Submission to the B.C. Environmental Assessment Office regarding the proposed Narrows Inlet private power project

Submitted by:

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Public consultation process

On Oct. 12, we attended the Open House in Egmont, expecting to be able to provide comments on the NI Holding Corp. proposal to construct a total of six power plants (two on Ramona Creek) in Narrows Inlet.

The notice issued by the Environmental Assessment Office clearly indicated that we would have this opportunity: "In order to provide information about the Application, and *to receive comments from the public*, the Environmental Assessment Office (EAO) invites the public to attend Open Houses…." (emphasis added)

We were very disappointed that no such opportunity was provided. Indeed, we were informed by the Environmental Assessment Office that it was sponsoring the open house strictly for the benefit of NI Holding Corp. Despite the promise contained in the invitation, the EAO advised us that the only opportunity for the public to comment was by e-mail or letter.

That a public agency, established to protect the public interest, should actively sponsor opportuni-

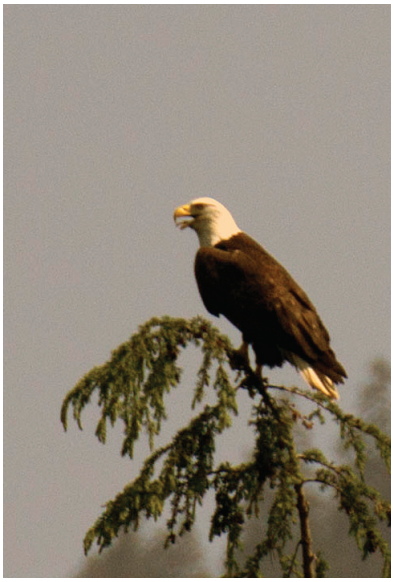
ties for a private corporation to make its case while simultaneously severely limiting public comment is deeply disappointing.

Our disappointment in the EAO is exceeded only by our disappointment in the dismissive attitude that NI Holding Corp. displays towards the many people who enjoy the wilderness experience of Narrows Inlet, and especially towards those who own property in the Inlet.

Long term degradation of Narrows Inlet

The various reports commissioned by NI Holding Corp, and the information it provided at the open houses, underline the serious impact of this project. It is not run-of-river. It converts three alpine lakes to reservoirs. Two dams will be constructed. A total of 4.75 km of penstock will divert water from Ramona Creek. (Executive Summary, page B-4) New transmission lines will be constructed, bringing the total to 41 km above ground, plus 2 km submerged cable. (Introduction and Project Description – Part 2, page 2-1)

The dam at the outlet of Ramona Lake will raise the maximum level of the lake by 3 m, inundating 5.8 ha of shoreline. At other times, the lake will be drawn down by 45 m from its natural level. (A10 SREIP Overview Terrain Stability Assessment)



Every phase of the project – construction, operation, and decommissioning – will degrade water quality and change habitat. (Ramona Creek component effects assessment – Part J, Table 14-86, page 267)

A summary of terrestrial wildlife and vegetation projects effects for the upper and lower Ramona Creek projects lists 52 adverse effects, many of them long term. It describes these adverse effects as reversible if the dams, penstocks, tailraces and power plants are decommissioned, and concludes that they are therefore not significant. (Part Q – environmental effects assessment, Table 23-20, Pages 23-30 to 23-34)

A comment regarding the loss of mature forest habitat for tree-roosting bats is typical: "This effect is reversible, as the habitat can return to the baseline condition once the Project is deactivated and the forest is allowed to re-grow." (Part K – Interconnection effects assessment, page 15-117)

If this project is ever decommissioned, it will be a very long time in the future.

"Ongoing maintenance re-fits and upgrades can extend the normal operating life of a hydroelectric project indefinitely into the future. Similar projects are typically long-lived with an expected (projected) design life of 75 to 100 years." (Introduction and project description – part 2, Page 2-108)

In other words, if we allow time for the forests to mature, this "not significant" damage can be reversed in 155 to 180 years.

For recreational users and boaters, the effect on the visual quality of Ramona Falls and Narrows Inlet would "exceed acceptable levels despite mitigation" in both construction and operation phases. (Part N – Socio-Economic Effects Assessment, Table 19-91, Page 19-186)

Again this is dismissed as something that can be repaired in 100 years or so. A Robertson Environmental Services report says, "The residual effect of reduced aesthetic quality of the landscape during the construction phase is negative and occurs on a disturbed landscape (Ramona). The residual effect is localized to the Ramona Creek area, and is long term and continuous as permanent structures would exist on the landscape throughout the operations phase. The effect can be considered reversible if all infrastructure is dismantled and removed during Project end-of-life decommissioning, and the landscape reclaimed to its baseline condition."

