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Subject: Ontario Waterpower Association proposed amendment to the Class EA for Waterpower

I feel compelled to spend the time to respond to the proposed amendment to the Class EA for waterpower for four reasons:

1. The narrow public notification and limited information provided to the public,
2. existing infrastructures (e.g., dams) often have been imparting ongoing significant environmental effects for decades without mitigation,
3. the apparent removal of many potentially harmful waterpower projects from publically transparent environmental review process, and,
4. the high potential for significant collateral ecological damage if the existing and new impacts are not effectively mitigated.

This proposal is described as relating to “small projects” applying to existing infrastructure or facilities. The proposed new category would exclude a host of waterpower projects from the usual environment assessment process described in the Class EA for Waterpower, as long as the expansion of the footprint of existing infrastructure is by no more than 25%, and that electricity generation capacity does not exceed 2 MW. Instead, it is implied that existing environmental permits will somehow take care of identifying existing/new environmental concerns, and ensuring the required mitigation and monitoring is in place to avoid adverse impacts (if any). While these projects may be small in terms energy production, the breadth and significance of potential environmental impacts are not, both on an individual and cumulative basis, depending on the circumstances.

Firstly, we are told that a subset of 500 dams that currently do not produce electricity may qualify. But we are not told exactly how many there are nor where, and that information is very important. Please provide a more precise estimate of number of dams, (a subset of 500 could range from 1-499) and a map of these potential sites, I am certain such a map exists.

Secondly, it is simply not reasonable to suggest that the environmental impacts of existing infrastructure have already occurred. Some of the site specific impacts associated with initial construction may be over, but depending on circumstances, many significant impacts due to existing dams are still ongoing today, with no effort to mitigate them. Most of these dams/facilities were probably constructed 50 or more years ago, before environmental assessment processes were established. Likely many of the impacts have not even been formally identified, and most, if not all impacts have not have been mitigated. Adding turbines and operating these structures as waterpower facilities could seriously compound and exacerbate existing impacts, unless both existing and new impacts are identified and effectively mitigated.

Thirdly, the types of existing and new environmental impacts that can occur in this category are quite broad, ranging from impacts on water quality and thermal regimes to creation of barriers to migration, colonization and natural movements of aquatic fauna, to serious fish mortalities due to turbines and major changes in food webs and community structure. There may also be ongoing and new impacts on other human uses including canoeing, swimming, drinking water, and fishing. And there may be significant ongoing and new impacts on natural heritage and cultural values. Environmental Assessment (EA) processes were designed to identify and mitigate a breadth of issues, in a publicly transparent fashion. Permitting processes were not designed to perform these important functions, and they are often not publically transparent in how the conditions of approvals (if any) are developed. The permitting processes are good tools to legally implement the outcomes of EAs, but they were not designed to replace or perform their functions. Permitting processes cannot hope to always identify the breadth of impacts that may occur by redeveloping existing infrastructure into a hydro-electric facility, nor should we expect them to.

Fourthly, the prior existence of water management regimes and Water Management Plans is not re-assuring. The development of WMPs is in its infancy; initial WMPs often were not able to effectively address the thorny issues of ecologically sustainable ramping rates, minimum and maximum flows and levels etc. Certainly, they never address required infrastructure changes such as fish passage, screens and diversions, and have not yet adequately considered the recovery needs of species at risk.

I am not opposed to using existing infrastructure to generate electricity in the right circumstances. Well managed and mitigated waterpower facilities certainly should be part of the mix of Ontario's renewable energy production; however, the Class EA for waterpower is already flawed and weakened, and this proposal weakens it further. Attachment 1 explains my concerns in more detail. However, I also want to point out that water is not the only renewable resource involved. There are many other renewable resources (e.g. fish populations) that may be impacted by waterpower operations, and investments to mitigate any impacts from the project are essential to obtain the most benefits for Ontario citizens. Moreover, they make good economic sense. Waterpower projects can generate significant revenues for the proponent over many decades from water resources owned by the citizens. I am not opposed this if all interests are

considered transparently, and mitigation is effectively undertaken. Given the breath of impacts that may be involved in the proposal, an EA should always be carried out.

