

EO-1294



SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Economics, Environmental Analysis and Administration

June 3, 2009

Robert D. Mecum
Acting Administrator, Alaska Region
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

Re: STB Finance Docket No. 34658, The Alaska Railroad Corporation – Petition for Exemption to Construct and Operate a Rail Line Between North Pole and Delta Junction, Alaska

Dear Mr. Mecum:

Thank you for your review of and comments on the Draft Environmental Impact Statement (Draft EIS) and associated Essential Fish Habitat (EFH) Assessment for the proposed Northern Rail Extension (NRE). Following up on my March 27, 2009 letter, today's letter provides the Section of Environmental Analysis' (SEA) responses to the six EFH conservation recommendations in your February 27, 2009 comment letter.

As a preliminary matter, I would like to acknowledge and thank you for your comment expressing concern about locating rail alignments in floodplains and suggesting that upland areas would be preferable locations. Both the Alaska Railroad Corporation (ARRC or Applicant), in developing various rail routes, and SEA, as the lead agency responsible for complying with the National Environmental Policy Act, have looked closely at reasonable and feasible alternatives to this proposal, including the No-Action alternative. ARRC identified potential rail alignment locations based a variety of considerations consistent with Alaska Statute 42.40.460, which requires ARRC to consider ten specific factors when delineating proposed transportation corridors. The statute requires that environmental concerns be considered in developing proposed rail alignments.

Consistent with NEPA, SEA and the cooperating agencies analyzed a range of reasonable and feasible alternatives in the Draft EIS, identifying these alternatives from among the various potential alignments first developed by ARRC. Both the alternative development and elimination processes for the proposed rail line are discussed in detail in Section 2.2 and Appendix D of the Draft EIS. I believe that the Draft EIS demonstrates that the proposed route and the reasonable and feasible alternatives to that route were developed in a way that took floodplains and wetlands into consideration.

Response to EFH Conservation Recommendations

After considering each conservation recommendation, SEA is providing the following comments on NMFS's recommendations.

1. *Construct bridges to span large rivers and arched or box culverts to cross smaller streams (>10 feet FBW). Free span structures, such as bridges over rivers and streams, provide migratory corridors for anadromous fish species and aquatic organisms, while maintaining ecosystem connectivity and natural substrate function in EFH.*

The Applicant has indicated that it would not be economically feasible to use clear spans over all water bodies because, as a rule to thumb, the use of bridge structures rather than culverts increases the span-length-cost by a factor of 10. To increase the span length over approximately 30 feet, that cost doubles again; over 65 feet, it doubles again, over 150 feet, it is another 2-3 times the cost.¹ The Applicant has informed SEA that the existing railroad span at Nenana, Alaska is one of the longest railroad clear spans in North America at 700 feet, and the four to five proposed major river crossings (Tanana River, Salcha River, Little Delta River, Delta Creek, and Delta River) for NRE would all be expected to exceed even this length. The Applicant has also stated that clear-spanning these crossings could in fact be physically impossible due to their length, and in any event, would result in such a significant increase in overall project costs as to be economically infeasible.

However, to provide for fish passage and EFH protection, the Applicant submitted voluntary mitigation (VM) measures and SEA developed the following additional mitigation measures (MM):

VM-4 (from Draft EIS): Federal permits, including those required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, shall be obtained from the U.S. Army Corps of Engineers prior to initiation of construction. The Applicant shall also obtain necessary state permits and authorizations (e.g., Alaska Department of Fish & Game Fish Habitat Permit, Alaska Department of Natural Resources Land Use Permit, and an Alaska Department of Environmental Conservation Section 401 water quality certification). Permit stipulations shall be incorporated into construction contract specifications.

VM-8 (from Draft EIS): Bridges and culverts shall be designed, constructed, and operated to maintain existing water patterns and flow conditions as practicable.

