STATE OF CALIFORNIA - THE RESOURCES AGENCY
BEFORE THE
CALIFORNIA ENERGY COMMISSION (CEC)

Docket No. 11-RPS-1

STAFF WORKSHOP ON BRITISH COLUMBIA RUN-OF-RIVER HYDROELECTRIC PROJECTS STUDY

California Energy Commission
Hearing Room A
1516 9th Street
Sacramento, California

Friday, March 22, 2013
9:30 A.M.

Reported by:
Peter Petty

APPEARANCES

STAFF

Brian McCollough

ALSO PRESENT (* Via Phone)

Consultants on Report:

Emily Capello, Aspen Environmental, Inc.
Suzanne Phinney, Aspen Environmental, Inc.

Public Comment

*Keith Nakatani, California Hydropower Reform Coalition
*Paul Kariya, Clean Energy Association of B.C.
*Gwen Barlee, Wilderness Committee
*Arthur Caldicott, B.C.
*Lanni Keller, B.C.

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1 P R O C E E D I N G S

2 MARCH 22, 2013 9:31 A.M.

3 MR. MCCOLLOUGH: Good morning. Welcome to the
4 workshop regarding the British Columbia Run-of-River
5 Facilities in the California Renewables Portfolio
6 Standard, a staff workshop that we are holding in
7 accordance with statutory direction provided in Senate
8 Bill SBX1 2.

9 Welcome not only to our participants who are
10 here in person, as well as to those who are
11 participating via WebEx. For those here in person, a
12 quick note -- housekeeping issues -- restrooms are right
13 outside. In the event of a fire alarm, please follow
14 staff to Roosevelt Park diagonally across the street.
15 And there's a snack bar and coffee on the second floor.

16 The goals of today's workshop are to discuss the
17 draft report of the regulatory requirements for
18 including British Columbia Run-of-River hydroelectric
19 facilities in California's RPS, as well as to develop
20 additional considerations based on information and
21 comments from stakeholders.

22 And we will begin with a presentation by Energy
23 Commission staff, and then we will take comments from
24 participants here in person, then phone-in, and then
25 WebEx participants.

1 This meeting is being recorded via WebEx and we
2 do have a Court Reporter, and so a transcript will be
3 available.
4 We heartily encourage comments to be submitted
5 in written form, and instructions are at the end of the
6 presentation, as well as in the notice, and by 4:00 p.m.
7 on April 5th.
8 And so I will begin by discussing, before we
9 dive into British Columbia, California's Renewables
10 Portfolio Standard, which is my area of expertise. And
11 the Renewables Portfolio Standard began in 2002,
12 requiring electricity providers, retail sellers, to
13 procure 20 percent renewable energy by 2017, and that
14 was subsequently increased twice, first to 20 percent by
15 2010, and then finally in April of 2011, Senate Bill 1X2
16 was signed by Governor Brown, bringing the target to 33
17 percent by 2020 for all utilities, both retail sellers
18 and publicly owned utilities.
19 Senate Bill 1X2 also introduced a new concept of
20 Portfolio Content Categories, dividing the electricity
21 products that can be used to meet California's RPS into
22 three categories based on how those electricity products
23 bring electricity to California.
24 And the first category, Product Content Category
25 1, are those products that are either interconnected

1 directly to a California Balancing Authority, and hence
2 provide electricity directly to California, or that are
3 scheduled into a California Balancing Authority without
4 substitution within the hour, or have a Dynamic Transfer
5 Agreement. This has a minimum requirement that starts
6 with 50 percent of the renewable requirement in 2013,
7 and escalates to 75 percent of the 33 percent RPS goal
8 in 2020.
9 Then Product Content Category 3 are electricity
10 products that do not qualify under Categories 1 or 2,
11 and these have a restriction on the maximum amount of
12 those available that includes that RECs would start at
13 25 percent in 2013, and then decrease to 10 percent in
14 2020.
15 The remainder fall into Product Content Category
16 2 and include electricity that can't be delivered within
17 the hour that it's generated, so firmed and shaped
18 products would fall under this category.
19 Then, also of course in Senate Bill 1X2, it
20 directed us here at the Energy Commission to conduct
21 this study, and we are fulfilling this requirement with
22 this workshop. We were directed to study and provide a
23 report to the Legislature that analyzes Run-of-River
24 hydroelectric generating facilities in British Columbia
25 and whether they are, or should be, RPS eligible. And

in doing so, we must consider the effect that the inclusion of these resources would have upon carbon dioxide emissions, emissions of air pollutants, water quality, recreation and fisheries, and any other environmental impact caused by Run-of-River hydroelectric generating facilities.

We consulted with organizations and governmental entities on the regulatory processes and permitting in British Columbia. We held a workshop with stakeholders in February 2012 and released the draft report. And this draft report includes -- and we'll be going through many of these items -- definition of Run-of-River facilities, stakeholder issues and comments, an overview of the permitting process both in British Columbia and in California, and a comparison of the environmental review and documentation required, and then examining the effects of these Run-of-River projects.

We are holding this workshop and then solicit additional comments, and then we'll revise the report and bring it before our full Energy Commission for adoption, and then recommendation to the Legislature.

So now that we've gone through some of the statutory background, we'll look at what Run-of-River Hydroelectric Facilities or some call them "Water Diversion Hydroelectric Facilities," what they look

1 like. A portion of the river's water is diverted into a
2 channel, a pipe, or pressurized pipeline that delivers
3 it to a waterwheel or turbine. And it is the drop in
4 water height, or the head, that provides the pressure
5 and energy used to power the turbine and which will spin
6 a generator and make electricity. The area of the river
7 where water is diverted around is called the Diversion
8 Reach.
9 The status of British Columbia Run-of-River
10 Hydroelectric projects is that there have been many
11 applications for new hydroelectric Run-of-River
12 facilities, and this includes some data as of 2011, and
13 with many facilities both on line and under development.
14 Of the 42 Run-of-River projects that are on line, 35 of
15 them would be less than 30 megawatts and, of the ones
16 under development, 25 would be less than 30 megawatts.
17 The 30 megawatt size is important because that
18 matches up with the threshold for eligibility in
19 California's Renewable Portfolio Standard for small
20 hydroelectric projects.
21 These projects are located throughout British
22 Columbia with many of the existing ones in the lower
23 mainland and on Vancouver Island. Of course, there is
24 also a large technical potential still remaining.
25 In our workshop that we held last year, we

1 received comments on many issues, including the status
2 of existing regulations in British Columbia, the
3 adequacy or inadequacy of public outreach efforts tied
4 to these projects, the impact and cumulative effects
5 analysis that is required for such facilities, the
6 impacts on fish and other habitat, and monitoring
7 concerns after the projects are on line and operational.
8 And so in British Columbia, projects 50
9 megawatts or larger have to go through the full
10 Environmental Assessment process. Smaller projects can
11 opt in to go in through this full review and in this
12 full review there's opportunity for interested parties
13 to provide input. Technical studies are conducted of
14 the environmental, economic, social, heritage and health
15 effects, and identification of ways to minimize
16 undesirable effects, and consideration of input is done
17 when compiling the findings and making recommendations.
18 With projects smaller than 30 megawatts, then
19 these facilities require water license, which authorizes
20 the hydroelectric project's components actual use of the
21 waterway. In order to get the water license, project
22 maps, watershed maps, and an identification of the
23 stream and tributaries, it's required, so project
24 construction and operational details are also required.
25 Measures to protect environmental values and discussion

of involvement with First Nations is also required.

