



Northern Rail Extension Project
A project of the Alaska Railroad Corporation

EI - 1844

November 18, 2005

Mr. David Navecky
Surface Transportation Board
Section of Environmental Analysis
1925 K Street, NW
Washington, D.C. 20423

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RE: Project Summary for the Northern Rail Extension Project - STB Finance Docket # 34658.

Dear Mr. Navecky:

This is in response to your request during our conference call on November 9, 2005, to provide the Surface Transportation Board with an updated summary of the Northern Rail Extension Project to assist you in preparing for upcoming agency and public scoping meetings. The attached document provides a current overview of the project and describes the process the ARRC utilized to develop preliminary alignments that are under consideration. As we have discussed, the ARRC anticipates ongoing contact with the various landowners and potential shippers in the project area. We continue to refine the alignments and, as more information develops, perform more screening and comparison of the alternative alignments. The outcome of your scoping efforts will also be carefully considered as part of our ongoing work.

I hope that this synopsis of the project will be useful as you develop materials for the upcoming scoping meetings. Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,

Alaska Railroad Corporation

Brett F. Flint
Manager, Northern Rail Extension

Attachments: Northern Rail Extension Project Summary
Map Figures

NOTE: The referenced attachment has color exhibits and oversized maps. Interested parties may contact the Board's Section of Environmental Analysis to make arrangements to review the document.

Northern Rail Extension Project Summary (November 2005)

BACKGROUND

The Alaska Railroad Corporation (ARRC) is a self-sustaining, full service railroad providing freight and mass transit services to communities from the Gulf of Alaska to the greater Fairbanks area in the interior of the state. Owned by the State of Alaska, one of the priorities of the railroad is to foster the development of Alaska's economy. As part of that effort, the ARRC seeks and evaluates opportunities to expand and improve transportation infrastructure and services within the state.

In August 2002, the United States Army, Alaska (USARAK) issued a news release stating a need to evaluate reliable alternatives for access to the Tanana Flats Training Area (TFTA) associated with Fort Wainwright, Alaska. The training area is located southwest of the Tanana River and is currently accessible only by air or by use of temporary ice bridges constructed across the Tanana River during cold winter months (typically January to early March). Subsequently, USARAK awarded the University of Alaska Fairbanks (UAF) a contract in 2003 to study potential means of transporting Stryker Combat Teams to and from the TFTA. The UAF study determined that there were positive benefits to USARAK from the construction of a permanent bridge and railroad across the Tanana River to transport military equipment, supplies, and personnel to and from the TFTA. The UAF study also looked at extending rail service beyond TFTA to support deployments to the Donnelly Training Area, Fort Greely, and the Delta Junction area to support additional military missions and needs. The final report on the UAF study is currently pending.

In 2004, ARRC received a federal grant from a Department of Defense appropriation to evaluate the feasibility of an extension of the Alaska Railroad to the Delta Junction area. This extension—known as the Northern Rail Extension Project—would provide a reliable transportation alternative for deployment of military personnel and equipment to two large training areas in the state, as well as providing freight and mass transit opportunities for the general public and existing agricultural, natural resource, and business developments in the area.

Project Overview

The Alaska Railroad Corporation proposes to extend the railroad from a point on the existing Eielson Branch near North Pole/Eielson Air Force Base to the Delta Junction/Fort Greely area in Alaska, a distance of approximately 80 miles. The project would start near North Pole at the Chena River overflow structure (approximately Mile 20 on the Eielson Branch) and terminate in the Delta Junction/Fort Greely area. In order to support the stated need of USARAK and to avoid mountainous terrain along the northeast bank of the Tanana River, crossing the Tanana River is required. Other major rivers the new rail line would or could cross include the Salcha, Little Delta, and Delta Rivers and Delta Creek. The project would also include a rail spur to the Blair Lakes Bombing and Gunnery Range to support military deployments.

Project Purpose

The Northern Rail Extension Project would provide essential freight and passenger service supporting the transportation and mobility needs of the region. Specifically, the project would support the following:

- Reliable land access for the Department of Defense to the large Tanana Flats and Donnelly training range complex, along with safe, regular access to military property,

facilities, and installations in the area. This would support the training needs of Alaska based units and provide an opportunity for large-scale joint and/or combined military exercises in Alaska for U.S. and partner forces located throughout the continental U.S. and the U.S. Pacific Command, as well as providing a reliable transportation alternative to support existing and future military missions.