¹ For a point of reference, here are some estimates of the comparative costs for new construction:

Culverts start at about \$2,000 per foot for 3-foot-diameter pipe, increasing to almost \$10,000 per foot for natural-bottom 10-foot-diameter pipe (maximum); short span bridges from 12-foot spans up to about 33 feet generally cost \$15,000 to \$20,000 per foot; mid-span composite steel/concrete bridges cost \$22,000 to \$30,000 per foot; deck plate girder spans (70 to 150 feet) are generally in the \$40,000 - \$50,000 per foot range; and truss spans, in excess of 150 feet in length, would likely start at \$80,000 to over \$100,000 per foot depending on a number of different factors.

VM-9 (revised since Draft EIS): For all proposed crossings of anadromous waters incorporating culverts, Applicant shall design said structures in accordance with the NMFS 2008 publication, Anadromous Salmonid Passage Facility Design.

MM-10 (revised since Draft EIS): The Applicant shall design, construct, and operate the rail line and associated facilities, including bridge abutments, to maintain existing water patterns and flow conditions and provide long-term hydrologic stability by conforming to natural stream gradients and stream channel alignment and avoiding French draining, as practicable. Supporting structures shall be designed to minimize scour and increased flow velocity, as practicable.

MM-38 (revised since Draft EIS): The Applicant shall comply with reasonable requirements of a fish habitat permit under Title 16, Fish and Game, of the Alaska Statutes. The Alaska Department of Fish and Game could impose the measures listed below for all activities below the ordinary high water mark in specified anadromous water bodies and in fish-bearing waters that could block fish passage.

- All ice crossings shall be drilled before equipment crossing to determine the ice thickness.
- Alteration of river, stream, or lake banks or beds, except for approved permanent crossings, shall be prohibited.
- The operation of equipment, excluding boats, in open water areas of rivers and streams shall be prohibited. Exceptions for water withdrawal shall be permitted on a site-specific basis.
- Ice or snow bridges and approach ramps constructed at river, slough, or stream crossings shall be substantially free of extraneous materials (for example, soil, rock, wood, or vegetation) and shall be removed or breached before spring breakup.
- Bridges are the preferred watercourse crossings in fish spawning and important rearing habitats. In areas where culverts are used, they shall be designed, installed, and maintained to provide for efficient passage of fish, and the Applicant shall monitor culverts semi-annually (or more frequently, as seasonal flows dictate) to ensure that they adequately provide for fish passage in fish-bearing waters.

MM-41 (from Draft EIS): An anadromous water body shall not be narrowed between its ordinary high water marks, unless specifically authorized in writing by Alaska Department of Fish and Game prior to construction.

Note: The types of stream crossing structures needed would be determined during final design, and as indicated by the above mitigation measures, would be subject to the reasonable permitting requirements of the appropriate agencies. SEA does not anticipate substantial impacts to fish migratory corridors from bridge piles or piers that would support multi-span bridges over rivers and streams. SEA believes that the above mitigation measures are consistent with and

adequately address NMFS's recommendation, so SEA does not plan to add additional mitigation measures to the Final EIS to incorporate the specific language provided by NMFS.

2. *Use stream simulation modeling to site tributary crossings with traditional corrugated large culverts (round or oval, 10 feet and 60 inches in diameter). Stream simulation methods consider natural environmental variables and incorporate habitat substrate within the structure, providing EFH and migratory corridors for anadromous fish species and aquatic organisms.*

After reviewing NMFS's conservation recommendations, the Applicant has revised the voluntary mitigation measure identified in the Draft EIS as VM-9 to specify use of the 2008 NMFS Publication, Anadromous Salmonid Passage Facility Design when designing crossings of anadromous fish streams. The criteria and guidelines in this publication would allow for, but would not be limited to, the following design methods:

- Bridge or stream simulation.
- Embedded pipe culvert, bottomless arch designs or non-floodplain spanning stream simulation.
- Hydraulic design method, associated with more traditional culvert design approaches - limited to low stream gradients (0% to 1%) or for retrofits.