Additionally, these projects must secure land tenure regarding the use of crown lands, and the lease gives an exclusive right to use the parcel on the crown lands and allows for improvements on the land and for the construction of long term facilities. The land tenure requires specific boundaries and the proponent has to submit a development plan which describes the impacts a project could have on the lands, natural resources, other users, and interested groups. And the proponent must engage the community by providing public notice and allowing for a comment period.

An additional measure that can be taken and is taken by some projects in Canada is EcoLogo certification. It is -- EcoLogo is a third party certifier of environmentally preferable products. They certify both bundled renewable low impact electricity and renewable energy certificates. EcoLogo is in the process of reviewing the Low Impact Hydro Renewable Electricity Standards, especially in light of recent findings that water flow fluctuations downstream of some EcoLogo certified hydro projects resulted in fish strandings and juvenile fish deaths.

Sixty-three percent of the Run-of-River projects that are 30 megawatts or less have already achieved

1 EcoLogo certification.

2 Now, to contrast with -- well, not contrast --
3 but to compare the Canadian permitting requirements, we
4 have the permitting requirements here in California.
5 FERC issues development authorizations and, if the
6 project is under 5 megawatts, there could be a FERC
7 exemption issued that must still include an
8 environmental report. In order to get a FERC license,
9 then that's a lengthier procedure with a Notice of
10 Intent pre-application document requesting the license
11 process. Stakeholders have to be consulted; an
12 environmental evaluation has to be prepared under the
13 Federal NEPA, and the project in California will likely
14 require a State permit, which might be subject to the
15 California Environmental Quality Act triggered by Clean
16 Water Act Section 401, or a Streambed Alteration
17 Agreement requirement, and there are potentials for
18 additional permitting requirements.

19 The report or study compared projects in Canada,
20 as well as a relicensing project here in California, to
21 look at the different requirements. The Upper Harrison
22 Water Project was a series of five Run-of-River projects
23 with a total of 103 megawatts combined capacity. It
24 went through the full Environmental Assessment process
25 and did receive a screen level review under the Canadian

1 CEAA, and then did also receive water license and crown
2 land tenure.
3 A smaller project, the Bear Hydro Project, has
4 two points of diversion for 20 megawatts. It only
5 received the water license and crown land tenure and
6 just the screen level review under CEAA. It did not
7 undergo the full Environmental Assessment process.
8 These were compared with the El Dorado Hydroelectric
9 Project here in California, a relicensing project with
10 multiple reservoirs on the Upper American River, and
11 smaller diversions for a total of 21 megawatts. It did
12 go through the NEPA process and an Environmental Impact
13 Statement was prepared, and supplemental information was
14 also prepared beyond the Environmental Impact Statement
15 to help meet requirements for California's Environmental
16 Quality Act.
17 When comparing the public outreach that was
18 required, a fairly similar scope and duration for the
19 full Environmental Assessment process and the El Dorado
20 Relicensing was required. The Bear Hydro applicant
21 published information in a local newspaper, but no
22 public meetings were held, so clearly that's a little
23 different than what would have been required in
24 California.
25 Regarding the impact analysis, the Upper

1 Harrison and El Dorado provided lengthy documents to
2 review and analyze impacts of the projects, and those
3 documents were publicly available.
4 The Upper Harrison and El Dorado, both
5 considered alternatives to the project, the Bear Hydro
6 Water License did include a brief summary of the
7 applicant environmental reviews and concerns highlighted
8 by other British Columbia and Canadian agencies.
9 Regarding mitigation, all projects did specify a
10 minimum instream flow, but El Dorado did have an
11 adaptive management minimum instream flow and a public
12 information plan, as well as funding requirements.
13 When examining the cumulative effects of these
14 projects, the Upper Harrison and El Dorado did analyze
15 cumulative effects, and the Bear Hydro did not to any
16 significant extent consider the effects for restrictions
17 on Bear Creek and other licenses on Bear Creek. And so
18 that's a concern.
19 Regarding the monitoring, although it was
20 required for all projects, there have been monitoring
21 concerns raised for the Upper Harrison. The applicant
22 for that project did respond, but those reports are not
23 published or publicly available.
24 The El Dorado Monitoring Reports including
25 incident reports are published on the FERC website, and

1 monitors are hired by the Applicants for these projects,
2 and so that can represent potential conflict of
3 interest. The El Dorado did provide some funds for
4 independent Forest Service monitoring.
5 Regarding the effects of the Run-of-River or
6 River Diversion hydro projects, on carbon dioxide and
7 greenhouse gas emissions, typically fewer carbon dioxide
8 equivalent emissions per kilowatt hour than most energy
9 projects currently permitted in California; however, I
10 will caveat this by stating that there is a huge range
11 of potential greenhouse gas emissions, both depending on
12 the site and nature of the Run-of-River facility, as
13 well as the potential generation technology in
14 California.
15 Regarding air pollutants, there are negligible
16 air quality impacts for Run-of-River projects, except
17 during project construction and those air quality
18 emissions associated with construction of ancillary
19 facilities such as roads and transmission lines.
20 Of course, projects located further from load do
21 require longer ancillary facilities that would have
22 substantially large impacts.
23 The effects of Run-of-River projects on water
24 quality and fisheries can vary, both depending on the
25 nature of the site and the project design. Typically,