The construction environmental management plans explaining how NI Holding Corp will limit environmental damage are all drafts. Draft plan 2A says the environmental resources at risk, and the location of sensitive areas and features, are identified in Appendix A. There is no Appendix A on the EAO website.

Impact on property owners

There has been very little consultation with property owners who are directly affected by the Ramona Creek / Ramona Lake component of this project. The reports prepared by NI Holding Corp. detail considerable potential damage – undrinkable water, noise, declining property values and more – but the company and its principals dismiss these concerns out of hand. One report goes so far as to say the property owners are not significant because there are so few of them.

Quoted in the Coast Reporter, Oct. 19, 2012, Peter Schober of Renewable Power Corp., one of the principals in NI Holding Corp., said:

"Where we are is well above their property. They will not even know it's there."

His statement is plainly not correct, and contradicted by the reports submitted to the EAO.

"The construction of the Ramona Creek facility will also include the construction and operation of a powerhouse that will be situated adjacent to the east boundary of the properties." (Part N – Socio-Economic Effects Assessment, Page 19-149)

"(T)he Lower Ramona Creek component will have a substantial negative effect on the quality of experience for recreational property users at Ramona Creek, a sub-set of the recreational property user group. Project activities are likely to have an effect on this group that would lead to adverse relocation or behavioral change. That is, a substantial portion of the sub-user group is likely to sell their recreational property or visit their recreational property less often, as a result of Project activities. This effect however is considered 'not significant' as it affects only a sub-set of the recreational property user group." (Part N – Socio-Economic Effects Assessment – Part 1, page 19-133)

If the project is approved, blasting and drilling will occur year round. "As construction will occur all year long, except for frozen periods, notification will be given to Ramona Creek property owners as to the duration, timing and nature of construction activities that may cause them direct disturbance, such as blasting and drilling." (Part N – Socio-Economic Effects Assessment – Part 1, page 19-130)

In Appendix 71, the consequence of failure of the proposed Ramona Lake dam is classified as "high". Residents and visitors in four privately owned cabins would be at risk of inundation by 2.1 million m^3 of water.

Appendix 18 – Noise Baseline Assessment, notes that noise levels at the Tyson Creek powerhouse

measure up to 76 dBA. This report says noise levels from the Ramona Creek powerhouse will be 40 dBA at the nearest residence – a lower level to be sure, but otherwise of little comfort. People do not go to Narrows Inlet to stay in their residences; they go for the outdoor experience.

A Cordilleran Geoscience report, based on a helicopter flight over the properties and study of maps, notes that the proposed road to the powerhouse is located on 50% slopes behind private properties. It concludes there is a moderate risk of landslides – and a high risk of sedimentation in Ramona and Barbie Creeks due to the steep grades on the proposed roads adjacent to these creeks.

A report by Cunningham and Rivard Appraisals predicts a market discount of 0 to 20% as a result of this project.

The report notes the impact of:

- Increased boat, float plane and helicopter traffic in Narrows Inlet
- Blasting and machinery noise during construction
- Visual pollution of the Ramona Creek Lower powerhouse, tailrace and penstock
- Ongoing machinery noise from the powerhouse
- Changes in flows of Ramona Creek
- Risk of vandalism, theft and trespass as a result of increased traffic, and new road access to the rear of the properties

Again, NI Holding Corp. dismisses the impact on people who have owned property in this area for over 30 years.

"The residual Project effect on a decrease in property value is considered 'not significant'." (Part N – Socio-Economic Effects Assessment, Page 19-180)

Jobs and the economy

In its public statements, NI Holding Corp. has exaggerated the economic benefits of this project, and failed to mention or downplayed the economic costs.

The Coast Reporter, Oct. 19, 2012, says (presumably on the basis of an interview with Peter Schober who was quoted earlier in the article) that 106 permanent jobs are projected.

The company's own submission says there will be three part-time direct permanent jobs.