Finally, waterpower projects have been both long-lasting and far reaching in their effects on the environment. We have been experiencing unmitigated, ongoing environmental effects from many waterpower facilities for 50-100 years. It has proven very difficult to require/negotiate badly needed infrastructure changes for mitigation purposes after the approvals are issued. It is imperative, therefore, to identify and disclose all the significant effects transparently, and establish mitigation requirements before the facility has been approved. An EA is intended to do this openly and effectively, and should always be required when initially approving such projects.

To be clear, I am not opposed to using all existing infrastructure to produce electricity; some will make good sense I am sure, especially if existing a new impacts (if any) are effectively mitigated. However, I am opposed to the approval of such projects without at least running them through the Class EA for Waterpower (as flawed as it is). Given the environmental significance of this proposal, it is my strong opinion that it should at least be posted on environmental registry with considerably more supporting information and rationale. My preference, however, would be that this proposal or any subsequent iteration be abandoned entirely. It is simply not necessary or justified, and may serve only to perpetuate and further entrench existing environmental impacts, while exacerbating their effects by adding new, potentially serious impacts without the benefit of careful, sufficient and transparent environmental assessment, nor the benefit of careful discussions with other users.

Thank you for the opportunity to comment and I look forward to your response.

Sincerely'

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cc. Mr.Paul Norris (OWA), Mr. Gord Miller, Environmental Commissioner of Ontario,  
Honourable Jim Bradley, Minister of Environment

Attachments

## **Attachment 1. Analysis of Proposed Amendment to the Class EA for Waterpower**

### **General Impression**

I am disappointed and saddened by this proposed further weakening of Ontario's environmental assessment process, and I am concerned over the potentially serious outcomes depending on circumstances. While the proposed new category captures small projects in terms of electricity, they are not all trivial in terms of ecological impact. Depending on the species involved, where the structures/facilities occur and how they are operated, they still can seriously impede upstream migration and colonization of fish and mussel species, they still can seriously alter flows, they still can harm or destroy fish habitat for valued species and they still can alter water quality and thermal regimes. They can also impact other cultural, social and natural heritage values.

### **Public Consultation**

Once again I have to object to the manner in which this public notification was carried out – this time it was not even posted on the Environmental Registry so if MOE is expecting to get a broad range of public input it they will be disappointed. I understand there was Webinar hosted by OWA, but I and presumably most other members of the public did not see it nor know of it. I also understand that the consultation process follows the process outlined in the Class EA document; however, the described process does not preclude in way posting the proposed amendment on the Environmental Registry. Given the major implications of this amendment and potentially significant public interest, I have to ask why this was not posted on the Environmental Registry, please provide the rationale. Why was this proposal, with such major environmental significance, not posted when it could easily have been done? Clearly, MOE did not agree with OWA in its original assessment that this was a minor amendment. Had it not been brought to my attention by a colleague, I would never have known about it.

### **Environmental Implications of the Proposed Amendment**

#### **a) Overview**

The package posted on the OWA website in support of this proposal glosses over or completely ignores several serious environmental concerns. For example, and perhaps most serious, one of the QA's states:

Q: What are the expected environmental impacts associated with these projects?

A: These small projects will all use existing infrastructure where the original impact has already occurred. In many cases, the new investments made will improve the existing infrastructure, creating social and environmental benefits

Those unfamiliar with the situation could infer from the words "the original impact has already occurred" that the impacts are finished and no more impacts occur. In reality, many of the existing dams were built 50 or more years ago at a time when no Environmental Assessment (EA) was required and many of the impacts have never been mitigated. Instead, many of the impacts of existing infrastructure (i.e. dams) are **ongoing**,

they are not “over” or finished as implied or could be inferred; if this was the intent, it is mere spin<sup>1</sup>. Impacts at many facilities are not finished, they **continue** to occur (e.g., impeding fish passage/movement and impeding dispersal/colonization of watersheds by native mussel and fish species, alterations to natural flows and levels that have harmfully altered aquatic ecosystems; creation of reservoirs that change thermal and oxygen regimes, and trap and concentration of nutrients often leading to algal blooms etc.). In other words, the environmental baselines are not the conditions as they are today; instead, the baseline conditions are those that occurred before the existing infrastructure was built, and many of the impacts are not in the past or over, they still occur decades later. To suggest (as I have seen in Water Management Plans) that somehow “the system has already adapted<sup>2</sup>” to the impacts would again be spin. The loss/decline of species due to the effects of dams should not be described as ecological adaptations, these losses/declines are more accurately described as impacts – impacts that have not, but can be, mitigated.