1 water quality and headponds undergoes little or no
2 deterioration, but headpond dams can block instream
3 sediment, woody debris, and other channel forming
4 elements. And reduced flows in the diversion reach do
5 not allow for channel maintaining floods, and can impact
6 the water temperature regime substantially.
7 For fisheries, Run-of-River infrastructure can
8 block or delay passage of fish migration, both upstream
9 and downstream. Juveniles can be drawn into the intake
10 valves and trained, and there can be mortality
11 associated with that. Lack of woody debris and gravel
12 movement can impact the spawning material. Reduced
13 flows can lead to the build-up of fine sediments that
14 clog gravel spawning beds, or change the flow regime so
15 that these materials don't create the typical patterns
16 of habitat required for the ecosystem to function.
17 Discharges and sudden up ramping can scour
18 riverbeds, disturbing spawning nests, increasing
19 mortality, and causing further disruption. Changes to
20 the water temperature can affect the fish growth and
21 physiology, both increased water temperatures during the
22 summertime, and then reduced flow could lead to
23 increased likelihood of ice formation in the winter.
24 And reduced flow, even in fishless streams, can alter
25 the timing of temperature and other water quality

1 components downstream, and impact the fish bearing
2 streams that are located below the project.
3 There are potential mitigation measures that can
4 alleviate some of the characteristics or impacts
5 associated with these projects. Appropriate design of
6 penstock intakes and slough skates can help pass mobile
7 substrates and woody debris, overtopping of low dams
8 annually, or that the appropriate regime can allow
9 sediments to move. And outages, up ramping, down
10 ramping, and other changes to instream flows can be
11 restricted to allow for species specific and site
12 specific factors.
13 Instream flow monitoring can help provide data
14 to ensure that the requirements are being met. The
15 facility can be designed with low water velocities near
16 intakes to avoid pinning fish against the intake
17 screens, and consideration of the life history and
18 habitat requirements of the fish and amphibian species
19 using the diversion reach, the area of the river where
20 the water would be diverted around, or some of the water
21 would be diverted around, to help accommodate the
22 requirements.
23 Projects can be sited to minimize the
24 disturbance to spawning Salmon. Fish habitat
25 compensation can be made and sediment control measures

1 during construction also assist to reduce the impact of
2 the construction of the projects, as well as
3 constructing the project within a timeframe that
4 minimizes the impact on fisheries.
5 These projects can impact recreation and
6 recreational opportunities as they're often located near
7 recreational opportunities, and can block or displace
8 uses of a stream. And the construction of transmission
9 infrastructure and the dam or Run-of-River project
10 itself introduces manmade element into wilderness areas,
11 impacting the aesthetic and wilderness values of those
12 areas.
13 Cumulative effects can and do occur at the
14 watershed and regional levels. Projects with diversions
15 in a single watershed are sometimes not appropriately
16 examined with the impacts being examined individually,
17 instead of as a whole. Cumulative effects can result in
18 habitat fragmentation, human entry into wilderness
19 areas, harm and disturbance of wildlife, and other wide-
20 ranging effects that, while potentially not significant
21 on an individual level, do reach a substantial impact
22 when taken cumulatively, or regionally.
23 In conclusion, and this is based both on the
24 result of the study and then on our existing RPS
25 eligibility statute, and the requirements that are both

in law and in our RPS Guidebook, that in order for Run-of-River projects to potentially be eligible for California's RPS, they have to be less than 30 megawatts in size, that's a statutory requirement. The project must not cause an adverse impact on instream beneficial uses, or cause a change in the volume or timing of stream flow.

And additionally, and this is the main reason that we compared Canada's environmental requirements to ours, is that any project located outside of the United States must be developed and operated in a manner that is as protective of the environment as a similar facility would be if it were located in California.

And in order to meet these requirements, we are considering the following: the project must be less than 30 megawatts; an Environmental Assessment or development plan with cumulative impact assessment based on the Cumulative Effects Assessment Practitioner's Guide of best practices for evaluating cumulative impacts must be completed, so thorough environmental documentation; instream flow requirements must be sufficient to not compromise the river or ecosystem based on volume or timing of stream flow; EcoLogo certification should be obtained; and documentation must be provided that indicates that the project was analyzed, constructed,

1 and operated to protect the environment in a similar
2 manner as would a project in California. So additional
3 supplemental material might and would be required to
4 make this showing. And transparency during the
5 environmental review and monitoring process should be
6 comparable with FERC standards with public availability
7 of information and public workshops.
8 Following today's workshop, we will be taking
9 written comments. Please submit them electronically.
10 You can email and, when doing so, email them both to the
11 docket@energy.ca.gov, and then also RPS33@energy.ca.gov.
12 And your comments will be considered and included in the
13 revisions to our report, which we will be taking before
14 the full Energy Commission for adoption in late spring
15 or early summer of this year.
16 Thank you very much for your time and interest
17 in this matter. And I look forward to hearing your
18 comments and thoughts.
19 We are first going to be taking comments here in
20 the room. If you would like to make a comment, please
21 fill out a blue card and pass it to my co-worker, and
22 we'll allow you to make comment. Following taking
23 comments from in the room, we will open up to comments
24 on the phone and then WebEx.
25 So, Keith Nakatani from the California

1 Hydropower Reform Coalition.

2 MR. NAKATANI: Thank you, Brian. Keith

3 Nakatani, California Hydropower Reform Coalition. We

4 are a statewide coalition whose mission is to protect

5 and enhance rivers that are impacted by hydropower

6 facilities. Our members include organizations like

7 Friends of the River, American Rivers, California Trout,

8 Trout Unlimited, and others.

9 We'd first like to thank the Energy Commission

10 for drafting this report. We know it was a significant

11 undertaking, so thank you.

12 We have two major comments. As we have heard,

13 the Legislature required the Energy Commission to

14 determine whether hydropower facilities from British

15 Columbia are or should be RPS eligible. Unfortunately,

16 the report does not directly address that requirement.

17 I'd like to read something from the report's abstract

18 that sort of gives an indicator of the direction that

19 the report went in. The abstract says: "The report

20 concludes that the additional requirements are necessary

21 if California is to allow British Columbia Run-of-River

22 hydroelectric resources to be RPS eligible."