The revised (from the Draft EIS) version of VM-9, which SEA intends to include in the Final EIS, reads as follows:

VM-9 (revised since Draft EIS): For all proposed crossings of anadromous waters incorporating culverts, Applicant shall design said structures in accordance with the NMFS 2008 publication, Anadromous Salmonid Passage Facility Design.

In addition, the Applicant submitted other voluntary mitigation measures and SEA developed additional mitigation measures that address culvert design and fish protection, including the following measures:

VM-10 (from Draft EIS): When project-related construction activities, such as culvert and bridgework, shall require work in streambeds, these activities shall be conducted during low-flow conditions or as otherwise permitted.

MM-18 (revised since Draft EIS): Road and track crossings of water bodies shall be aligned perpendicular or near perpendicular to watercourses, where practicable, to minimize crossing length and potential bank disturbance.

Siting of crossings is controlled largely by track geometry (maximum curve radius and grade) in combination with other factors such as stream characteristics and soil conditions. The NMFS 2008 publication Anadromous Salmonid Passage Facility Design referenced in VM-9 (revised from the Draft EIS) includes stream simulation modeling for culvert design to provide for fish passage. SEA believes that the mitigation measures listed above are consistent with and

adequately address NMFS's recommendation, so SEA does not plan to add additional mitigation measures to the Final EIS to incorporate the specific language provided by NMFS.

3. *Use stream simulation modeling to site tributary crossings with traditional corrugated small culverts (round or oval, < 60 inches in diameter) to help maintain water quality and tributary connectivity while minimizing impacts from head cut, perched culverts and velocity barriers.*

See above responses to conservation recommendation #2.

4. *Conduct fish surveys for all tributaries transected by the rail alignment to characterize the range and life histories of species within these watersheds, fill in data gaps in the Alaska Department of Fish and Game's anadromous waters catalogue, and improve information on appropriate mitigation measures.*

The fisheries habitat analysis in the Draft EIS was based on anadromous fish stream data, fish occurrence and habitat data provided by the Alaska Department of Fish and Game (ADF&G), and data collected at or near proposed crossing sites over the course of several field seasons (2005 through 2007). Given the large body of information available, it appears that project-wide fish surveys would not be needed to supplement existing information and fill data gaps. After reviewing NMFS's conservation recommendations, the Applicant has proposed the following additional voluntary mitigation measure, which SEA intends to include in the Final EIS:

VM-52 (added since the Draft EIS): Before final design of the railroad alignment through the Fivemile Clearwater area, the Applicant shall conduct a study, in consultation with relevant agencies, characterizing the environmental attributes of the area that are critical to the survival of salmonids and resident fish species. The information obtained during this study shall be used by the Applicant to minimize potential impacts in the area during construction.

In addition, as indicated by the following mitigation measures, the Applicant would be required to comply with the reasonable stipulations and conditions of Federal, state, and local permits, including the Fish Habitat Permit to be issued by ADF&G.

VM-17 (from Draft EIS): State permits and authorizations, like the Alaska Department of Fish and Game Fish Habitat Permit, shall be obtained. Permit stipulations shall be incorporated into the construction contract specifications.

MM-38 (revised since Draft EIS): The Applicant shall comply with reasonable requirements of a fish habitat permit under Title 16, Fish and Game, of the Alaska Statutes. The Alaska Department of Fish and Game could impose the measures listed below for all activities below the ordinary high water mark in specified anadromous water bodies and in fish-bearing waters that could block fish passage.

- All ice crossings shall be drilled before equipment crossing to determine the ice thickness.
- Alteration of river, stream, or lake banks or beds, except for approved permanent crossings, shall be prohibited.
- The operation of equipment, excluding boats, in open water areas of rivers and streams shall be prohibited. Exceptions for water withdrawal shall be permitted on a site-specific basis.
- Ice or snow bridges and approach ramps constructed at river, slough, or stream crossings shall be substantially free of extraneous materials (for example, soil, rock, wood, or vegetation) and shall be removed or breached before spring breakup.
- Bridges are the preferred watercourse crossings in fish spawning and important rearing habitats. In areas where culverts are used, they shall be designed, installed, and maintained to provide for efficient passage of fish, and the Applicant shall monitor culverts semi-annually (or more frequently, as seasonal flows dictate) to ensure that they adequately provide for fish passage in fish-bearing waters.