"Average permanent employment of approximately 75 individuals per year over the course of the 6 year construction period and 3 part-time individuals required for operations over the Project life span." (Introduction and project description, page 1-9)

There is no mention in NI Holding's reports of the string of rate increases being imposed by B.C. Hydro, at least partly a result of the purchase of unneeded power from private producers.

It cost the public $180 million to fulfill contracts with IPPs during the 2012 spring melt – a time when BC Hydro was forced to spill water because of a glut of electricity in the system. Under these contracts, BC Hydro paid IPPs an average of $68 per MWh for electricity that was available on the open market for about $10 per MWh.

Paying more for electricity does not stimulate economic activity and job creation. It has the opposite effect.

Ramona Creek habitat

The various reports that have been submitted by NI Holding Corp. in support of its application make it clear that vital fish habitat will be lost.

"Ramona Creek is considered an important sea-run cutthroat stream. The foreshore, accompanying marine habitat and lower reach is critical to the health of this species." (A58 – Rearing Salmonid Distribution, page 35)

"Construction of the Upper and Lower Ramona Creek components will result in long-term effects that cannot be mitigated and reversed until component infrastructure is fully decommissioned." (Part J, Ramona Creek component effects assessment, page 14-57)

"You should anticipate measurable changes in fish (salmonid) habitat, including upland riparian impacts, through the proposed development of hydro opportunities in the Tzoonie River and Ramona Creek watersheds. These changes will result in the harmful alteration disruption or destruction (HADD) of fish habitat as defined under the Federal Fisheries Act." (Letter from FSCI Biological Consultants, April 4, 2012)

Cutthroat trout – caught on a barbless hook and released – above the anadromous barrier in Ramona Creek, where the proponent claims there are no fish.

"The fish and invertebrate communities in Ramona Creek are likely adapted to life in clear-water conditions, making them vulnerable to negative effects from suspended sediment inputs." (A28 – Surface Water Quality)

Despite these risks, no on-site habitat assessments have been conducted.

"To date, no on-site riparian assessments have been conducted to verify and evaluate riparian habitats on Ramona Creek." (Executive summary, page B-11)

At least one report – although it acknowledges more sampling is needed – directly contradicts the first-hand evidence from experienced fishermen who have visited the area.

"To determine fish distribution in Ramona Creek Ecofish conducted snorkel surveys and a barrier assessment in September. All three of the barriers located within the 51m of the downstream reach were deemed barriers to fish migration. Thus, the lowermost falls is considered to be the anadromous barrier (3m falls located 468m upstream of the mouth of Ramona Creek)…. However, further fish

sampling is required in order to confirm that Ramona Creek is non-fish bearing above this barrier and below the 79m falls." (Executive summary, page B-11)

Poul Bech, a former B.C. fisheries technician who has conducted such assessments for the province, accompanied by Rick Hafele, a professional entomologist from Oregon, have caught and released cutthroat trout well above what NI Holding Corp. describes as the anadromous barrier. (See photo on previous page.)

Finally, there is no assessment of how the family of river otters that make their home in the portion of Narrows Inlet that borders Ramona Creek will be affected by the degradation of water quality and fish habitat that the project will cause.

Water quality – damage to public health and habitat

Various reports confirm that private power production from Ramona Creek / Ramona Lake will seriously damage water quality, threatening the cutthroat habitat and, potentially, the health of people who depend on Ramona Creek for their water supply.

For most of the year, the project will increase Total Suspended Solids (TSS) in Ramona Creek to 12 to 14 times the level at which B.C. Health issues boil water advisories.

"The quality and supply, and therefore use of, the water is anticipated to be altered by Project related activities." (Part N – Socio-Economic Effects Assessment, Page 19-149)

"Exposure of the lake bottom sediments during drawdown will result in erosion by raindrop impact, by rill and gully erosion, and possibly by slumping of water-saturated sediments (especially if over-steepened by gully formation). The potential for this to occur has been demonstrated by recent siltation events in the Tyson Lake hydroelectric component in 2010." (Part N – Socio-Economic Effects Assessment, Page 19-153)

"Ramona Lake will have a proposed drawdown of 45 m instead of the 10 m for Tyson Lake, and consequently a much larger area of lakebed sediment will be exposed." (Part N – Socio-Economic Effects Assessment, Page 19-154)

