Yukon Conservation Society INC. 1968
302 Hawkins St. Whitehorse, Yukon Y1A 1X6 (867)668-5678 fax: (867)668-6637 ycs@ycs.yk.ca

Friday, April 9, 2010

To the YESAB Executive Committee,

Re: YCS comments on YESAB Draft Screening Report on Mayo B

Thank you for the opportunity to comment on the YESA Board's Draft Screening Report on Yukon Energy Corporation's Mayo B Hydro Enhancement Project.

The Yukon Conservation Society (YCS) would like to extend our appreciation to the Executive Committee and other YESAB representatives for meeting with us to discuss our concerns with the project and the draft screening report. In addition to any minutes that may have been generated at that meeting, please accept this document as our official comments.

We have four main concerns with the Draft Screening Report: 1. the non-inclusion of the extra one metre drawdown in the project scope, 2. the inadequacy of fish mitigation and compensation, 3. the inadequacy to monitor and address acid rock drainage potential, and 4. the lack of investigation into alternatives to the project.

Mayo Lake Additional One Metre Drawdown

In the Draft Screening Report for Yukon Energy Corporation's Mayo B Hydro Enhancement Project, YESAB justified not including the additional one metre drawdown on Mayo Lake in the project scope because Yukon Energy said it would merely "consider" filing a new project proposal relating to the additional one metre drawdown on Mayo Lake. From this, the YESAB Executive Committee concluded that it was "satisfied there is no basis for concluding at this point that the additional one-metre drawdown is 'likely to be undertaken.'"

However, in its application to the Yukon Utilities Board for Energy Project and Operations Certificates dated December 10, 2009, Yukon Energy states: **"Mayo Lake Licensing related to provision for an additional 1 metre drawdown will be pursued via a separate Designated Office level YESAB Project Proposal." (p. 16)**

Yukon Energy goes on to say:

> "This item (the additional Mayo Lake drawdown) was removed from the YESAB Mayo B Project Proposal to enable Mayo B to advance from the adequacy stage to assessment expeditiously. Field studies and other related reviews are expected to be completed to allow the **YESAB Project Proposal to the Designated Office to be filed in fall 2010**. Yukon Energy is working towards completion of the YESAB Designated Office review

> of the separate Mayo Lake Project and securing all required permits and approvals (including amendments to the Mayo Water Licence pursuant to the Waters Act) prior to December 31, 2011, to allow YEC to utilize the added drawdown as required as soon as possible after start of operation of the Mayo B Project. No new works are required to implement this licence change. Even if delays occur, securing this amendment at any point in time in the future would restore thereafter the full benefits of the enhanced Mayo Lake storage." (p. 17)

Under the section of Yukon Energy's YUB application entitled *Risks: Other Project Feasibility Risks,* YEC again speaks about their explicit intention to apply for (and assumption it will be approved by the Yukon Water Board) the additional one metre drawdown on Mayo Lake.

> "**Mayo Lake Enhanced Storage -** It became apparent during the YESAB adequacy review process that provision for an additional metre of bottom storage at Mayo Lake in the Mayo B Project proposal presented a significant risk to project timelines and available federal funding. To facilitate timely review of the Mayo B Project and ensure completion of regulatory reviews prior to June 2010 remained feasible, YEC, in consultation with YESAB, removed the provision for an additional metre of drawdown at Mayo Lake from the YESAB Project proposal, on the understanding that Yukon Energy would likely file a separate YESAB application by fall 2010. ...
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> The removal or delay of Mayo Lake storage enhancement as at 2012 would limit the amount of available diesel that could be displaced by the Mayo B Project once it is in service **(until the required amendment to the Mayo Water Licence to provide for the additional metre of bottom storage is approved by the Yukon Water Board)**....
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> Yukon Energy is working in consultation with regulators (such as DFO) and stakeholders (such as NND) to ensure any environmental or other issues and concerns related to the additional metre of bottom storage at Mayo Lake are addressed in order to ensure this operational enhancement is available as soon as possible, preferably before Mayo B is in service." (p.37-38)

The Yukon Conservation Society simply cannot agree with the YESAB Executive Committee in its conclusion that the additional one-metre drawdown is not likely to be undertaken and that the additional one metre drawdown does not constitute part of the project. If it is not the responsibility of the YESAB Executive Committee to keep on top of Utilities Board applications for the same project (despite YESAB stating it consulted YEC's YUB application during its assessment), where YEC explicitly states a number of times it *does in fact intend to pursue and undertake the additional drawdown*, then the project proponent, Yukon Energy, has not been forthcoming with the Yukon's Environmental and SocioEconomic Assessment Board and process.

The Executive Committee Screening must consider the significance of any adverse cumulative environmental or socio-economic effects of a project in combination with the ongoing effects of existing projects or the predicted effects of projects that will occur in the future.

