



IR Number:

Source: *Environment Canada*

To: *Deh Cho Bridge Corporation*

DAR Section: *C Development Description*

Terms of Reference Section: *D-1 Description of Effects of the Physical Environment*

Preamble

On page 38 of the DAR, the proponent states that the main span of the bridge will be 22m above high water level.

Request

What information was utilized to determine the high water level for the project design?

IR Number:

Source: *Environment Canada*

To: *Deh Cho Bridge Corporation*

DAR Section: *J Physical and Biological Environment
J.1 Air Quality and Climate
(b) Mitigation Measures*

Terms of Reference Section: *J-1 Air Quality and Climate*

Preamble

On page 108 of the DAR, the proponent states that applying water or acceptable chemical suppressants to roadways to reduce dust is an appropriate mitigation measure that will minimize the impacts on air quality during the construction phase of the project.

Request

Could the proponent describe the type of acceptable chemical suppressant being considered? How it would be applied and where it would be applied?

IR Number:

Source: *Environment Canada*

To: *Deh Cho Bridge Corporation*

DAR Section: *J.3 Vegetation and Plant Communities*

Terms of Reference Section: *J-3 Vegetation and Plant Communities*

Preamble

On page 111 of the DAR in Table J-1, the proponent quantifies the area of the proposed new clearings for the project as 13.6 ha.

Request

Could the proponent provide a comparison between the overall size of the project footprint to the area that is being proposed to be cleared and also note the percent increase over the existing cleared area? This will allow for a better understanding on the degree of impact on the vegetation and plant communities in the construction area.

IR Number:

Source: *Environment Canada*

To: *Deh Cho Bridge Corporation*

DAR Section: *J.6 Wildlife and Wildlife Habitat and
J.7 Species at Risk Act*

Terms of Reference Section: *J-6 Wildlife and Wildlife Habitat
J-7 Species at Risk Act*

Preamble

On pages 117 through 119 the proponent describes selected Valued Ecosystem Components, potential effects and Mitigation Measures on wildlife, as well as provides a species list (as per Schedules I-III of the Species At Risk Act); however there does not appear to be a description of the existing wildlife species within the footprint of the construction project. It would appear to be difficult to assess potential effects and mitigation measures on wildlife without having appropriate baseline information.

Request

Could the proponent describe how baseline studies were conducted and how data was collected on the existing wildlife species within the footprint of the construction project?

IR Number:

Source: *Water Survey of Canada Division, Calgary Environment Canada*

To: *Deh Cho Bridge Corporation*

DAR Section: *J.4 Water Quality and Quantity, Page 45-46,*

Terms of Reference Section: *J-4 Water Quality and Quantity*

Preamble

DAR's Statement as follows:

"Trillium (2002) discussed potential impacts of the proposed project on hydrotechnical issues (e.g., water flow, water depth, scour, ice flows, ice jams)."

Considering that the environment may undergo significant changes over the next century the proponent should examine the degree of risk posed by these [meteorological, hydrological and other physical factors] on the integrity of the structure over the design life of the project (i.e. 100 years). It does not appear that the project design has adequately considered the effects of long-term climate change on the structure.

Request

Could the proponent more fully address the effects of long-term climate change on the design of the bridge structure?

IR Number:

Source: *Environment Canada*

To: *Deh Cho Bridge Corporation*

DAR Section: *Pier Foundation Works, page 49
Table J6 3) Installation of instream piers
Appendix 1, p. 7*

Terms of Reference Section: *J-4 Water Quality and Quantity*

Preamble

The project entails a number of earthworks which will cause the release of sediments into the Mackenzie River. These include modification of the north and south approaches, and

installation of the instream piers. Installation of the piers will involve removal of 750-800 m³ (or 850 m³, depending on which document is correct) of bed sediments from each pier location, which is proposed to be either disposed of directly into the river (page 49, DAR) or removed for disposal to a gravel pit (Table J6). Dewatering from within the cofferdams will be required (1900 m³ per cofferdam), and this is proposed to be done directly to the river. Table J6 5) states that water will be tested and treated as necessary for pH before release to the river.

Water containing high levels of suspended sediments may be considered deleterious, and as such, have an unacceptable impact on receiving waters. The proponent proposes to use timing to minimize exposure to migrating fish species, and to use water sampling to determine the rate of release of sediments to the river.

Request

1) Please clarify the means of disposal for river bottom spoils. Environment Canada has concerns with disposal to the river, and would ask that the proponent provide a strong rationale for not removing the sediments to a gravel pit for disposal.

2) Water from within the cofferdams will have to be of a quality that is acceptable for release to the Mackenzie River, i.e. be non-deleterious. The main parameters of concern will be suspended solids, pH, and possibly ammonia. Please note that (contrary to what is stated in the DAR Table J6 and in Appendix D of the Golder Report) ammonia becomes more (not less) toxic under basic pH conditions. Please advise how it will be confirmed that the water is non-deleterious prior to release, and provide details of any treatment proposed.

3) Alternative disposal means should be identified in the event water quality is not acceptable for release (i.e. does not meet the provisions of Section 36(3) of the Fisheries Act).

IR Number:

Source: *Environment Canada*

To: *Deh Cho Bridge Corporation*

DAR Section: *K.1 Cumulative Impacts*

Terms of Reference Section: *K Cumulative Impacts*

Preamble

The proponent adequately describes the bridge within the context of the overall transportation corridor and history of development of the highway. However the proponent does not provide enough detail on existing resource use activities within the

study area. The proponent could, but is not limited to include in it's cumulative effects assessment: the community of Fort Providence, existing quarries (in use or abandoned), existing roadways, trails, personal use cabins, docking facilities, airstrips (in use or abandoned), the proposed toll facilities and any new areas of disturbance related to the project.

Request

The proponent should provide a broader review of and more definitive conclusions of the potential cumulative environmental effects.