#### **b) Impacts on Flows and Levels**

In another two of the QAs the proponent states:

Q: Can you explain how retrofits that have never produced electricity can produce electricity without a new operating strategy? (added August 27, 2012)

A: An existing water management regime will be in place regardless whether or not electricity is being produced. Retrofits involve using the existing infrastructure, premised on the existing water management regime and producing electricity.

Q: If there were not an operating plan in place, would a project still qualify under the proposed amendment? (Added September 12, 2012)

A: Where an existing operating plan is not in place under a water management plan (WMP) for example, the proposal would have to be premised on maintaining the existing flow regime and water level regime

Q: Daily average flows are proposed as the level of refinement when examining whether they are within daily operating bands. Will this permit significant modification to existing water management regimes? (added September 12, 2012)

A: No. Daily average flows will generally be used for compliance purposes for the project, once built, as is the case with the vast majority of existing waterpower facilities. The proposed amendment requires that projects be premised on the existing flow and water level regime.

I have several comments based on previous experiences. It is unclear what is meant by an existing water management regime, and it is important to note that WMPs are only applicable to dams that currently produce electricity, and not to other dams. The answer appears to gloss over and perpetuate problems that have been experienced in the past with

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<sup>1</sup> Spin = to cause to have a particular bias; influence in a certain direction

<sup>2</sup> Adaptation: Changes in an organism's physiological structure or function or habits that allow it to survive in new surroundings.

unclear terms and conditions regarding water management regimes or water management plans. The definition of water management regime needs to be clearly established (and indeed I would suggest be replaced by **existing hourly hydrological regime**.) The answer to the first QA above can only logically work sustainably if the facility is required to operate in accordance with the **existing hourly hydrological regime**. Moreover, the existing hourly hydrological regime must be used for compliance purposes as well. In this regard, it is important to note that most hydrological analyses are required to be conducted using instantaneous flows. This would reduce the ecological concerns over potentially wide and wild fluctuations in daily flows that have been permitted in the past, largely because of confusion over what is meant by “run of river” According to Natural Resources Canada, “Run of River” hydro-electric facilities *refer to a mode of operation in which the hydro plant uses only the water that is available in the natural flow of the river*,. “Run-of-river” *implies that there is no water storage and that power fluctuates with the stream flow*. Indeed, the IESO state that: *Natural gas and oil fuelled plants and hydroelectric facilities with water storage capability are considered "peaking" plants*<sup>3</sup> Other definitions include the possibility of limited storage.

Many facilities have been described or “sold” in Ontario as Run of River, but the term has not been clearly defined in policy, and thus open to interpretation. To the average person the term Run of River likely means no storage. Because of this lack of clarity, cycling and peaking often is permitted in run of river facilities as long as daily mean flows are adhered to, even though the approving agency may have been thinking in terms of the aforementioned Natural Resources Canada definition of run of river. Consequently, ecologically satisfactory conditions for minimum and maximum flows, levels and ramping rates etc. frequently have not been established in conditions of permits approvals. Cycling and peaking can have significant environmental impacts even though average daily flow conditions are met (e.g., Figure 1).

Another QA states:

Q: Is there a limit to the amount to the amount of cycling that would be permitted for the station to operate? (added August 27, 2012)

A: In order to be included in the category, the proposed project would have to be premised on the existing water management regime. Approvals under the Lakes and Rivers Improvement Act will define the operating requirements for compliance purposes.