23 The problem with that is that the Legislature

24 didn't instruct the Energy Commission to determine how

25 California could allow hydropower from PC to be

1 eligible. It said "determine if the resources from BC
2 are currently eligible or not." But unfortunately the
3 report did not do that.
4 The report does quote California statutory
5 requirements. Brian did read the Manual one, I'm just
6 going to repeat it; it includes the following statement:
7 "A new hydroelectric facility is not an eligible
8 renewable resource if it would cause an adverse impact
9 on instream beneficial uses, or cause a change in volume
10 or timing of stream flow."
11 So based on that definition, the report should
12 say that new hydropower projects are not eligible. And
13 to be clear regarding the B.C. issue, it is primarily
14 about new projects. PG&E also agrees with that
15 statement. They submitted a report in 2008 to the
16 California Public Utilities Commission that says, "B.C.
17 Hydro facilities would not be qualified as RPS eligible
18 resources."
19 Our other major comment is about the inaccuracy
20 of the statement in the report that the laws,
21 ordinances, and regulations of B.C. and California are
22 "comparable." The fact is that B.C.'s regulations are
23 much weaker than California's. For example, projects
24 that are less than 50 megawatts are not required to
25 conduct an Environmental Assessment. In Brian's

1 presentation, he described the Bear hydro project in
2 B.C. and, as he said, it didn't undergo a full
3 Environmental Assessment. Just for context, at that
4 time, B.C.'s laws said that any projects that were 20
5 megawatts or less did not require a full Environmental
6 Assessment. So I think that is an indicator of how -- a
7 significant indicator of how the laws of B.C. and
8 California are very different.
9 And then in the broader B.C. perspective, when
10 B.C. does conduct an Environmental review, there are no
11 Endangered Species Regulations, there is no Cumulative
12 Impact Assessment, their mitigation requirements are
13 weaker, their public outreach is less stringent. So
14 clearly, B.C.'s regulations are not comparable to
15 California's.
16 I would just like to also read a little bit from
17 a report from British Columbia, the title is "Testing
18 the Waters." It is a review of environmental regulation
19 of Run-of-River projects in British Columbia. It was
20 produced by Devlin Gailus law firm and also assisted by
21 the Environmental Law Center at the University of
22 Victoria. It was produced in April 2010. Just a bit
23 from the introduction: "In a recent letter to the
24 California State Assembly," and this refers to a 2009
25 letter, "British Columbia Minister of Environment Barry

1 Penner asserted that a typical Run-of-River project
2 requires more than 50 permits, licenses, reviews, and
3 approvals from 14 regulatory bodies. The following
4 report canvases the provincial and federal environmental
5 regulations that apply to Run-of-River projects in B.C.
6 It focuses on those statutes and regulations that are
7 most relevant to environmental issues, including each
8 piece of provincial legislation and most of the federal
9 legislation cited in Minister Penner's letter. This
10 review suggests that many of the laws and approvals
11 referred to by Run-of-River advocates have little, if
12 any, application to the environmental impacts of a given
13 project. Further, this report identifies significant
14 shortcomings in the key legislative provisions and
15 review processes that do address environmental concerns.
16 These include inadequate access to public information, a
17 lack of clear and balanced legislative mandates to guide
18 decision makers, reduced regulatory thresholds for
19 environmental assessments, as well as any effective
20 monitoring and compliance. Despite the numerous laws
21 and agencies involved, the current regulatory regime
22 does not afford adequate environmental protection in the
23 context of Run-of-River development in B.C."
24 And again, that was a report that was assessing
25 the environmental regulations in B.C. And then the

1 report goes on to provide a specific analysis of each
2 one of those laws that B.C. hydro proponents claim are
3 environmentally protective.
4 So in closing, again, I'd like to thank the
5 Energy Commission for all the work that went into the
6 report, but suggest that the report must more directly
7 answer the question of whether hydro from B.C. is RPS
8 eligible or not, and correct the inaccuracy that B.C.
9 and California regulations are comparable. We also
10 intend to submit written comments. Thank you.
11 MR. MCCOLLOUGH: Thank you very much, Keith. As
12 there are no further comments in the room -- are there
13 further comments in the room? As there are no further
14 comments in the room, we'll now open up the phone lines.
15 We're in process, still.
16 Okay, I believe the phone lines are open.
17 Please introduce yourself. I'm afraid that we are
18 having perhaps mild difficulties. If you are attempting
19 to speak, hang on a moment, we can't hear you yet. I
20 appreciate your patience, participants. We'll be there
21 in just a moment. And so, thank you, participants for
22 your patience. We're still working on our phone lines.
23 We've now opened up our phone lines. If you
24 could mute your phone, unless you are trying to speak?
25 MR. KARIYA: Brian, it's Paul Kariya with Clean

1 Energy Association of B.C.

2 MR. MCCOLLOUGH: Oh, thank you. Can you please

3 repeat your name again for the record?

4 MR. KARIYA: It's Paul Kariya. I'm the

5 Executive Director for the Clean Energy Association of

6 B.C.

7 MR. MCCOLLOUGH: Yes. Thank you, Paul.

8 MR. KARIYA: We represent clean energy producers

9 which would include most of the Run-of-River producers,

10 as well as with biomass, biogas, and some others. I

11 want to thank you for undertaking the work, similar to

12 Mr. Nakatani's comments, I think it's much appreciated.

13 We, too, will be filing a written report. A

14 couple of comments I would make, that we have

15 commissioned up here, the industry, an independent

16 review of Run-of-River and their potential impacts on

17 Salmonids, and we've asked the Pacific Salmon

18 Foundation, an independent organization with a

19 completely separate advisory panel to undertake a review

20 of Run-of-River, and so they're underway doing that.

21 Their lead consultant doing the work is ESSA

22 Technologies, led by Dr. David Marmorek. David recently

23 did some work for the Cohen Commission inquiry into

24 missing Sockeye on the Fraser. So if you want further

25 information, you could talk to Dr. Brian Riddell, who is

1 very well known to Salmon folk from Alaska down to
2 California, who will be leading that work. So that's an
3 important piece of work in terms of impacts, both
4 positive and negative, of Run-of-River.
5 I think the other comment I'd make, which your
6 report is silent on, but there's another layer of
7 consultation and review that occurs in British Columbia
8 that is unique. British Columbia is probably the only
9 jurisdiction now left in Canada where two-thirds of the
10 land mass and the resources on it are subject to treaty
11 claims by First Nations, meaning there have never been
12 treaties signed between the First Nations and the Crown.
13 All of the projects that occur, the Run-of-River
14 projects that are in question in B.C., occur on land
15 that potentially has two titles, Crown title and
16 Aboriginal title, and so depending on the Aboriginal
17 nation, there are stringent reviews both on the
18 cultural/social/economic side of projects, but also on
19 the environmental. And that's a level of review that
20 certainly does not exist in a place like California.
21 And I would advise that this is well worth looking into,
22 and there are bodies like the First Nation Energy and
23 Mining Council that you could refer to, and some of the
24 key First Nations, including those involved in Harrison
25 Watershed that you looked at, would be well worth

consulting with.