- Commercial freight service for businesses and communities in or near the rail corridor, including existing industries in the agricultural, mining, and petrochemical sectors, thus reducing reliance and wear and tear on the Richardson Highway. Currently, both the agricultural community located near Delta Junction and mineral resource development in the area ship materials by rail that are off-loaded in or near Fairbanks and then transported by truck over the Richardson Highway.
- Reliable transportation alternative to the Richardson Highway for passenger transportation with scheduled station stops between Fairbanks and Delta Junction by way of North Pole and other communities along the selected alignment. Mass transit would be available for citizens, military personnel, contractors, and dependent families who wish to travel for work, shopping, medical, educational, or other reasons.
- Support area tourism. Tourism is a major industry in Alaska and the rail line would provide further opportunities for visitors to enjoy the Alaska environment.

PRELIMINARY ALIGNMENT ALTERNATIVE DEVELOPMENT

The Northern Rail Extension of the Alaska Railroad is in the same general area as portions of previously studied routes for extending the Alaska Railroad to the Alaska/Canadian border to provide a connection to the Canadian rail system and then to the balance of the rail system in the United States. A rail connection between Canada and Alaska has been proposed and studied several times. In 1942, the United States Army Corps of Engineers surveyed a rail route into Canada during the construction of the Alaska-Canadian Highway. In addition, the Alaska Department of Transportation and Public Facilities studied the extension in 1979 and 1980, proposing a route that could be set aside for future use. Although the Northern Rail Extension has independent utility and is not considered to be part of larger projects, these past studies, as well as the UAF work referenced earlier, were used, to the extent possible, to provide a basis for alternative development for the Northern Rail Extension Project. However, topographic and other data normally used to evaluate railroad alignments are outdated or unavailable for much of the project area. New aerial photography of the project area has been obtained and these data have recently been processed to provide new topographic data. Other field studies have been undertaken to evaluate land use and land ownership, environmental resources and sensitive areas, and culturally significant resources. As these studies are ongoing and data are being processed, the alignment alternatives currently under consideration by the ARRC have been developed from existing topographic and other data. It is anticipated that additional refinements and adjustments to these preliminary alignments will be completed as new information is developed and input from interested agencies, potential shippers, and the public is received.

Project Setting

The proposed rail extension is located in the East Tanana Basin, and the proposed rail line will approximately parallel the Tanana and Delta Rivers between the project start south of North Pole and Delta Junction. The East Tanana Basin is bounded on the north and east by the Yukon Tanana Uplands, a relatively well-rounded upland with mature stream valley development. South and west of the Tanana River, the basin is comprised of sloping sedimentary plains that extend to the foothills of the Alaska Range. On the east side of the Tanana Basin, the uplands include

limited areas of alluvial terraces between the Tanana River and the developed uplands. Such a terrace is present in the northern portion of the project area from the project start to Flag Hill, a distance of approximately 24 miles. There is property development in this area, including the Eielson Farm area and the community of Salcha. Rugged upland features extend to the east bank of the Tanana River from south of Flag Hill to the confluence of the Tanana and Delta Rivers. In this area, rail construction on the east side of the Tanana River would be difficult and costly. Throughout the project area, the Tanana River is characterized as a wide, braided, or semi-braided river. Other rivers and streams in the project area, including the Delta and Little Delta Rivers and Delta Creek are similar in nature. In addition to the major rivers, there are numerous small tributaries, streams and sloughs as well as wetland areas. (See Figure 1.)