This question is very important, but the answer is concerning and tells us little, and probably never will. There is no requirement to involve the public in the development of the conditions of an LRIA permit; they have almost always been negotiated internally between agencies and proponent. In the rare instance where the conditions may be made public, the conditions have already been agreed to, and public consultations at this stage is ineffective; it more a notification than consultation.

Conditions for ecologically satisfactory ramping rates, ecologically satisfactory minimum and maximum flows, and ecologically satisfactory levels need to be clearly defined and

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<sup>3</sup> <http://www.ieso.ca/imoweb/marketdata/gendisclosure.asp>

developed in conditions of approval, with transparent and clear public input. Unfortunately, these often have been overlooked within permits and WMPs leading to significant impacts. Indeed, there are existing WMPs which have overlooked entirely, refused to consider or have been unable to deal with establishing ecologically satisfactory minimum, maximum flows or ramping rates. The existing water management regimes (whatever is meant by this term) still have a long way to go to protect the environment, and WMPs are far from re-assuring; they are still in their infancy. Adding more facilities to such watersheds without such clear and transparently developed conditions for instance, will only perpetuate and exacerbate existing problems.

Minimum and maximum flows and level and ramping rates could and should be developed with full public participation through an EA process. There is no assurance that the public will be involved in their development through the permitting process, and given past experiences, it appears that they will never be satisfactorily developed in many instances, especially whenever there is controversy with the proponent. When asked about one WMP that did not contain clearly needed established minimum flows to protect certain fish species, the response was “the WMP was developed in accordance with WMP policy”. Therefore, it is not comforting to indicate that “an existing water management regime will be in place regardless whether or not electricity is being produced” As some of these situations have arisen under the existing Class EA and WMP policies and procedures; I can only assume that the potential for more unsatisfactory conditions of approval (or no conditions at all) is increased under the new category where no EA would occur. Recently, a senior hydro-electric power developer in Ontario was quoted in a recent Outdoor Canada article to say “As for species that thrive in fast-moving water, they’re going to have to find a new place.” What does that comment indicate about the potential to include ecologically sustainable flows as permit conditions or within WMPs?

### **c) Broad Array of Effects that are Highly Cumulative**

The addition of turbines and operation of existing structures as waterpower facilities has the potential to perpetuate and substantially exacerbate the existing impacts of existing structures, and to add to the cumulative impacts of existing structures and similar facilities on a watershed by: (a) significantly altering the daily flows and levels, (b) altering the retention time of water, (c) causing turbine mortalities, (d) adding to erosion and sedimentation by wide fluctuations in flows etc. To be clear, the potential is to significantly exacerbate many of the ongoing and cumulative effects of dams and waterpower on a watershed, unless the both existing and new effects on the environment are identified and effectively mitigated. The types of existing impacts are very broad, ranging from changes in thermal regime and water quality to prevention of natural in-stream movements, to complete exclusion or significant impediments of access and colonization/dispersal by many aquatic species to important habitat upon which their lifecycle depends. The best and most transparent way to understand which of the potentially wide array of impacts on a watershed, and to develop effective mitigation strategies, is through a well-developed EA.

In view of the broad range of potential impacts and the potentially significant public interest in these redevelopments, an EA should always be required for such projects to identify existing and new concerns, and provide mitigation direction, regardless of the generation potential of the facility. Permitting under other legislation does not normally provide a broad enough review of the range of potential impacts, nor does it provide for or ensure sufficient public consultation in issuing such permits. In fact, opportunities for public consultation in the permitting process have been minimal or non-existent. This is understandable for routine permits, such as permits to undertake basic maintenance or install safety infrastructure, but it is not satisfactory for major undertakings such as redevelopment of an existing dam into a hydro-electric station with potentially significant impacts on the environment and impacts on other uses of the watershed (e.g., canoeing and kayaking, swimming, fishing, drinking water etc.). EAs are designed to capture the broad range of impacts, and provide for strong consultation; permitting processes are not. Often the permit that will be used is under the LRIA, and recently all of the environmental guidance contained in the earlier versions of the LRIA Technical guidelines has been removed in the most recent version. This is not re-assuring to say the least.