In terms of the question of comparability of those projects that are sub-EA or in the EA process, I think we would dispute that there isn't comparability. If you go through the Ministry of Forestlands and Natural Resource Operations, what they call their DPAP, Development Plan Application Process, I guess our position would be that the review, the environmental review, including EA, are comparable.

Maybe I'd leave it at that and indicate, again, our thanks and that we will be following up with a written response.

MR. MCCOLLOUGH: Wonderful. Thank you very much for your comments, Paul. And we look forward to written comments.

MR. KARIYA: Great. Thank you, Brian.

MS. BARLEE: Hi, Brian. This is Gwen Barlee with the Wilderness Committee from British Columbia. I was wondering who is on the call today, or who is attending this session.

MR. MCCOLLOUGH: So we have various staff from the Energy Commission here, as well as Keith Nakatani and our consultants who helped with the report, Emily Capello and Suzanne Phinney.

MS. BARLEE: And who is on the phone from

British Columbia besides from Paul and myself?

MR. MCCOLLOUGH: Give me just one moment. Various parties, not all of them have identified themselves, just call-in users, you know, we don't necessarily get a name. But we are going to have a list after the workshop of all the participants.

MS. BARLEE: Oh, great. Thank you.

MR. MCCOLLOUGH: Yeah.

MS. BARLEE: So I just had a couple of comments and thanks again for the report, but I have some things that I think should be reflected in the information that regulators are considering. And one of the things that came out very recently that the Wilderness Committee got through a Freedom of Information Request is a report called "Operational Noncompliance of Clean Energy Hydro Power Facilities in British Columbia," and that came out -- that was actually produced March 29, 2012, and I got it a couple of months ago. And what the government did, they did an audit at 60 knots rating river diversion projects in the south coast region in B.C. in 2010, and they found that there were 749 instances of noncompliance at the 16 operating facilities, and a lot of those noncompliance had to do with ramping violations and instream flow violations. And the report, what was very interesting with the report, it talked about the

1 limited ability of government officials to respond to
2 noncompliance instances, and I've heard that actually
3 their government does not respond to noncompliance
4 instances, or does not do audits outside of the south
5 coast region.
6 The other thing the California report didn't
7 incorporate was the rent weakening of the Canadian
8 Environmental Assessment Act, the Federal Fisheries Act,
9 and the Navigable Waters Act that happened with Bill C-
10 38, which was introduced last year. To give an example
11 of how that would impact British Columbia, there are 492
12 projects that no longer receive a screening assessment
13 under the Canadian Environmental Assessment, and that
14 includes river diversion projects in British Columbia.
15 In regards to EcoLogo, EcoLogo is a third party
16 certifier and they've had problems in their program,
17 which they've acknowledged, and I would say they did not
18 ensure a high bar in regards to operation of river
19 diversion projects in British Columbia. And EcoLogo
20 acknowledges that and in one case they talked about
21 another weakness in the program, and one that we only
22 learned about late last year that involves older
23 renewable electricity facilities that have not been
24 recertified or re-audited since 1998.
25 There's also problems that companies that are

1 certified with the EcoLogo are supposed to voluntarily
2 report on compliance, and it's our understanding that
3 that's not happening, or not happening to any great
4 degree. And also, EcoLogo is in the process of
5 revisiting their Electricity Standard, Renewable
6 Electricity Standard. They wanted to introduce a
7 stronger standard in 2010 and industry pushed back on
8 that standard, and so now they're in the midst of
9 recalibrating it and we don't know yet what it's going
10 to look like.
11 What was also mentioned in the report is that
12 B.C. has no endangered species legislation and the
13 Auditor General, actually, of B.C. came out with a
14 report very recently that talked about the lack of
15 meaningful protection for species at risk in the
16 Provence. And we do have a Federal Endangered Species
17 legislation of species at risk; however, it's very weak
18 and only applies to about 10 percent of B.C.'s species
19 at risk. There's also significant delays in recovery
20 strategies, there's 188 recovery strategies across
21 Canada, many of which are in D.C., which are delayed,
22 and the Federal Government has also instructed
23 scientists to strip out the identification of critical
24 habitat, which is very problematic.
25 We're also seeing increasingly projects being

1 situated in such habitat, and a very good example of
2 that is the Kokish River on Vancouver Island, where DFO
3 and the B.C. Government recently approved a project that
4 was in a river with five species of wild Salmon, two
5 endangered runs of steelhead, Yolacan, and cutthroat
6 trout, and the main stem of that river is 10 kilometers
7 long and 9.2 kilometers of that river would be diverted
8 into a pipe.
9 There is some mention in the report about IPPs
10 or Independent Power Projects opting into the B.C.
11 environmental assessment process; that happens very
12 seldom. Sometimes you would have a project that would
13 be 60 megawatts going into the process, and then they
14 might drop down for a variety of reasons from 49
15 megawatts to 45 megawatts, and they would still stay in
16 the process. But I think you used the Upper Harrison
17 River Diversion Project as an example of a company that
18 decided to opt into the process, and actually that
19 project is a cluster of projects, I believe it has three
20 streams that are deemed diverted, but in British
21 Columbia the clusters of projects are considered to be
22 one project. They are built by the same company in the
23 same geographic area, they have the same transmission
24 lines, they're being built at the same time and they
25 share the same Energy Purchase Agreement with B.C.

1 Hydro. So it wasn't that you had a cluster of projects
2 and they decided -- the company decided to voluntarily
3 enter the environmental assessment process in B.C. at a
4 cluster of projects; let's say you had a project that
5 was 30 megawatts, another one that was 25, and another
6 one that was 10, that's considered one project in
7 British Columbia, and they're strongly strongly
8 recommended that they go through the B.C. environmental
9 assessment process.
10 So those are just some of the things that were
11 flagged for me. And the other thing, just to give you
12 an example of some of the problems with EcoLogo
13 certification, the Upper and Lower Clowhome River have
14 independent power projects that are EcoLogo certified.
15 They've had a very very very significant degree of
16 noncompliance, despite the fact that they have EcoLogo
17 certification, and we've also seen that problem with Eco
18 Collects, Brandywine, Hystad, and Fitzsimmons, so I
19 would say it's quite clear from a B.C. perspective,
20 especially when you take into account the general
21 reports and criticisms of the B.C. Environmental
22 Assessment process and our protection, or lack of
23 protection, for endangered species in B.C., that we
24 don't have comparable standards to California, and the
25 Wilderness Committee will also, in conjunction with