Section 51 of the YESAA states that: "... the Executive Committee shall... include within the scope of the project, in addition to any activity identified within the proposal, any other activity it considers

likely to be undertaken in relation to an activity so identified and sufficiently related to it to be included in the project."

As Yukon Energy Corporation has made its intention clear, and the additional one metre drawdown on Mayo Lake does appear likely to be undertaken, YCS again respectfully requests YESAB Executive Committee to include the additional one metre Mayo Lake drawdown in the project scope of YEC's Mayo Hydro Enhancement Project.

If the YESAB Executive Committee still believes it is not required to consider the additional drawdown, YCS requests that YESAB at least address the fact that the current licensed operating range on Mayo Lake will be exercised more often once a new turbine is installed for the Mayo B project.

As Environment Yukon stated in its comment submission, the environmental impacts of exercising the existing drawdown range on Mayo Lake are not fully understood.

Environment Yukon states: "An important management consideration for Mayo Lake fisheries resources is that there is risk and uncertainty regarding potential effects to fisheries resources from exercising the full 2.59 m water drawdown on Mayo Lake under the existing water license."

It goes on to say that the existing range of 2.59 m is a "scenario that poses a greater risk to fish eggs."

If YESAB does not include the additional drawdown in the scope of the Mayo B project, it must at this time consider the implications, and assess the potential negative effects, of the existing licensed range being exercised on a more regular and consistent basis and suggest ways to mitigate those effects.

A possible compensation for potential harm to fish in Mayo Lake from the existing licensed drawdown range and the Mayo B project could be the construction of a fish ladder at the Mayo Lake control structure to allow for the safe passage of freshwater fish that spill over into the Mayo River and currently have no way to return.

A fish ladder at this location could also be used by salmon if other mitigations (such as a small hatchery, a trap and truck operation, rehabilitation of the upper Mayo River and reintroduction of salmon to the upper reaches) are required to compensate for negative impacts to fish of the Mayo B project.

Fish and Fish Habitat in Mayo River

Project activities of Mayo B with potential negative effects to salmon include the dewatering of Zone 2 to divert most of the flow from that section of the Mayo River to the new turbine. This will require stronger mitigation and compensation for salmon and freshwater fish. YCS believes that the mitigation and compensation proposed by YEC and supported by YESAB (to "increase" minimum flows and build a rearing channel) are inadequate.

More specifically, in addition to the rearing channel, we would like to see the following ideas at least scoped in terms of cost and ecological value: 1) fish passage facilities at the Mayo Lake water control structure (primarily for freshwater fish); 2) small enhancement facility for salmon to repopulate the

upper and possibly lower Mayo River with juveniles; 3) a trap and truck of adult chinook returns from the enhancement program; 4) construction of a chinook spawning channel; and 5) spawning habitat improvement through the recruitment of gravels in Zone 2.

YEC claims that increasing minimum flows in the lower Mayo River is a mitigative measure to enhance salmon habitat as well as to compensate for lost habitat. In reality this is not accurate. Actual flows and licensed minimum flows should not be confused.

In the YESAB Draft Screening Report page 35 it reads: "Even though this new minimum (5 cms) is higher than the current minimum of 2.8 cms, flow rates in this zone under the current flow management regime have averaged between 8 and 10 cms. The new proposed minimum of 5 cms, which YEC has modelled as their expected flow rate through this zone during the winter months, is on average lower than what has been occurring." Minimum flows are a mitigative requirement and should not be viewed as habitat compensation.

Looking at the historic flow rates, it is likely that Zone 2 will be at 5 cms for long periods of time especially in dry summers. At this level, spawning beds may still be covered by water, but habitat along the edge of the river will be lost. Fish will likely move into central channels but the overall productivity of the stream will be reduced because less aquatic habitat will be covered with water.

YCS suggests there isn't necessarily a ready made suite of compensation that will account for potential losses to stream productivity, because we do not have enough information to know all the negative effects of new dewatered areas and new flow regimes. Time must be spent to explore the options not only to reduce the harmful potential of the new facility to salmon and other species, but also to at least try to restore salmon populations, connectivity and habitat that was harmed or destroyed by the original facility.

A final concern is one associated with the proposed adaptive management plan. How will issues that surface in the future be acted upon? YCS believes that clear objectives are needed prior to the start of construction (i.e., maintenance of functioning Chinook spawning in Zone 2) combined with an adequate monitoring program to ensure negative impacts, once identified, do not continue to occur.

Acid Rock Drainage

The proposed mitigative options do not suggest ways to monitor excavated rock or to respond when it is discovered.

YEC does not seem to be taking the possibility of acid rock drainage seriously. If acid generating waste rock is unearthed during the blasting of the tunnel or the excavation of the penstock bed and not properly dealt with, acid and metals could contaminate the Mayo River effectively voiding any attempts, however weak, to help fish.