Past experiences with issuance of notifications for public input under the Class EA for Resource Stewardship for certain permits have been especially bad, leading members of the public to question the sincerity of the consultation exercises.: The notifications have been far too restrictive in geographic extent, do not respect the time commitments for the public, and provide minimal/insufficient information provided to enable effective commenting; often there is no follow-up with respondents that attempted to provide input. For example, it has been more than a year since I and many others responded to several ESA Agreement notifications and I have yet to see a final response back from MNR. The scenarios involved in any redevelopment of a dam into a waterpower facility can be complex, with significant environmental and social implications. Thus, public consultation should be undertaken with face to face workshops in these situations, but in my experience these are rarely undertaken in permitting exercises, but almost always conducted during an EA.

#### **d) Size of Footprint**

The proposed amendment indicates that projects that will increase the footprint of the facility by 25% or less will fall into this category. However, there is no clear indication of how this will be calculated. The answer given in the QAs is not precise and will lead to many problems later. This must be clarified before the proposal proceeds any further; it is not sufficient to deal with this or any other potentially contentious issue after approval is granted. Secondly, a 25% increase in the footprint is huge and, depending on the site, could have major impact. The permitting exercises should be able to handle the short term construction impacts, but an EA should be carried out to identify and establish mitigation for longer term impacts due to the increase in footprint.

#### **e) Summary**

The point is that the severity of impacts by such projects can vary depending (1) on their location within a watershed, (2) the existing and new impacts on watershed,(3) the species involved, (4) how they are operated and (5) how or if the effects are mitigated. There may or may not be significant environmental effects on an individual project basis depending on individual circumstances, but given the potentially substantial, ongoing impacts by existing structures, and potentially significant new impacts that arise when operating the structure for waterpower (e.g., turbine mortalities, impacts on flows and levels, uncertain allowances for peaking, effects on spawning and nursery habitat etc.), the risks are high, especially on a cumulative basis. Therefore, thorough environmental assessment, including broad aboriginal/public consultation from the diverse range of interests, is very important to identify and establish mitigation needs for both ongoing and new environmental and biodiversity impacts. It is insufficient to say that review processes such as the LRIA and ESA permitting processes will cover these concerns off sufficiently because, as noted earlier, the effects can be quite broad and it is doubtful that the permitting legislation will deal with all of the parameters that will need examination. Further, there appears to be no requirement to post LRIA permits (or other permits) on the Environmental Registry for comment (this is a flaw that must be fixed in the EBR itself), and it is my understanding that ESA agreements for waterpower do not need posting. Posting of many of these permits and agreements is voluntary and discretionary, as was posting of this notification of this EA amendment (and we have seen what happened in this instance – it was not posted on the Registry).

The deferral of environmental concerns to other legislation, having less broad purposes/mandates, provides no assurance to the public and other interest groups that all significant environmental impacts will be identified, much less mitigated. Further, there is no assurance that the public and other interest groups will even be notified of such projects, much less be given the opportunity to comment effectively on any conditions of approval. Permit conditions are normally first negotiated internally between the proponent and government agencies. Therefore, the negotiations of permit conditions are usually subject only to external concerns/pressure of the proponent having vested interests; whereas other members of the public and other interests appear to have no or limited opportunity to provide input. If other interests are given an opportunity to comment, it is usually **after** the conditions have been negotiated internally between agencies and the proponent, public consultation at this stage appears insincere, and will likely be ineffective. It is often a tick the public consultation box exercise.

### **Other Rationale for the Proposed Amendment**

The apparently benign before and after pictures provided in the OWA slide deck in support of the proposed Class EA amendment masks many of foregoing underlying concerns that may or may not be involved with individual projects. The photos provided are of a facility on the Moira River. The infrastructure was built before fish passage was much of a concern, and there is no provision for fish passage at this structure. This structure is at the mouth of the river and impedes migratory fish from entering the river. Historically Atlantic Salmon, American Eel, Lake Sturgeon, and Walleye would have used this river. Another more sombre scenario is illustrated in Figure 1, which provides a series of before and after photos at another facility. The Figure 1 scenario has been