Identification of the General Project Corridor

The first step in developing the preliminary alignment alternatives was to define the general study area. This was accomplished by developing two alignments with common starting and ending points. One alignment was developed as far to the west and the other was developed as far to the east as practical. The layout of these alignments was based primarily on technical and practical considerations derived from project goals and existing limitations of rail construction. The primary considerations at this point included:

- Natural barriers to rail construction, such as the upland topography, rivers, river crossings, and other topographic features.
- Track geometry and design goals. In order to support potential mass transit services and to reduce long-term maintenance costs, ARRC is using Federal Railroad Administration (FRA) Class 5 track standards as the basic geometric design criteria. This class of track allows for passenger trains to operate at speeds up to 79 miles per hour. The design speed in turn dictates the radius of curvature and the grade that can be allowed in track layout. Grades are limited to one percent and curvature is limited to 1 degree 30 minutes (a 3820-foot radius).
- Geological and geotechnical considerations. Although information on subsurface conditions (soil and rock type and quality) in the area is limited, geologic formations that potentially present poor soil conditions for rail construction were taken into account.
- Practical construction and operational limitations, as well as providing the shortest practical route to minimize construction, operation, and maintenance costs.

The study area resulting from this analysis is constrained on the east primarily by natural boundaries, such as the Yukon Tanana Uplands and the Tanana River. The western boundary is based primarily on considerations of the overall rail length and potential conflicts with military training lands. The routes identified by previous studies were contained within the identified study area. The limits of the study area defined by this process were used as a basis for acquiring updated aerial photographic and topographic data. The study area identified is shown on Figure 2

Preliminary Alignment Development

Once the general study area was defined, a number of representative alignments were developed. This effort was based primarily on technical considerations, such as curvature and grade of the rail line, topographic features, such as steep slopes, hills, and stream crossings. There was also some consideration given to major physical features, such as significant surface water resources, wetlands, and areas with development.

The project need to support military access to the Tanana Flats and Donnelly West Training Areas, along with the topographic restrictions of the Yukon Tanana Uplands south of Flag Hill, dictate that the proposed extension cross the Tanana River. The location of the Tanana River crossing is a critical element in establishing the location and practicality of various alignments. Previous studies have all recommended construction of a bridge at Flag Hill, primarily because the geology of Flag Hill creates a natural narrowing of the river channel and provides good foundation conditions for a major bridge abutment. In order to allow for a comprehensive alternative analysis, a total of five alternative river crossings sites, including one near Flag Hill, were identified. These locations were selected because of a natural narrowing of the river channel or other hydrologic features favorable to bridge construction. With the exception of the Flag Hill site, all are downstream of the Salcha River confluence with the Tanana River and would eliminate the need for a major bridge crossing of the Salcha River. However, crossing the Tanana further north limits accessibility to the railroad from areas of existing development.

The process described above resulted in preliminary alignments and partial alignments that could be interconnected to create a large number of alternatives. Only general comparative analyses of these alignments were completed at this stage. A sample of the alignments identified is shown on Figure 3.

PRELIMINARY ALIGNMENT REFINEMENT

Concurrent with the preliminary alignment development, efforts were underway to identify, collect, and analyze existing information that could be used to further refine the alternative alignment selection. Information on land use and ownership, fish and wildlife habitat, wetlands, archeological resources, soil type, etc. were reviewed and relevant information used to further refine the alignment alternatives. Parcel boundary information and general land ownership, were used in the initial refinement. Specific land use and ownership data are being acquired and verified. In addition, preliminary field investigations to look at fish and wildlife habitat, hydrology and hydraulics, geotechnical conditions, and archeological resources have been conducted.

Other items that were considered at this stage included location and type of potential road-railroad crossings, number and type of drainage structures required in addition to major bridges, flood zones and water resources, and proximity to and needs of potential users of freight and passenger services. Contact prints from the aerial photography were used to evaluate topographic and environmental conditions, drainage crossings, and general conditions along alternative alignments. Both fixed-wing and helicopter over-flights were used to allow field verification of vegetation types and route conditions.

Many of the preliminary alignments identified originally were eliminated or combined with other similar alignments because they presented no clear advantage over adjacent alignments or had the disadvantage of adding track length or curvature. The western-most alignments were dropped for these reasons and because they encroached significantly on military training areas.

