be developed based upon funding. It is anticipated that the first two phases of the project would include the construction of approximately 13 to 18 miles of rail line, depending on the Tanana River Crossing concept, from the Chena Floodway (near Eielson Air Force Base) as well as the construction of the joint-use Tanana River crossing structure and related appurtenances. Present funding streams suggest that construction of the river crossing structure may be initiated prior to the completion of the rail line to the crossing location. Were this to occur, it would likely necessitate the location of an interim rail-to-truck transload and staging site for materials and equipment (such as bridge girders, concrete reinforcing steel, and large armor rock required for the proposed river training structures) shipped to the Fairbanks area via the ARRC.

For the project (either crossing location), two alternative locations have been identified on the existing Eielson Branch to accommodate the transload and staging functions. The preferred location for the staging area is on the north side of the branch line at milepost G-24, along an existing gravel road and gravel pit (Exhibit 1). There is a pre-existing pit at this location, immediately west of Eielson Air Force Base, which has only been partially developed on speculation of construction work that did not develop. There is an existing stub-ended siding at the site which would be reconfigured for access at both ends. Material would be off loaded on the north side and stored on the site. The route to the crossing location would require traveling the gravel road about ½ mile to the west, then on the Old Richardson Highway, to the Richardson Highway near the Eielson Air Force Gate, and then to the project site. Distance to the Salcha bridge crossing location is approximately 13 miles. The Flag Hill location is an additional 15 miles away.

The other alternative remote staging location has been identified two miles further west at the intersection of Claude Street and the Richardson Highway (Exhibit 2). Although a road exists along the existing rail line to facilitate the unloading of material storage location, it has not been improved and would require additional work to accommodate the storage and staging of materials.

River training and bridge details for the Tanana crossing are similar for both bridge crossing locations under consideration. The bridge itself would consist of steel deck girders up to 150-feet in length, supporting a common railroad-roadway deck. The deck would be supported by concrete piers most likely consisting of at least two or more concrete shafts. These shafts would either be excavated or driven to depth, or have additional foundation features below the normal water surface elevation (Exhibit 3).

River training structures would consist primarily of armored revetments or levees, bank stabilization, and secondary channel plugs. The revetments would consist of large rocks placed on a prepared surface, either a revetment/levee core, or existing bank. The revetments would extend from the river floor to a point above the predicted 100-year flood elevation to prevent the over-topping of surface

water. Where the revetments extend into the river, away from the existing banks, it is possible that the area behind the revetments could be filled in with material, reclaiming the river bed as uplands. The extent and details of this work have not been quantified and are subject to additional discussions with regulatory agencies. An access road would be maintained on or immediately behind the revetments for inspection and maintenance activities. (A conceptual section of a revetment is provided in Exhibit 4).

The ARRC's proposed action at Salcha consists of a bridge approximately 3600-feet in length, the improvement of Tom Bear Trail, the intersection of Tom Bear and the Richardson Highway, improvements to the Old Richardson Highway between Tom Bear Trail and Bradbury Road, and re-construction/upgrading of Bradbury Road. The property north of the existing rail line would be cleared and used for construction staging. As the railroad is developed towards Donnelly, a maintenance facility would be located south of Pile Driver Slough, along Bradbury Road.

Gravel used for roadway and railroad embankment would be at least partially gathered from existing commercial sources. The nearest commercial source is shown west of Bradbury road on Exhibits 5 & 6. A source on the south side of the river has been identified and discussed with the regulatory agencies. This source, if developed, would include an outlet into the Tanana River at such an elevation as to not entrap fish.

Two channels on the south side of the river would have several channel plugs installed at their up-stream end to ensure that surface water does not inundate them during high-water events. This is necessary to keep the Tanana River from trying to reclaim the channels back as major stems of the braided river system. The two channels would be combined as one at the northern-most crossing location. A natural bottom pipe structure would be sized to accommodate anticipated local drainage needs only.

The primary difference between Exhibits 5 & 6 is the river stabilization measures on the north bank up-stream of the proposed crossing location. Exhibit 5 represents the ARRC's original concept where Tom Bear Trail would be raised to act as a levee, and extended to the river along an existing section line easement, tying into the north bank revetment at the river. Additional Channel plugs would be placed in Pile Driver Slough such that flood water flowing overland would not extend down-stream of the crossing site, north of the railroad, effectively trapping the water.

Exhibit 6 shows a concept jointly developed by the ARRC, the Fairbanks North Star Borough and the resource agencies which would extend the north bank revetment up-stream nearly two miles to an existing DOT revetment in the Boondocks. This would affectively prevent surface floodwater from inundating the private property in the immediate area, forcing it under the proposed river structure. Though more expensive, and not a true flood-control device as it does not address the water up-wellings associated with flooding in the area, this option

seems to have more support from the community, Fairbanks North Borough and resource agencies.

Two options remain for the north-revetment location having to do with shoring-up the existing bank as it is presently defined, or moving the revetment back into the riverbed to follow a course which represents the bank several decades ago. See Figure 6, Option 2A and 2B.

The Flag Hill crossing concept is depicted in Exhibit 7. Unlike the Salcha bridge crossing concept which follows the naturally occurring flow of the Tanana River, the Flag Hill crossing would require changing the river's natural flow. The river training concept incorporated for the Salcha bridge crossing concept subtly guides the river's multiple undulating sub-channels within the river bed through the proposed bridge structure. The Salcha location is unique throughout this area as the existing river bed is relatively narrow and has shown to be fairly stable over the time periods for which we have records. In contrast, at the Flag Hill location the sub channels are much more widely dispersed and show a greater fluctuation in both morphology and the volume of water carried. Presently, there are several channels that have been diverted over a mile away from Flag Hill. It would be nearly impossible to cross them individually as there is no practicable way to control the volume of water (due to the total river flow) in each channel. A bridge structure over the entire length of the river channel could be as much as 7000-feet in length (nearly double that at Salcha). To cross the channels individually, each bridge would have to be sized to handle a large percentage, if not all of, the entire river flow, effectively pushing the combined multiple bridge lengths near the single 7000-foot bridge size.

The only means to mitigate this situation would be to pin the river against the north bank. This would be done through significant revetments, spur dikes, multiple channel plugs, and a significant amount of fill in the riverbed on the south side. Further, several main channels, as well as back channels south of the proposed crossing location, would have to be filled do to possible instabilities in river flow resulting from the river training required. The bridge itself also would be at least 400-feet longer than the Salcha crossing due to the angle of the river crossing and the existing channel dimensions. It is anticipated that the large upland area north of the proposed south revetment would be rapidly eroded as a result of the proposed river training. Therefore, it is possible that this material could be used to fill in behind the revetment up-stream of the river crossing location.