allowed to occur within a daily mean flow operating scenario. It has a nameplate capacity of 3 MW but seems to operate at around 1.5 MW. This scenario is not acceptable ecologically, and occurs largely because of confusion introduced over the definition of run of river (this facility was promoted as a run of river, Appendix 1 a, b). Apparently, as long as daily mean averages are complied with, this scenario can legally occur. Inadequate conditions exist for ramping rates, minimum and maximum flows. This scenario has obvious environmental concerns associated with it and occurred under the existing Class EA and other permitting procedures. Clearly the existing proponent-driven Class EA and agency permitting review/approval mechanisms is deficient, and the new proposed category will only further weaken environmental protection for waterpower.

In another QA it is stated that:

Q: Why is this change being proposed?

A: Projects subject to this amendment are small in terms of their electricity generation capacity (2MW or less) and have infrastructure that is already in place. The proposal encourages new investment in this existing infrastructure

First, the generation capacity of a facility has little to do with the significance of the impact that may or may not be involved with individual projects. Second, it is not clear how this proposal encourages new investment – is it by minimizing the EA requirements? It is my opinion that if the project cannot afford to undertake basic environmental assessment, then it should not proceed. EA's should not be viewed as a deterrent to development; they are there to ensure that development proceeds sustainably, with effective mitigation. The resources being protected are highly valuable and renewable; but in some instances may not be replaceable if lost. Moreover, these resources have extremely important cultural and natural heritage values. Investing in their protection and improvement makes sound economic sense; it is in the best interests of the Ontario and its citizens.

### **Concluding Remarks**

Whenever there is a risk that the consequences of a proposed action may be severe, repetition of the key points is merited and I have done so herein. This proposed amendment needs to be clearly and carefully thought through. I am highly supportive of exercises that reduce needless red tape and encourage investment in Ontario's resources, but not at the further expense and compromise of our beleaguered aquatic ecosystems. As you know, Ontario's watersheds and aquatic ecosystems have been particularly and especially compromised in southern and eastern Ontario by a century or more of unmitigated development, and yet these are the regions we are told where many of these projects would occur, without full EAs. Moreover, dams/waterpower facilities are known to have been key causal factors in province-wide extinctions/dramatic reductions of formerly important species such as Atlantic Salmon, Lake Sturgeon and American Eel in Ontario.

Indeed, the cumulative impacts of dams and waterpower on fish and aquatic ecosystems are legendary throughout North America. But at least in the U.S. there are strong efforts to go back and mitigate past or on-going environmental effects through the FERC re-

licensing process, or indeed remove existing facilities entirely. There are also efforts to redevelop dams for hydro in the U.S... It is my opinion that publically transparent EA processes that enable identification and mitigation of ongoing and new impacts, must remain in place for this category of facilities. Furthermore, based on Ontario's poor environmental track-record with waterpower facilities, these processes should be significantly strengthened, including cumulative effects assessment. They should not be weakened substantially, as this proposed amendment does.

Whatever the process ultimately adopted, it must ensure strong, effective environmental assessments, effective mitigation, and transparent communication and engagement with First Nations, stakeholders other than the waterpower industry, and the general public. In addition, assessment of cumulative effects should be mandatory. These groups should be given the opportunity to know in advance of these proposals; they have the right to thoroughly understand the projects and any potential impacts on other values (including and potential trade-offs), and to provide meaningful comment and input early in the process. Unless the wording is tightened up in this proposal, it has the potential to cause a significant step backwards. Under the permitting scenario proposed, past experience suggests that there is no certainty that Ontario citizens may ever know of an individual project until it is well under development, much less have an opportunity to effectively comment on the conditions of approval. Moreover, permitting exercises do not deal with the broad array of impacts that may/are occur, and there is no certainty that some impacts will be even be identified, much less mitigated.