SEA believes that these mitigation measures, and in particular the required permits, would provide appropriate protection for fisheries resources.

5. *Elevate the rail line in wetland areas adjacent to and known to support anadromous spawning habitat to maintain connectivity of the groundwater hydrology and related hyporheic function (up and down welling water) that is critical to spawning site selection, egg and larval survival.*

The Applicant and SEA have identified several mitigation measures to maintain natural flow conditions, including:

VM-6 (from Draft EIS): The new rail line shall be designed and constructed in such a way as to maintain natural water flow and drainage patterns to the extent practicable. This shall include placing equalization culverts through the embankment as necessary, preventing impoundment of water or excessive drainage, and maintaining the connectivity of floodplains and wetlands.

VM-15 (from Draft EIS): For the portions of the project within the Fairbanks North Star Borough (FNSB), the Applicant shall coordinate with the local FNSB Floodplain Administrator to ensure that new project-related stream and floodplain crossings were appropriately designed. For crossings within the mapped 100-year floodplain, drainage crossing structures shall be designed to pass a 100-year flood.

VM-52 (added since the Draft EIS): Before final design of the railroad alignment through the Fivemile Clearwater area, the Applicant shall conduct a study, in consultation with relevant agencies, characterizing the environmental attributes of the area that are critical to the survival of salmonids and resident fish species. The information obtained

during this study shall be used by the Applicant to minimize potential impacts in the area during construction.

MM-11 (revised since Draft EIS): Applicant shall design all permanent bridge structures and culverts to pass the 100-year flood event. Applicant shall comply with all relevant Federal Emergency Management Agency (FEMA) guidance, regulations, and procedures in the design and permitting of the crossings of waterbodies and floodplains with established floodway models maintained by FEMA.

MM-12 (revised from Draft EIS): The Applicant shall avoid and minimize to the extent practicable, impacts to all waters of the United States, including wetlands."

In response to these mitigation measures, the Applicant could choose to elevate the rail line as a means of complying with these measures, but SEA believes that elevating the rail line would not be the only way to comply. Thus, SEA believes these measures are consistent with and adequately address NMFS's recommendations, and SEA does not plan to add additional mitigation measures to incorporate the specific language provided by NMFS.

Further, the Applicant has indicated that given the extensive wetlands throughout the project area, and the high cost of elevating the rail line, it would not be economically feasible to elevate the rail line in all wetland areas adjacent to and known to support anadromous spawning habitat. Of the 37 possible EFH crossings, 15 were documented as having spawning habitat and 12 appear to have wetlands surrounding the crossing. The Applicant also indicated that the cost associated with elevating the rail line is significantly higher than the normal cost of rail line construction (approximately \$15,000 per foot as compared to \$400 per foot).

6. *Employ Best Management Practices when constructing and placing artificial structures to promote natural hydrology and instream flows. Structures built over naturally occurring waters should conform to the natural stream gradients and stream channel alignment. Supporting structures should be designed to prevent scour and velocity barriers to anadromous species.*

The Applicant and SEA have developed several mitigation measures that would require the Applicant to follow Best Management Practices and specific permit requirements so that natural flow conditions would be maintained, including:

VM-4 (from Draft EIS): Federal permits, including those required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, shall be obtained from the U.S. Army Corps of Engineers prior to initiation of construction. The Applicant shall also obtain necessary state permits and authorizations (e.g., Alaska Department of Fish & Game Fish Habitat Permit, Alaska Department of Natural Resources Land Use Permit, and an Alaska Department of Environmental Conservation Section 401 water quality certification). Permit stipulations shall be incorporated into construction contract specifications.

