



*Watching Out for BC's Wild Salmon*

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**RE: Comments on proposed Concept Outline for the California Renewable Electricity Standard**

Dear Mr. Collord:

The Watershed Watch Salmon Society (WWSS) is pleased to submit our comments on the proposed Concept Outline for the California Renewable Electricity Standard (RES Concept Outline).

The mission of WWSS is to catalyze efforts to protect and restore British Columbia's (BC) precious wild salmon. Through scientific expertise, strategic alliances, outreach programs, and innovative projects, Watershed Watch is at the forefront in BC and in the Pacific Northwest, sounding the alarm on threats to salmon and their habitat, and in promoting actions to help them.

We commend your agency and the State of California for taking steps to reduce reliance on carbon-emitting electricity sources; however, we fear that the potential exists for the further devastation of BC's watersheds that could result as companies line up to exploit California's laudable efforts to meet ambitious targets for renewable energy.

The RES Concept Outline is dealing with California's apparent determination to be a global leader in shifting an advanced society and economy from a reliance on fossil fuels to one with a significant portion of its electricity derived from renewable resources. Governor Schwarzenegger's Executive Order (EO) S-21-09 directed the Air Resources Board (ARB) to adopt a regulation by July 31, 2010, which would ensure that energy sellers would meet the requirement of earlier EO S-14-08 that 33 percent of their load would be served with renewable energy by 2020.

We are sympathetic to the challenges, applaud the goal, and offer these comments to assist you in meeting your objectives without facilitating undue damage BC's aquatic ecosystems.

We are concerned about a number of points, which we discuss below.

A caveat: we note that as the RES Concept Outline is a high-level, non-specific document, in which the numbers provided are illustrations only, and not intended to be precise, likewise in our comments we have not aimed for evidentiary-quality precision, nor have we provided sources for assertions in the letter. As listed in the RES Concept Outline, subsequent documents will be developed and opened up for comment over the coming months. We intend to provide more detailed comments on some of those drafts, as appropriate.

*The following four points are feedback specifically on 2.a Eligible Resources and 2.c Geographic Eligibility, both on page 10 in the RES Concept Outline*

### **1. Overstatement of BC's small hydro potential**

The renewable electricity potential of British Columbia has been overstated, particularly with “small” hydroelectricity. In the last eight years, the number of small hydro projects with electricity purchase agreements (EPA) with BC Hydro, the provincial electricity utility, has multiplied from a handful to 89. Up to 5000 GWh of new EPAs will be announced shortly. The most recent study of the generation potential of BC's streams indicated that some 2000 projects could be developed generating power for under \$300/MWh, and that 8000 streams in total are candidates for small hydro. Furthermore, over 700 streams have been “staked” with water application licenses by independent power producers (IPPs) in the province. These numbers all foster the impression that BC has enormous generation potential on its small streams, which could lead to a renewable energy strategy in California which cannot be realized.

The fact is that attrition is extraordinarily high on these projects, with half of the EPAs signed by BC Hydro having been cancelled, generally because costs were understated by the IPPs, most likely in order to “win” in the bidding process for EPAs.

BC Hydro is constrained by provincial legislation and government orders to purchase all of the power generated by an IPP. The firm power acquired is intended to match the forecast domestic load, and the non-firm power is earmarked for export sales. This means that BC's capacity to deliver firm power to California is compromised. Non-firm renewable power is variable, and while the province may have the capacity to meet export energy commitments, it may have to do so from energy resources which clearly do not meet California's renewable energy criteria. For example, electricity could be sourced from BC's “heritage resources” – the large dams - or even natural gas-fired facilities.

Many of the proposed small hydro projects in BC exceed 30 MW, which is the California RPS threshold for renewable electricity. There is a large group of projects hovering just under 50 MW, and some have capacities greater than 100 MW. One is 700 MW. These will all qualify as renewable energy in BC and are included as potential supply for California. It overstates the potential considerably, as none would qualify in California.

### **2. Greater environmental and economic costs**

The environmental and economic costs of new “small” (and we qualify this because many projects are anything but small) hydroelectricity generation from BC are greater than might be assumed. In 2008, BC Hydro expected to pay \$120/MWh for firm power from new small hydro projects in BC, delivered in the province. With line losses and wheeling costs to California locations, those costs will be even greater. Even at that, many projects get no further than the EPA because the company cannot deliver electricity at the agreed upon price.

Environmental assessments (EA) in BC are the focus of continued criticism from environmental groups in the province, because they issue permits for projects in which environmental impacts are significant, habitat and species destruction will take place, and in particular, flow-levels in streams during low water periods are, in the view of many fisheries biologists, unacceptable.

Recent proposals are for clusters of small hydro projects, either on a primary stream, or a coastal inlet. These are not sufficiently evaluated in an EA for the cumulative environmental impact, but instead are each dealt with separately. Similarly, if there is a logging operation and a mine proposal in the same watershed, each will likewise be evaluated separately. The concept of cumulative environmental impacts has been consistently omitted from the province’s Environmental Assessment Act, which was re-written and thoroughly weakened in 2002.

Only projects 50 MW or greater receive an EA. Smaller projects receive more cursory reviews for specific permits and licenses required to construct a small hydro project, but the various review processes are not integrated, the information is not public and transparent. This is why so many projects have a nameplate capacity of 49.9 MW and less.