Finally, my comments are based on the limited materials made available to the public; I expect there is additional information that has not been provided that would be important to carry out a more thorough review. The devils are clearly in the details of this proposed amendment, and the details are sadly lacking. I do not support the proposal based on the foregoing, and based the limited information available – the permutations and combinations of the various environmental impacts that could be captured and ignored from an EA perspective in this proposed category appear endless and significant, as long as there is less than 2MW of generation capacity, and as long as the footprint does not exceed an undefined 25%. If there is more information, I will be happy to look it over, but I am not suggesting that I endorse the proposed amendment in any way. I am certain that this proposal can be substantially modified so as not to capture such a wide array of potentially significant ecological impacts, but this version is inadequate. Unless I see stronger rationale and more detail, it is my view that any such amendment is unnecessary.

The use of existing infrastructure to produce power makes sense in some situations, but this will depend on many circumstances as outlined above, including (but not limited to) where in a watershed it is proposed, what species are involved, how it will be operated and the existing human uses. A proper EA should flesh these out and deal with them transparently. I am not opposed to well-managed, effectively mitigated waterpower projects, depending on local and cumulative impacts. But surely a more strategic approach can be developed for waterpower projects, beginning with the initial site release process. This strategy should identify first where across the province it makes ecological sense to even consider a waterpower project, and where it does not. The strategy should

also ensure that all existing and new impacts are considered regardless of generation capacity or size of footprint. And it should ensure that cumulative ecological and social effects are effectively considered and mitigated.

In closing, I am asking how this proposed EA process compares to whatever EA processes are required for government owned dams (such as those owned by MOE and MNR)? The Class EA for Resource Stewardship notes a requirement to consider cumulative effects, the Class EA for waterpower does not. As this is almost certainly a disposition of Crown Resources, how is this disparity reconciled? I am also asking for a more precise estimate of how many of the existing dams in Ontario would meet the proposed criteria for this category, and where they are. A map of these potential sites would be useful, if there is a sincere intent to engage the public and First Nations.

I trust that the various Ministries will exercise the precautionary principal and carefully consider their respective SEVs in the course of the final approvals process for this amendment. I think that this proposal needs to provide substantially more detail, clearer rationale and significant refinements in terms of what types of projects are captured in the category. Regardless, I do not feel that any amendment of this nature is necessary, and should not even be considered. The Class EA for Waterpower needs to substantially strengthened, not weakened.

Given the wide range of social and environmental implications, I request that this proposal and any subsequent iteration be formally posted on the Environmental Registry and that much more detail be provided. I also suggest that given the relatively small amount power generated at each site, a broad assessment of the environmental and social costs vs. the benefits be undertaken at each site. The lack of a strategy and cumulative effects assessment have been key reasons for the currently wide range of impacts experienced from dams and waterpower. Certainly, there no need to simply to trade off one resource for the other without even attempting to mitigate (1930s thinking), and there is no need perpetuate or exacerbate existing impacts. However, for the aforementioned reasons, I am not at all confident that this will not occur if this proposed amendment is approved.

I have spent far more time on this than I intended, but I wanted leave minimal room for misinterpretation of what I am saying. Hopefully it is clear. Feel free to contact me if you have questions. I look forward to your response.

Figure 1. Before and after photos of a recent hydro-electric facility operating under a regime of daily average flows and operating at 1.5 MW (nameplate capacity 3MW)

Before



After (a)



After (b)



**Appendix I. (a) Press Issued by CREC in 2004 indicating that the Facility Depicted In Figure 1 was to be Run of River of Construction with no Dam or Flooding (see grey high-lighted paragraph). The name of the facility has been purposefully blacked out as the intent here is not to create controversy over individual facilities; this facility is only depicted as a recent example of a much broader problem.**



**Attn: News Editors**

## **PRESS RELEASE**

**Canadian Renewable Energy Corporation partners with CANADIAN HYDRO DEVELOPERS, INC. to develop 540 MW of Wind Power in the Kingston and Lake Huron regions, Ontario, Canada.**

**Mississauga, Ontario, Canada – April 1, 2004:** Canadian Renewable Energy Corporation (“CREC”) today announced that it has entered into an option agreement (the “Agreement”) with Canadian Hydro Developers, Inc. (“Canadian Hydro”). CREC has granted Canadian Hydro an option to jointly develop the Wolfe Island Wind Project, a potential 300 MW wind power project located on Wolfe Island, near Kingston, Ontario. In addition, Canadian Hydro has granted CREC an option to jointly develop the potential 240 MW Melancthon/Grey Highlands Wind Project previously announced. Included in the Agreement is an option for CREC to acquire 50% of the Corporation’s 10.9 MW Ontario hydroelectric plants on or before December 31, 2004. CREC’s partnership with Canadian Hydro brings the resources and expertise of both companies to Ontario to develop windpower. Financial terms of the Agreement are confidential.