1 Watershed Watch, be submitting written comments.
2 MR. MCCOLLOUGH: Thank you very much, Gwen.
3 Very informative and we look forward to your written
4 comments. And let me check for other speakers? Hello?
5 MR. CALDICOTT: Hello?
6 MR. MCCOLLOUGH: Yes, please introduce yourself.
7 MR. CALDICOTT: Can you hear me?
8 MR. MCCOLLOUGH: Yes.
9 MR. CALDECOTT: My name is Arthur Caldicott.
10 I'm in British Columbia and I'd like to make a few
11 comments, as well.
12 Brian, first of all, for a point of
13 clarification it might be useful to some of the people
14 on this call and readers of the final report, in your
15 presentation you made many comments about Canadian
16 Environmental Assessment and I think it's an important
17 distinction that the Canadian Environmental Assessment
18 Agency doesn't actually have jurisdiction normally over
19 hydroelectric projects. It's, in fact, the British
20 Columbia Environmental Assessment Organization that does
21 that. And most of the comments that you were making
22 about Environmental Assessment pertain to British
23 Columbia's regulations and British Columbia's agencies,
24 not Canada's. That isn't the State of Canada, it
25 doesn't have -- the Federal Government doesn't have some

1 jurisdiction over these projects, specifically with
2 respect to roads and transportation. And fisheries, the
3 federal agencies participate in a B.C. Environmental
4 Assessment, but it's not Canada managing that
5 Environmental Assessment. So the projects Gwen was
6 talking to and that you introduced in your presentation,
7 as well, the 50 megawatt threshold, that's a British
8 Columbia regulation, it is set in legislation, but it is
9 also adjustable by the Minister of the Environment in
10 the Provence, so the Government does have some
11 discretion with any specific project to shift that
12 threshold, and the Governments here have chosen not to
13 do that for lower capacity projects, even though many
14 lower capacity projects have clearly in advance been
15 very apparent that they would introduce some serious
16 impacts on the environment; the Government has chosen
17 not to make those subject to an Environmental
18 Assessment. Nor has the Government chosen to lower that
19 threshold when it's clear that, in order, for example,
20 to meet California's RPS requirement, it might make
21 sense to put it down to 30 megawatts, or even much lower
22 in order to satisfy California in that respect. These
23 are all considerations that should probably be made.
24 A couple of comments I want to make is that the
25 context for hydroelectric projects in British Columbia

1 are somewhat different than they would be for California
2 considering the same type of project, the same capacity
3 project, inasmuch as most of the streams under
4 consideration are very remote. British Columbia is very
5 much a wilderness with, in many instances, hundreds of
6 miles between communities. So, for example, the
7 transmission lines -- I think you called them "ancillary
8 infrastructure" in your presentation -- transmission
9 lines that connect these small hydroelectric projects to
10 the main line grid and into the load centers, and into
11 the transmission lines, are routed down the Western
12 states into California, those transmission lines that
13 serve only those small hydroelectric projects are
14 frequently 50 to 100 miles long, running through
15 essentially wild mountainous terrain over rivers and
16 across glaciers, and it's quite majestic countryside
17 that we're routing these projects through.
18 So when we're talking about similar effects on
19 the environment in British Columbia as might happen in
20 California, you have to consider some of those kinds of
21 impacts to wilderness, not simply, you know, the amount
22 of concrete that's been poured.
23 And when it comes to monitoring, our agencies in
24 B.C. are seriously strapped for funding and the last 10
25 years of governance in British Columbia have seen a very

1 steady whittling away of the bureaucratic capacity to
2 get out and monitor projects to the point that the
3 Government doesn't do it anymore. And most of the power
4 projects that are under discussion here, and certainly
5 all of them in the future unless something changes in
6 this Provence, the monitoring will be done by the
7 company itself. But you have to picture this monitoring
8 happening someplace 100 miles out in the wilderness,
9 often with no roads into it, the only way in is by
10 helicopter, for example, that there is no protective
11 monitoring that can be depended on to have integrity and
12 certainly have any evidentiary record that what's being
13 reported accurately reflects what's happened on the
14 ground or in the stream.
15 With respect to EcoLogo, likewise, that's the
16 paper-based certification process; they don't send
17 troops out into the woods either. So while you may in
18 the report indicate that there are regulations on the
19 books and agencies existent in British Columbia that can
20 do the kind of monitoring that you expect in California,
21 the fact of the matter is that's all just on paper. On
22 the ground, it's a different story altogether, and Gwen
23 in particular can site numerous examples of violations
24 and infringements of the regulations that exist. In
25 large part, those violations and infringements happened

1 because there is nobody watching that can be counted on
2 to report it accurately.
3 In your presentation, you cited two examples,
4 one was the Upper Harrison group of projects and the
5 other was the Bear Creek, I think it was. There are
6 many other examples where a company will apply for water
7 licenses for a number of small streams, and intend to
8 group those together in a kind of larger watershed
9 context, and to a single power house for generation, but
10 call those 10 separate projects instead of one. If they
11 were to identify them as a single project, they would
12 then be subject to an environmental assessment process
13 in B.C., but by construing them each as an independent
14 project, they get away without the kind of already
15 questionable regulatory oversight that an environmental
16 assessment could provide. A good example of that, or a
17 glaring example of that, is the Homes Hydro Project in
18 kind of Mid Central British Columbia. It's 10 streams
19 involved in this, each one is only 2-10 megawatts
20 capacity, but collectively there are 70 or 80 megawatts
21 of potential generation from the entire project; it is
22 ducking an environmental assessment simply because it is
23 construing itself as separate projects, which it is
24 clearly not.
25 So there's a lot of corporate gaming of the

1 regulatory system in British Columbia that is pretty
2 transparent, it's pretty obvious what's happening there,
3 and nobody is sort of calling time on that game.
4 Government is tolerating it, regulators are tolerating
5 it, there's many citizens that are not tolerating it,
6 but their voice is muted in this context, and I think
7 that needs to be considered.
8 I probably -- as soon as I say I'm done, I'll
9 have as many more comments to make, but I think for the
10 moment, if I may, I'll say I'm done. Thank you.
11 MR. MCCOLLOUGH: Thank you very much, Arthur.
12 If you don't mind jotting down your thoughts immediately
13 so that you can submit written comments with all of them
14 that would be appreciated.
15 MR. CALDICOTT: Thank you.
16 MS. BARLEE: And one other thing -- this is Gwen
17 Barlee with the Wilderness Committee, just following up
18 on what Arthur said. In regards to monitoring, there's
19 a very very limited capacity that is acknowledged by
20 Government for the Government to go out and monitor
21 these projects; however, you do have companies that pay
22 for monitors, but those monitors are typically hired for
23 just five years.
24 MR. MCCOLLOUGH: Thank you. We'll definitely
25 note that. And any other comments on the phone?