Projects under 10 MW fall into BC Hydro’s Standing Offer Program, which is a streamlined function designed to approve projects with minimal bureaucratic fuss and environmental screening.

With respect to the hundreds of streams which could generate renewable electricity, most of the “cherry-picking” in the province has ended, and IPPs are now proposing projects on more remote streams, more fish-bearing streams, and more marginal flow regimes. The consequences are longer transmission lines through wilderness, greater habitat loss and species impacts, and lower firm energy potential.

*The following paragraph is feedback specifically on Appendix 3 RES Generator GHG Factors, on page 21 in the RES Concept Outline.*

Transmission infrastructure necessary to deliver small hydro power is a serious issue with these projects. . Within BC, some projects are being proposed which are hundreds of kilometres from the Western Interconnect, and well over a thousand kilometres from California’s nearest major load centres. The unavoidable line losses in wheeling over such distances must reduce the RES GHG factor for this power. PG&E has proposed the Canada/Pacific Northwest – Northern California Transmission Line Project, estimated at

\$4.5 billion to develop, and if it is pursued, we believe that it will be unable to realize a high level of use from BC's renewable energy. It will only be cost-justified by backstopping the renewable energy with dirtier power. Resources such as these, "which are less stable and require additional thermal support [should] receive a smaller RES GHG factor".

### **3. Retain the existing RPS and eligibility guidelines**

California's current Renewable Portfolio Standard (RPS, or SB 1058) and eligibility guidelines require that eligible small hydro facilities must be no more than 30 MW and not have an adverse impact on instream beneficial users. Also, energy generated outside of California must have no greater environmental impacts than would be allowed if the project were built in California. PG&E has argued that the RPS eligibility threshold should be raised to 50 MW and that BC's EA processes, legislation, and regulations should be accepted for RPS as equivalent to California's. Reducing the RPS environmental criteria for projects outside of California would be tantamount to exporting environmental impacts. Thus, we strongly recommend that none of the above RPS criteria be changed.

### **4. The proposed RES regulation could undermine California's RPS and the California Global Warming Solutions Act of 2006 (AB 32)**

There are significant economic opportunities which can come with a shift to renewable energy. The enabling legislation for California's aggressive move to 33% renewable electricity by 2020 – SB 1058 and AB 32, along with EO S-14-08 and EO S-21-09 – recognized this, and each contains language emphasizing these opportunities. The intent is to invest the capital, build the infrastructure, create the jobs, and keep the jobs, all in California. It is good for California's economy, society, and environment.

Electricity acquired from outside the state in meeting the 2020 renewable targets, undermines the economic benefits in California, although we recognize that the targets may not be achievable without importing power. Electricity purchased from BC is primarily a benefit to the companies which generate that power. Most of those are neither from California, nor from British Columbia. And every penny paid in California for BC's electricity will be paid for by a California resident or business.

Hydro generation in BC has adverse and in many instances, unacceptable, environmental impacts. Therefore, a RES regulation in which electricity imports from BC's new small hydro projects comprise a necessary part, in addition to becoming an avoidable economic burden for Californians, increases the likelihood of environmental impacts in BC. A decision in favour of increased small hydro electricity from BC will expose BC's exquisite environment, its magnificent streams, wildlife, and fish, to adverse impacts – California will, in effect, be exporting environmental consequences to BC.

This is expressly what is not intended in the Renewables Portfolio Standard Eligibility Guidebook published by the California Energy Commission: It requires that an out-of-state facility "does not cause or contribute to any violation of a California environmental

quality standard or requirement within California” and that “if located outside the United States, the facility is developed and operated in a manner that is as protective of the environment as would a similar facility be if it were located in California.”

A reliance on new hydro from BC falls well short of the goal articulated in AB 32, which is to “to minimize costs and maximize the total benefits to California.”

As global citizens who share your concerns with climate change and GHG reduction, and on behalf of British Columbia’s already imperiled rivers and streams, we thank you for considering our comments.

Yours truly,

A handwritten signature in black ink that reads "Craig Orr". The signature is written in a cursive style with a large, stylized "C" and "O".

Craig Orr, Ph.D  
Executive Director

## Reference Documents

California Renewables Portfolio Standard Program (RPS or SB 1058)  
Senate Bill 1058  
September 12, 2002  
<http://www.energy.ca.gov/portfolio/documents/SB1078.PDF>

Executive Order (EO) S-14-08  
November 17, 2008  
Sets out 33% renewable target by 2020  
<http://gov.ca.gov/executive-order/11072/>

EO S-21-09  
September 15, 2009  
ARB to design regulation to meet 33% renewable by 2020  
<http://gov.ca.gov/executive-order/13269>

Global Warming Solutions Act of 2006 (AB 32)  
September 27, 2006  
[http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab\\_0001-0050/ab\\_32\\_bill\\_20060927\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf)

Proposed Concept Outline for the California Renewable Electricity Standard  
California Air Resources Board  
October 2009  
<http://www.arb.ca.gov/energy/res/meetings/103009/resconceptoutline.pdf>

Renewables Portfolio Standard Eligibility Guidebook  
January 2008  
California Energy Commission  
<http://www.energy.ca.gov/2007publications/CEC-300-2007-006/CEC-300-2007-006-ED3-CMF.PDF>