CREC expects to both bid these projects and, independently, several waterpower projects, into the upcoming request for proposals (“RFP”) for up to 300 MW of renewable energy capacity that was recently announced by the Ontario Government. It is anticipated that the Ontario Renewable Portfolio Standard (“RPS”) RFP will be issued in the Spring of 2004. The Ontario Government has targeted 5% (1,350 MW) of all generating capacity to come from renewables by 2007.

The Wolfe Island Wind Project is expected to be comprised of five 60 MW phases. Land for the project is currently being assembled under option to lease agreements, wind data has been collected in the area, interconnection approval is currently underway with the Independent Electricity Market Operator, and the project is registered and has met the basic eligibility criteria that will allow it to apply for the Federal Government Wind Power Production Incentive (i.e. payment of \$10/MWh for 10 years if project is commissioned before March 31, 2006; \$8/MWh for 10 years if project is commissioned after March 31, 2006, but on or before March 31, 2007). Regulatory approvals, long-term

power sales contracts and financing are required prior to proceeding with this project. “Wolfe Island has some of the best wind regimes in Ontario and both CREC and Canadian Hydro are elated both with the opportunity and the local support for this wind project” said Ian Baines, President of CREC.

“CREC has invested over \$10 million in Ontario building new green generation and has added 17 GWh to the Ontario grid. Premier McGuinty’s and Minister Duncan’s plan to encourage clean renewable energy has justified our four year commitment to the Ontario market” said Uwe Roeper, CEO of CREC. CREC hopes, pending an RPS award, to start construction in 2004/2005 on its wind and waterpower projects, investing an estimated \$200 million and creating employment throughout the province.

ARC Canadian Energy Venture Fund 2 and ARC Canadian Energy Venture Fund 3 (the “Funds”) own approximately 89.4% of the voting shares of CREC. ARC Canadian Energy Venture Fund 2 owns approximately 9.4% of Canadian Hydro.

### **About Canadian Renewable Energy Corporation**

CREC was formed in 2000 and is dedicated to the development of renewable energy resources in the province of Ontario. CREC is 100% Canadian owned and is based in Mississauga, Ontario. Its majority shareholder is the ARC Financial Corporation (for further information please go to [www.crec.ca](http://www.crec.ca)).

CREC built the only new Greenfield renewable waterpower plant in Ontario since market opening. CREC’s ██████ generating station (“█████”) is a 3 megawatt (“MW”) renewable energy plant that was commissioned in April 2003. ██████ produces enough electricity to power 1500 homes. ██████ is a run-of-river type construction (i.e., no dam or flooding), which utilizes an underground tunnel to channel the water to its powerhouse at the base of the falls.

CREC is currently focused, with its partners, in developing 300 MW water and wind power in Ontario by 2007.

### **About Canadian Hydro Developers, Inc.**

Canadian Hydro is a developer, owner and operator of low-impact renewable power plants, which are all certified under the EcoLogo program. The Company’s future projects, including the Grande Prairie EcoPower Centre, Pingston Expansion and Upper Mamquam Hydroelectric Projects are slated for certification as low-impact renewable energy facilities.

Canadian Hydro Developers, Inc. is passionate about meeting the goals of investors and the needs of the environment. As industry leaders, Canadian Hydro is focused on building a sustainable future for Canada and with over 14 years’ experience, Canadian Hydro is the working model for the unlimited development potential of low-impact renewable energy

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**Appendix I B) Excerpt from a consultants document indicating that this facility was to be Run of River (or at least described and promoted as Run of River)**

**“PROJECT DESCRIPTION**

It is a run-of-river, greenfield project, Consisting of the following structures .....