1 MS. KELLER: Hi. My name is Lanni Keller. I'm
2 calling --
3 MR. MCCOLLOUGH: Go ahead, Lanni.
4 MS. KELLER: I'm calling from the outback. I
5 live in what might be called the wilderness area of B.C.
6 -- can you hear me okay?
7 MR. MCCOLLOUGH: We can hear you very well,
8 thank you.
9 MS. KELLER: Okay. I (indiscernible) access
10 because there are huge community concerns about what's
11 happening to rivers here and elsewhere in the Provence.
12 I think you covered this, but remember, more than 700
13 independent power projects have been proposed for B.C.
14 rivers and it's been a huge free for all of profit
15 motivated applications. And there's no provincial
16 strategic planning process and no directives as to where
17 projects should be sited. So we're just living in this
18 world of chaos as to what's happening on our rivers.
19 Almost no information is available to the public about
20 these projects when they are underway. They're remote
21 locations and they're difficult to access and, as Arthur
22 pointed out, the B.C. Government is not regularly
23 inspecting the projects during the construction or when
24 they're operational.
25 I spoke recently with an experienced scientist

1 who has worked on a number of these projects, he's also
2 been fired twice for saying things the company didn't
3 want reported. I think that's an important part of what
4 needs to be observed here and that is that the public is
5 not informed and the information from these very remote
6 projects where the Government and citizens cannot get
7 out and watch, the information is not available, so we
8 don't know what's going on. And people who are working
9 on the projects aren't able to talk because they're
10 under confidentiality agreements with their employers.
11 This person did offer me some on the ground observations
12 to corroborate what some of us concerned citizens have
13 come to know as true; he pointed out that cumulative
14 impacts are not really being assessed that Government
15 representatives admit that they have no methodology and
16 they're still trying to come to grips with how to
17 measure cumulative impacts. It's a whole new game. And
18 most companies that are proposing and building these
19 projects have little or no experience with such
20 construction; they have no real idea of the construction
21 costs or ongoing maintenance and related costs in hugely
22 remote areas. They don't have technical expertise.
23 Their goal is to build it and make the most money they
24 can. They don't necessarily understand the challenges
25 of the difficult terrain and the remoteness. And

1 importantly, he says, and I know this from what I'm
2 observing, there's no real long term commitment to
3 maintenance; the long term issues aren't planned for and
4 there's no institution that guarantees funds for long
5 term maintenance.
6 As Arthur pointed out, the environmental
7 agencies that are looking after these projects have been
8 dismantled and gutted by budget cuts over the last
9 decade. Supervision is just not what it would have been
10 10 or 20 years ago. And so many issues are going
11 unrecognized, unreported with, and not dealt with.
12 So there are just a few people available who
13 really understand the project functions and this
14 scientist who is no longer employed commented that there
15 are very few people who go out to investigate these
16 projects who really have the experience to understand
17 and compare even the design drawings with the actual
18 construction, you know, is what is happening on the
19 ground what was proposed in the drawings? And there's a
20 serious lack of people with field experience who notice
21 what's going on.
22 And again, as mentioned, the people who are
23 preparing the reports are paid by the companies, the
24 independent monitors are paid by the contractor, and
25 everyone becomes co-opted. So there's a real need for

environmental audits that are independent, guaranteed good funding, and done by people who are educated and experienced, and not company paid. And we also need real plans for ongoing maintenance and end of life issues for all of these wilderness developments. There should be more public information available. The Government is not keeping up with the reports. It's very very difficult or impossible for individuals to get out and find out what's happening, so that's another huge omission in the process here. Thank you.

MR. MCCOLLOUGH: Thank you very much for your comments, Lanni. I appreciate those very much. Do we have any further commenters on the phone who would like to speak?

MR. CALDICOTT: Yes. Arthur Caldicott again, if I may?

MR. MCCOLLOUGH: Very good. Yes.

MR. CALDICOTT: Now I'm remembering the things that I didn't say earlier. We haven't spoken enough, I believe, about instream flow requirements. That's when you're diverting water out of a stream to run it through a powerhouse; you are required to leave some water still in the stream for the fish that live there, and to sustain the habitat that that provides for biota in the stream and below the stream. The instream flow

1 requirements are another aspect of the regulatory regime
2 that applies to these projects that is easily gamed here
3 in B.C. For example, when you go through an
4 environmental assessment process, the instream flow
5 requirements is one of the topics that is, or has been
6 in the past, stipulated as part of the certification
7 coming out of that Environmental Assessment. With one
8 particular project that the Upper Toba set of streams,
9 in that review the Environmental Assessment Office and
10 the company agreed that they would not set those
11 instream flow requirements at the time of the review,
12 they did nominally, but they both understood that the
13 project couldn't operate at those flow levels and so
14 they both understood that subsequent to the
15 certification, the company would be coming to Government
16 asking for lower flow requirements.
17 So in effect, the Environmental Assessment
18 Office issued a certificate, or the Provence issued a
19 certification to a project without actually making any
20 statements about how it really needs to run in terms of
21 its flow requirements. Again, going back to the
22 remoteness and the absence of monitoring, these
23 companies make their money when water is flowing through
24 their powerhouses, not when water is flowing in the
25 stream, and it's of particular -- it's the most

1 sensitive time in a stream is late summer generally when
2 flows are greatly reduced because there's no rainfall,
3 and there's no kind of water reserve in the upper
4 watershed, the flows get very low and fish often find
5 their habitats severely constrained. But if this is the
6 same time that a company is finding its revenues out of
7 its projects are reduced, and so its priority is
8 sustaining revenue, whereas the fish's priory is
9 sustaining life. And when those two come to push and
10 shove, the fish can often be the loser because no one is
11 there defending the fish's interest. But instream flow
12 requirements and monitoring have to be tied together
13 and, in your report, I believe useful to stress the
14 connectedness between those two things.
15 Another thing I'd like to explain a little bit
16 if I may is the context for all of these new power
17 projects in British Columbia, namely that over the last
18 10 years, the Government implemented a policy that B.C.
19 Hydro, the provincial electricity utility, would buy all
20 of its new power from independent power projects, and
21 the Government effectively ordered B.C. Hydro to go out
22 and write those electricity purchase agreements with new
23 companies and new power projects. It has issued
24 contracts to purchase power for what will ultimately be
25 billions of dollars of power purchases over the next 30