Three potential Tanana River crossing locations remain under consideration: one at the northern end of the project labeled the Eielson crossing, one located approximately 13 miles from the start of project that has been designated the Salcha Crossing, and a third at Flag Hill (approximately 24 miles from start-of-project). Crossings located north of Flag Hill reduce the potential impact to

private property and the need for right-of-way acquisition, but also limit access to the proposed rail line from existing areas of development. Geotechnical conditions on the west side of the Tanana River at these crossing locations are not documented, and geological analysis indicates that poor soil conditions may exist in that part of the project study area. Additional geotechnical work in these areas is currently planned for completion during the winter months when drilling equipment can cross the Tanana River on the ice.

Based on the potential Tanana River crossing locations, parcel and landowner data, project area over-flights, preliminary field studies, and review of aerial photography, topographic maps, available reports and other information, ARRC identified a number of potential alignments within the general project corridor that are considered to be reasonable and feasible based on the preliminary study. In Figure 4, alignment segments are designated individually to allow evaluation of various combinations of route segments.

Preliminary Alignment Alternatives

North of Flag Hill, there is one alignment on the west side of the river (N1). This alignment would change based on the location of the Tanana River crossing as noted by the various segments (N1a through N1c, N2c, and N4). There are two alignment alternatives on the east side of the Tanana River in this portion of the project. The N2 alignment basically parallels the river and may have relatively greater impacts to private property owners. However, this alignment may complement flood control efforts currently under consideration by the United States Army Corps of Engineers, to alleviate flooding potential in the Salcha community. The eastern alignment (N3) reduces the potential impact to property owners and eliminates some of the engineering challenges of constructing adjacent to a major river while preserving access to the rail from developed areas; however, this alignment adds length of rail and curves (increased capital, operating, and maintenance costs). Segment N5, located just north of Flag Hill provides an alternative connection to the southern portion of the project.

South of Flag Hill there are two alternatives (S1 and S2, both on the west side of the Tanana River). These alignments are in close proximity at a point approximately 15 miles south of Flag Hill where the north end of one alignment and south end of the other could be combined. The alignment closest to the Tanana and Delta Rivers basically follows the alignments identified in earlier studies. This alignment is anticipated to have more impacts on environmental resources and may impact private properties near the Tanana River. It would also provide direct access to the Whitestone community, a potential shipper. The western alignment basically follows an existing ridge above the river channel. It is anticipated that this alignment would reduce habitat and wetland related impacts; however, this alignment may present additional technical challenges and reduce access by potential shippers.

At the south end of the project, there are currently two approaches to Delta Junction under consideration. Both alignments would cross the Delta River and enter the town from the west. The first approach (labeled S1c) would cross the Delta River north of town near the landing strip. The second alternative (S2c) would cross the Delta River at a location just north of the Jarvis Creek confluence on the south edge of the city. The development of these alignments requires further consideration of a variety of issues such as potential Richardson and Alaska Highways crossing locations, trans-Alaska pipeline crossing locations, potential impacts on the future expansion of Delta Junction, and the transportation needs of the military and other potential shippers.

Blair Lakes Spur

The Blair Lakes spur would be used exclusively by the military to access the Blair Lakes Bombing and Gunnery Range and to access maneuverable areas of the TFTA for ground-based training. Using an approach similar to the one developed for the preliminary alignments, ARRC started with an initial set of four possible alignments for the Blair Lakes spur tracks. Topographic constraints have eliminated all but the southern-most alternative. It is expected that the proposed configuration of the Blair Lakes spur will be heavily influenced by the specific requirements of the military.

CURRENT STATUS AND FUTURE ACTIVITIES

This summary provides an overview of the project and describes the process to develop preliminary alignments that are under consideration by the ARRC. The development of alignments is an iterative process. ARRC expects to continue to refine the alignments, perform more screening and conduct further evaluations of the alternative alignments as more information is compiled and studied. Information is likely to come from a variety of sources including recently completed topographic mapping, new aerial photography and fieldwork data, as well as assessment of technical merit, social, economic, and potential environmental impacts of the project. In addition, information developed during the upcoming public and agency meetings being conducted by the Surface Transportation Board as part of its environmental review under the National Environmental Policy Act will be carefully considered as part of the ARRC's review of alternative alignments. Finally, the ARRC anticipates continuation of its ongoing contacts with adjacent property owners and potential shippers who are interested in the project.