Sediment has been accumulating in Ramona Lake for at least 5,000 to 10,000 years. The "moderate" estimate of the amount of fine sediment in the proposed Ramona Lake drawdown zone is estimated at 259,052 tonnes. (A10 SREIP Overview Terrain Stability Assessment, Page 33)

"The analysis indicated that at all except very minimal drawdown levels the turbidity in Ramona Lake during the fall storm season (and on into the early winter) will be too high to be adequately diluted by the flows in Ramona Creek at design penstock flows." (A10 SREIP Overview Terrain Stability Assessment, Page 34)

"Even with reasonable levels of mitigation, there will be increases in TSS and turbidity. For most of the year, TSS will be in the order of 300 mg/L (roughly 60-70 NTU), well below MAC, but nevertheless undesirably high…. Given that BC Health issues *boil water notices when turbidity exceeds 5 NTU*, this is not a preferable outcome." (emphasis added) (Part N – Socio-Economic Effects Assessment, Page 19-157)

The dramatic increase in suspended solids and turbidity may have other significant effects on water quality and public health.

"High TSS (total suspended solids) could exacerbate total coliform counts." (Part N – Socio-Economic Effects Assessment, page 19-61)

"High TSS may not be the only water quality parameter of concern. Numerous studies have reported on the relationship between turbidity and both pathogenic and non-pathogenic organisms." (Part N – Socio-Economic Effects Assessment, Page 19-155)

Another concern identified in the reports is the possibility of acid rock and metals leaching into Ramona Creek.

"It is essential that an initial operating plan contains an assessment of the potential for acid rock drainage from the site." (A68 – Site Reclamation Plan, page 7)

Despite such an assessment being described as "essential", no on-site assessment has been conducted.

"The qualitative ARD/ML assessment was performed by completing an extensive desktop level examination…. Accordingly, no field site visit or sample collection/analysis was performed as part of the assessment." (A35 – Qualitative Acid Rock Drainage and Metals Leaching Assessment)

The proposals put forward to deal with these issues – public health, sedimentation, potential leaching – suggest that the authors are not familiar with the location of the properties that will be affected.

"If other forms of mitigation, for example, reduction of drawdown, erosion control of drawdown zone or water treatment, are determined to be, upon further study, unacceptable, a last resort is to obtain alternative water sources for the water license holders in Ramona Creek. Water could be diverted from an adjacent creek (such as Barbie or Clements), or even trucked in (sic)." (Part N – Socio-Economic Effects Assessment, page 19-156)

There is no road access to Narrows Inlet. You cannot truck in water. Even if water was brought in, there is no existing infrastructure to store it.

And, of course, providing other sources of water for property owners would do nothing to protect Ramona Creek habitat described as "critical to the health" of sea-run cutthroat.

Greenhouse gas emissions

The extraordinary and self-contradictory statements made by NI Holding Corp. regarding greenhouse gas emissions raise further questions about the company's credibility.

The company states, "Reduction of out-of-province GHG emissions and in-province gas-fired and other GHG by a large net amount. It is estimated that 12,000,000 to 19,000,000 tons of GHG emission is eliminated per year." (Introduction and project description, page 1-9)

Greenhouse gas emissions for the entire province are estimated by the government of B.C. to have been 62 million tons in 2010. (www.env.gov.bc.ca/cas/mitigation/ghg_inventory/#1)

Electricity production contributes just 2 percent of the total, or about 1.2 million tons. (www.livesmartbc.ca/learn/emissions.html)

We don't pretend to be experts, but given those numbers, it seems a bit much to suggest that this project could, all by itself, reduce British Columbia's total emissions by 19 percent to 31 percent.

And in fact, the claim is undermined in another portion of the submission: "At this time, because the fate of the generated power is unknown, it is not possible to determine the extent to which the

Project would offset carbon-intensive sources of electrical energy and greenhouse gas emissions." (Part C Environmental Assessment Methods and Scope, page 5-12)

In other documents, NI Holding Corp. presents varying estimates of how much the project will add to greenhouse gas emissions.

In Part C – Environmental Assessment Methods and Scope (page 5-11), the company estimates that 17,426 tonnes of CO2 equivalents will be emitted during construction.

In Appendix 24, Table 1, it estimates CO2 equivalents during construction would be almost twice as much, 30,812 tonnes. Table 2 estimates the emission of CO2 equivalents during operation at 70 tonnes per year.

Appendix 22 has a third number. It estimates total emissions during construction will be 135,000 tons of CO2 equivalents, including deforestation of 98 hectares and soil removal.