1 years. The problem is for British Columbians, and
2 ultimately for California as California starts relying
3 on power from B.C., the problem is that B.C. Hydro is
4 paying now upwards of $120.00 a megawatt hour for that
5 power. But if you're paying any attention to power
6 prices and what California is paying these days for
7 electricity that it brings into the state, it's down in
8 the range of perhaps $30.00 a megawatt hour. So B.C.
9 Hydro is now in this unsustainable position where it's
10 buying far more power than it can use domestically and
11 needing an export market to sell it into, it's paying
12 $60.00, $80.00, $120.00 and upwards, for the electricity
13 it's buying and trying to sell it into a market that is
14 only interested in paying $30.00. It sounds like a good
15 deal on the fact of it, but it's unsustainable. And for
16 British Columbia, the whole thing is going to have to
17 collapse because it's simply unsustainable.
18 So for California to be contemplating putting a
19 lot of energy into prospective power from British
20 Columbia, it may be a situation that may be defined as
21 rather transitory because it's not sustainable in B.C.
22 and financially it can bankrupt the Provence. I'm done
23 again for the second time, I may be back. Thank you.
24 MR. MCCOLLOUGH: Thank you very much, Arthur,
25 appreciate your comments and, this is just personally,

1 you know, California has sympathy for the electricity
2 crises.
3 MR. CALDICOTT: Yeah, I'll bet you do. Some
4 history there. Thank you.
5 MR. KARIYA: Brian, it's Paul Kariya again.
6 MR. MCCOLLOUGH: Go on.
7 MR. KARIYA: And you get a flavor for the
8 broader debate that's happening here and what we've gone
9 from is a discussion about the report that you've done
10 into a more ideological discussion about whether B.C.
11 Hydro, a publicly owned corporation, versus the private
12 sector producing power, and so you get a very sense of
13 those who have spoken, other than myself, that there's
14 more going on than just the environmental concerns --
15 and fair enough. I think that's the public debate that
16 has to occur, and is occurring, but I guess my advice to
17 you is that on the report that you're trying to
18 finalize, that you've got to be wise in terms of sifting
19 through the background noise of what's going on
20 ideologically up here vs. the environmental
21 considerations, which we need to be focused on. And
22 indeed, anywhere where there's development there's going
23 to be impacts, and I've asserted and I would assert here
24 that we can do a far better job and need to, and we need
25 our feet held to the fire. Nothing wrong with that, and

1 I think we need to be focused on it, but let's be
2 careful and thoughtful in terms of all the other stuff
3 that gets dragged into it.
4 Two further comments is that, as I said before,
5 the report has nothing in terms of Aboriginal
6 consultation and I think that's a weakness of your
7 report. If you're going to talk about British Columbia,
8 you need to. And talk to the key First Nations who have
9 been involved in clean energy, including hydro projects
10 up here, and get a sense from them about their
11 perspectives. And the other thing is to talk to the
12 people involved in science and research in terms of
13 implications for Salmon and water in British Columbia.
14 MR. MCCOLLOUGH: Thank you very much.
15 MS. BARLEE: Hi, Brian.
16 MR. MCCOLLOUGH: Oh, yes, hello.
17 MS. BARLEE: This is Gwen. I just had two other
18 small things to flag, and one had to do with instream
19 flow requirements. You cited the Thames River Report
20 which was put out by Watershed Watch, which is an
21 excellent report. And one of the things that is
22 important to know, that in British Columbia a massive
23 portion of the river is diverted into the pipe and for
24 East Toba Montrose, which is an existing project, it can
25 be up to 99 percent of the water being diverted for East

1 Toba. For Upper Toba, it can be 97, 96 percent, and so
2 it's not unusual to see 90, 95, 97, 98 percent of the
3 mean annual discharge of the river diverted into the
4 pipe. And one thing that the Wilderness Committee got
5 through a Federal ATIP request, which is the Federal
6 Freedom of Information Request, was something that was
7 quite shocking, that there had been very serious
8 problems with noncompliance at a project called the
9 Lower Mamquam and that's near Whistler in British
10 Columbia, and they'd had repeated noncompliance
11 resulting in fish stranding and fish kills and they had
12 a very low instream requirement. And DFO, the
13 Department of Fisheries and Oceans, which now has a very
14 peripheral level of involvement in these projects
15 because of cuts and lowering of environmental
16 regulations, approached the company and they said, you
17 know, we know you had considerable problems with
18 noncompliance -- and the reason why DFO found out about
19 this noncompliance is that they had a scientist, a
20 biologist, who was taking a white water rafting course
21 on a weekend and he noticed that the levels in the river
22 were fluctuating quite wildly and stranding fish, and so
23 that's how they became aware of what was happening with
24 the Lower Mamquam project. But anyway, DFO said to the
25 facility operators, we would like you to leave more

1 water in the river, because of the impacts on fish and
2 the problems with ramping, and fish strandings, and fish
3 kills. And the proponent reluctantly agreed and then
4 the impact of those fish strandings and fish kills
5 reduced. And then the proponent came back to DFO
6 several weeks later and they said, "We're losing too
7 much money, so we aren't going to leave adequate water
8 in the river." And I can provide that documentation to
9 you because I think it's very pertinent to what's
10 happening in British Columbia in regards to the
11 regulatory climate.
12 And another thing, and I will be providing this,
13 is a memo that was leaked to the *Vancouver Sun* from Erin
14 Stoddard, who is a Fisheries Biologist with the B.C.
15 Government, and he outlined 15 concerns ranging from
16 projects being approved and constructed in more
17 sensitive fish habitats to projects having inadequate
18 fish use assessment, some advice from qualified
19 professionals, and it's a very interesting document to
20 see because biologists and hydrologists don't have the
21 ability to speak to the public and speak to these issues
22 in a frank way, but sometimes we get them through it FOI
23 or through leaked documents. And so I think that's
24 something else that should be definitely considered and
25 reflected in the report.

MS. MCCOLLOUGH: Thank you very much, Gwen. And I look forward to getting that information you mentioned. Do we have any additional callers or speakers?

And I would also like to acknowledge Paul Kariya's comment regarding sort of the scope of this paper, in that this is regarding California's requirements and, of course, we don't have a jurisdiction over what's happening in British Columbia, but we are just considering the potential eligibility of some of these resources for California's Renewable Portfolio Standard. And we have received comments regarding specific projects and we don't have oversight over project approval; this is regarding the eligibility of those facilities, or potential future facilities, for California's RPS.

And do we have any further callers or comments? Hearing none, I greatly appreciate everyone's time, effort, and look forward to written comments, moving forward on refining this report, and taking it to the Energy Commission Business Meeting.

Thank you and have a good day.

(Thereupon, the Workshop was adjourned at 10:56 a.m.)

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