VM-8 (from Draft EIS): Bridges and culverts shall be designed, constructed, and operated to maintain existing water patterns and flow conditions as practicable.

VM-9 (revised since Draft EIS): For all proposed crossings of anadromous waters incorporating culverts, Applicant shall design said structures in accordance with the National Marine Fisheries Service 2008 publication, Anadromous Salmonid Passage Facility Design.

VM-17 (from Draft EIS): State permits and authorizations, like the Alaska Department of Fish and Game Fish Habitat Permit, shall be obtained. Permit stipulations shall be incorporated into the construction contract specifications.

VM-18 (from Draft EIS): Construction in anadromous streams shall be timed where practicable to minimize adverse effects to salmon during critical life stages. Timing windows, as specified by Alaska Department of Fish and Game's Division of Habitat, shall be incorporated into construction contract specifications for instream work. Stream crossings shall be designed and constructed so as not to impede fish passage or impair the hydrologic functioning of the water body.

MM-10 (revised since Draft EIS): The Applicant shall design, construct, and operate the rail line and associated facilities, including bridge abutments, to maintain existing water patterns and flow conditions and provide long-term hydrologic stability by conforming to natural stream gradients and stream channel alignment and avoiding French draining, as practicable. Supporting structures shall be designed to minimize scour and increased flow velocity, as practicable.

MM-16 (revised since Draft EIS): The Applicant shall comply with the "Compensatory Mitigation for Losses of Aquatic Resources; Final Rule" (commonly referred to as the Final Mitigation Rule), which was published in the *Federal Register (FR)* on April 10, 2008, and became effective on June 9, 2008 (73 *FR* 19594-19705). The Applicant shall provide compensatory mitigation to all waters of the U.S.

As part of a Section 404 Permit, standard best management practices that minimize impacts to vegetation as specified in the U.S. Army Corps of Engineers Alaska District's Nationwide Permits General Best Management Practice Guide (U.S. Army Corps of Engineers, 2007b) could include:

- Sediment and turbidity at the work site shall be contained by installing diversion or containment structures.
- Dredge spoils or unusable excavated material not used as backfill at upland disposal sites shall be disposed of in a manner that minimizes impacts to wetlands.
- Wetlands shall be revegetated as soon as possible, preferably in the same growing season, by systematically removing vegetation, storing it in a manner to retain viability, and replacing it after construction to restore the site.

- Stream banks shall be restored and revegetated using techniques such as brush layering, brush matting, and use of jute matting and coir logs to stabilize soil and reestablish native vegetation.
- Topsoil and organic surface material, such as root mats, shall be stockpiled separately from overburden and returned to the surface of the restored site.
- Fill materials that are free from fine material shall be used.
- The load of heavy equipment shall be dispersed such that the bearing strength of the soil shall not be exceeded, either by using mats when working in wetlands or by using tracked rather than wheeled vehicles.

SEA believes these measures are consistent with and adequately address NMFS's recommendation #6, so SEA does not plan to add additional mitigation measures to incorporate the specific language provided by NMFS.

Next Steps

A complete list of SEA's recommendation mitigation measures will be included in the Final EIS along with an updated EFH Assessment that reflects the added and revised measures. EFH-related mitigation measures recommended by SEA in the Final EIS would only become enforceable measures if the Board authorizes the construction and operation of the proposed rail line and chooses to impose those measures as conditions of any authorization. SEA makes recommendations to the Board. SEA does not have the authority to obligate the agency to specific mitigation measures, and the Board will not act on any recommended mitigation measures until it issues a Final Decision (i.e. our agency's Record of Decision) in a proceeding.

Thank you for your cooperation. If you have any questions, please do not hesitate to contact Dave Navecky, SEA's Project Manager, at 202-245-0294, or Alan Summerville, ICF's Project Manager, at 703-934-3616.

Sincerely,



Victoria Rutson
Chief
Section of Environmental Analysis

cc: Steve Kokkinakis