There are three possible mitigations proposed to deal with acid generating waste rock: 1. find ways to dispose of the potentially acid generating rock below the groundwater level, 2. blend it with an appropriate amount of net neutralizing material then use the product to construct access road surfaces or other project components and 3. dump, liner, cover.

YCS does not believe these are strong enough mitigation suggestions to deal with the serious possibility of acid rock drainage. Under no circumstance should acid generating waste rock, or potentially acid generating waste rock, be used to construct access road surfaces or other project components regardless of attempts at neutralization.

Instead, YESAB should require the proponent to employ geochemical expertise to develop a plan to monitor the exposure of bedrock to ensure potentially acid generating waste rock is first identified (before it's mixed, lost or unaccounted for), then isolated and moved to a safe, flat, dry location. Once all the excavating is complete and all the potentially acid generating waste rock is dumped in an appropriate safe place, the waste rock could then be mixed with a neutralizing material then covered with an engineered cover and soil according to very precise specifications from a geochemical expert.

Alternatives to the Project

While YCS agrees with YESAB Executive Committee that the development of Mayo B does not preclude the exploration or development of other renewable energy projects or the development of demand side management approaches to energy conservation, we regret that Yukon Energy missed this opportunity to diversify our energy sources when it only considered hydro. YCS also argues that despite the federal contribution, the expense of the project and the small return on investment may leave us in debt and less financially able to make future investments in other renewable energy sources.

The green energy infrastructure money could be used to develop a wind project on Mt Sumanik, to generate the energy close to where it is needed, to invest in the equipment to maintain a new wind facility and also our existing small wind facility. Instead of Mayo B, we could build capacity to expand local knowledge of wind turbine installation and maintenance, and as a result, this viable renewable energy source could be spread throughout the territory especially to communities currently powered by burning diesel.

Yukon Energy's recurrent argument against wind energy is that “wind does not provide firm power.” However, YCS would like to counter that hydro does not always provide firm power either. There are times of year (not to mention entire drought years) when water levels are too low to provide power to the territory and diesel must be burned to make up for the shortfall. This time of year, namely spring prior to the freshet, is when wind and solar can help meet demand, as well as help to conserve water in our grid's battery that is Aishihik Lake. Yukon Energy consistently states we need surplus hydro to warrant investment in wind power. However, if we invested in wind power and efficiency, we would have surplus hydro and could store energy in Aishihik for times when the wind isn't blowing.

In addition, the most diesel is burned when hydro resources are tapped, and wind resources are highest. If displacement of diesel is the goal, wind is a sensible choice.

To this end, the Yukon Conservation Society requests that the YESAB Executive Committee ask Yukon Energy Corporation to present the feasibility study of the potential for wind energy on Mt Sumanik so the public can understand why Yukon Energy made the decision wind was less feasible and shovel ready than Mayo B (which arguably is neither) when putting forward a project for green infrastructure funding.

Conclusion

YCS would like to express our disappointment with the proponent for its weak approach to fish mitigation and compensation. When YEC was first selling the project to stakeholders, representatives claimed that as an enhancement project, Mayo B would not only enhance the energy generation capacity of the existing facility, but also enhance salmon habitat.

Since that time, this responsible approach to development has been lost and any suggestion to address the environmental mistakes of the past has been forgotten. In its YESAB application for Mayo B, YEC spoke of how in recent Mayo B discussions, residents of the Mayo area remembered Northern Canada Power Commission (NCPC) promising to maintain salmon passage to the upper Mayo River by constructing a fish ladder over the Wareham Dam. People recall this was a condition of the project that NCPC had committed to. YEC disregarded this by stating they found nothing in their files confirming this claim. YEC furthered their position to not address any historical wrongs by claiming that "no new pathways of effect" exist and therefore past mistakes and resulting harm to fish did not need rectifying.

YCS sees this as another missed opportunity. The Mayo B project could have more negative impacts to salmon in the lower Mayo River than the rearing channel will compensate for. The "red herring" of increasing minimum flows (recall the difference between licensed flows and actual flows – in reality the actual flow will significantly decrease). YCS recommends that adequate compensation should include actions that increase the productivity of salmon in the entire Mayo River.

YCS would like to see one to five per cent of the total cost of this project set aside for fish mitigation and compensation. Here, the "increased flow" mitigation and the rearing channel combine to a total cost of $250,000. For a $120 million project (much of this provided "free" by the Canadian taxpayer), the proposed mitigation constitutes 0.2 per cent. If YEC is not interested in undertaking fish enhancement, like a small hatchery or a trap and truck operation, it should at least be obligated to fund other organizations to do so.

YCS hopes our concerns will be incorporated into your final report. We wish you luck in your final assessment of the Mayo B project.

If you have any further questions, feel free to contact me.

Sincerely,

Anne Middler
Energy Coordinator
Yukon Conservation Society
ycsenergycoordinator@gmail.com
867.668.5678