What else aren't they telling us?

Appendix 06 - First Nation Correspondence and Issues Tracker, reports on page 6, that Dan Soprovich and Dave Bates, representing the proponent, met with Sid Quinn and Jasmine Paul of the shíshálh First Nation on March 25, 2010. The document states:

"Dave noted that water temperature an issue of concern, citing Ramona where water would be drawn at depth. Dan and Dave discussed the approach of evaluating different scenarios for the assessment. Dan indicated that from his perspective should look at options from a biological perspective as well. Dave indicated that he would not sign off on Ramona at 90 m as a professional. Dave indicated that there are a lot of unknowns and that he has suggested the possibility of drawdown from the surface. Dave noted that there has been some shift in temperature for Tyson but that it is well within allowable limits for salmonids. Dan noted that the Ramona proposal, at 90 m, was for a permanent on average 11 m drop in lake levels for that scenario. Sid indicated concern over such a drop in lake levels. *Dan asked that information around these kinds of drops and scenarios be kept confidential*." (Emphasis added)

Such comments suggest the proponent is more interested in doing and saying whatever it takes to win approval for this project than it is in fully informing the public and meeting its obligations to the public interest. The current proposal is for a drop of up to 45 m in the level of the lake.

Conclusion

Narrows Inlet is a magnet for recreational boaters, kayakers, recreational fishing and hunting. It is home to a vast variety of fish and wildlife. All of this – according to environmental assessments prepared by the company that plans to build five power projects in the inlet – is at risk of "long term" degradation as high quality habitat is destroyed.

Ignoring risks, shifting the cleanup to future generations

The proponent dismisses these concerns as "not significant." The company says they can be reversed once the power plants are decommissioned, 75 to 100 years from now. It's like saying the thousands

of acres flooded by the WAC Bennett dam could be reclaimed if the dam is removed. It won't happen in our lifetimes. Nor will it happen in the lifetimes of the fish and wildlife that will be affected.

Long term damage to fish and wildlife habitat

Narrows Inlet is home to Roosevelt elk, grizzly bears, mountain goats, wolverines, mule deer, western screech owls, rare plant species, river otters, pacific salmon, herring, sea-run cutthroat trout, seals, sea lions, and many species of marine birds. Dolphins and porpoises are occasional visitors.

According to the company's own assessment, every phase of the private power project – construction, operation and decommissioning (if that ever happens) – will create long term harm to the habitat that supports all of these species and more.

High risk through every phase of the project

Roads will be constructed in areas with a 50% to 85% slope, creating a risk of landslides. In addition, according to a Cordilleran Geoscience report, "Due to the steep grades on the proposed roads/trails and the adjacency to Ramona and Barbie Creeks the sedimentation risk is considered high."

During the construction phase, barges and crew boats will roar through the Inlet 200 times a month, as will float planes and helicopters.

The magnificent spectacle of the Ramona Creek waterfall will be visually polluted by a powerhouse, tailrace and penstock.

Blasting and machinery noise during construction, and on-going noise from powerhouses will drive away birds and animals.

A beautiful alpine lake – Ramona Lake – will be transformed to a holding pond, and drawn down by as much as 45 meters to feed the powerplant. The proponent's own analysis says tonnes of sediment from the lakebed, exposed to erosion for the first time in thousands of years, will be too much for Ramona Creek to handle. Water quality will deteriorate, posing a risk to both fish habitat and public health.

This company has not earned public trust

All of this is especially worrying considering how this company has acted in the past. The company failed to take any action after a huge sediment dump at the existing Tyson Creek site until it was forced to do so by a public uproar. According to the company's own environmental assessment reports, the potential for damage from fine sediment at the Ramona site is even greater.

The Tyson Creek experience is clear evidence of this company's poor track record in managing environmental risks.

A cavalier attitude towards environmental damage

Throughout the volumes of reports it has prepared, the company admits that the proposed expansion of its power plants will harm Narrows Inlet for the long-term. It dismisses this harm as not significant, and reversible if the power plants are torn down. In other words, the company's position is that our great great grandchildren may be able to repair the damage.

This project should not go ahead. The expensive electricity it will generate is not needed. It will create wealth for a few, while imposing all of the environmental risks and higher electricity rates on the rest of us. And Narrows Inlet will be damaged for generations.