

**YUKON ENERGY CORPORATION
ENERGY PROJECT CERTIFICATE AND ENERGY OPERATION CERTIFICATE
APPLICATION FOR THE PROPOSED MAYO HYDRO ENHANCEMENT PROJECT
(MAYO B)**

**YUKON UTILITIES BOARD INFORMATION REQUEST (YUB) ROUND 1 TO
YUKON CONSERVATION SOCIETY (YCS)**

YUB-YCS-1

Reference: YCS Evidence, pages 1 and 2
Issue/Sub-Issue: Risks to aquatic habitat in Mayo Lake and Mayo River

Quote: YCS believes that the mitigations that are still undetermined by the DFO, the Water Board and the YESAB pose a risk to the tight timeline and unanticipated costs of Mayo B.

Preamble: The risks to aquatic habitat in the Mayo River and in Mayo Lake are cited by the YCS in its evidence to the YUB. The YCS also states that the mitigations required pose a risk to the timeline and costs of the Mayo B project.

The Board wishes to better understand the statement quoted above.

Request:

- (a) Can the YCS be more specific in terms of what mitigative measures it expects might be imposed on the Mayo B project respecting aquatic habitat and how those measures would impact on the project?
- (b) Can the YCS be more specific as to what amount of time delay might occur due to mitigative measures and in what aspect of the project and how that delay would affect the overall project timeline?
- (c) Can the YCS be more specific on what the dollar amount of additional costs might be due to mitigative measures and the overall impact of that additional cost on the Mayo B project?

YUB-YCS-2

Reference: YCS Evidence, pages 3 to 6
Issue/Sub-Issue: Alternatives to Mayo-B/ Wind Energy

Quote: YCS ascertains that a 16 MW wind farm on Mt. Sumanik (assuming 20% efficiency) would produce the same amount of 28 Gwh that Mayo B is proposing to generate. This wind project would cost \$56 million, (assuming \$3.5 million/MW of installed capacity).

Preamble: In the paragraph following the above quote, YCS cites the Kodiak Electric installation of three 1.5 MW wind turbines for a total cost of \$21.4 million US. On a per Megawatt basis this works out to \$4.75 million US as compared to the \$3.5 million cited by YCS for Mt. Sumanik.

The Board wishes to better understand the statement quoted above.

Request:

- (a) How was the cost of \$3.5 million/MW of installed capacity arrived at; what is the source of this number?
- (b) YCS cites the Kodiak Electric installation of three 1.5 MW wind turbines for a total cost of \$21.4 million US. Doesn't this imply that the costs of 16 MW of wind turbines on Mt. Sumanik would be higher than the \$56 million quoted by YCS? Provide reasons with your answer.
- (c) What additional information can YCS provide respecting the cost of 16 MW of wind turbines at Mt. Sumanik?
- (d) How was the capacity requirement of 16MW to produce 28 Gwh of energy arrived at?
- (e) How was the figure of an assumed efficiency (capacity factor) of 20% arrived at?
- (f) Would the wind energy output of the wind turbines be intermittent and non-dispatchable and if not why not?
- (g) How would the wind turbines' ability to produce energy as needed by the system when needed by the system, i.e. its dispatchability, compare with that of Mayo B?
- (h) Has YCS done any study to determine if a wind turbine installation might have to be greater than the 16 MW cited to give a wind power project greater comparability to the dispatch ability of a Mayo B project?

YUB-YCS-3

Reference: YCS Evidence, pages 5 and 6

Issue/Sub-Issue: Alternatives to Mayo-B/ Wind Energy

Quote: Wind energy projects can be built in about 2 years from permitting and can be built at any scale and expanded as desired, a benefit when timing is of the essence.

Preamble: The Board wishes to better understand the statement quoted above.

Request:

- (a) Is the YCS requesting that the YUB recommend that the Mayo B project not proceed at this time?
- (b) Is the YCS requesting that the YUB recommend that YEC pursue a comparable wind farm project at Mt. Sumanik instead?
- (c) If that is the case then how does the YCS propose that YEC balance off the need to serve new load (including industrial load) and the time lag that would ensue in obtaining the necessary regulatory approvals and permits and the additional 2 years it cites as the time required to build a wind farm? What role does the YCS see existing diesel units playing during that time period?
- (d) If the YCS is not requesting that the YUB recommend that the Mayo B project not proceed at this time, then what recommendations is it seeking from the Board?
- (e) On page 9 of its evidence, the YCS cites a number of renewable energy sources including DSM. What is its preference for the order in which these projects should be pursued in the future?