



## **Permitting Issues in British Columbia and Alberta: Wind and Run-of-River Projects**

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*This is a general overview of the subject matter and should not be relied upon as legal advice or opinion. For specific legal advice on the information provided and related topics, please contact the author or any member of the Energy Law or Public Utility and Regulatory Law Groups.*

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**PERMITTING ISSUES IN**  
**BRITISH COLUMBIA AND ALBERTA:**  
**WIND AND RUN-OF-RIVER PROJECTS**

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*“By focusing on renewable energy... we have everything to gain and nothing to lose. The cost of fossil fuels will climb in the long term whereas the wind, the sun, and the water, the ‘renewable fuels’ are – by definition – free.”\**

## I INTRODUCTION

Interest in the development of renewable resources is at an unprecedented high in Canada. The recent push to develop renewable energy resources, dubbed by some as the “clean energy revolution”<sup>2</sup>, is being driven by keen government interest in having increased volumes of green energy in the energy supply mix. The Government of Ontario recently unveiled plans for eight wind projects and one hydro project,<sup>3</sup> which will provide 975 megawatts (MW) of clean renewable energy, enough to power approximately 250,000 homes.<sup>4</sup> Late last month, the Manitoba government also called for expressions of interest to develop 1000 MW of wind power over the next decade.<sup>5</sup> Quebec announced earlier this fall, plans for an additional 2000 MW of new wind power.<sup>6</sup> British Columbia is expected to join the chorus with a new call for tenders before the end of the year.<sup>7</sup>

Diversification of energy resources has become a critical component of government energy policy as world energy demand continues to grow faster than fossil fuel reserves can be discovered and exploited. So keen are governments to encourage renewable energy development that they are offering financial incentives to facilitate development of such resources. In the 2001 Budget, the federal government announced the Wind Power Production Incentive (WPPI) program offering financial support to create additional wind production capacity.<sup>8</sup> In the 2005 Budget, a companion

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<sup>1</sup> Speaking Notes for The Honourable Stephane Dion, P.C., M.P. Minister of the Environment, at the CEC meeting: “Building the Renewable Energy Market in North America”, Montreal, October 28, 2004, at [http://www.ec.gc.ca/minister/speeches/2004/041028\\_s\\_e.htm](http://www.ec.gc.ca/minister/speeches/2004/041028_s_e.htm).

\* The authors would like to thank those employees contacted at each of the British Columbia Ministry of Energy, Mines and Petroleum Resources, Alberta Environment, Alberta Sustainable Resource Development, the EUB, BCTC and the AESO for their helpful assistance in preparing this paper.

<sup>2</sup> D. Ebner, “Provinces ramp up wind power deals” *The Globe and Mail* (22 Nov. 2005), online edition at <http://www.theglobeandmail.com/servlet/story/LAC.20051122.RWIND22/BNPrint//> (“Ebner Article”).

<sup>3</sup> “Wind, hydro projects win approval”, *The Globe & Mail* (21 Nov. 2005), online edition, at <http://www.theglobeandmail.com/servlet/story/RTGAM.20051121.wpower1121/BNPrint//> (“Globe Article”).

<sup>4</sup> *Ibid.*

<sup>5</sup> Ebner Article, *supra* note 2.

<sup>6</sup> *Ibid.*

<sup>7</sup> BC Hydro website – final call for tender document is expected to be issued December 2005 <http://www.bchydro.com/info/ipp/ipp21390.html>. The provincial Energy Plan sets a voluntary target for all distributors of energy to supply 50% of all new electricity through “clean” resources such as wind, small hydro and cogeneration projects. BC hydro has adopted this voluntary target and will seek to achieve it over a 10-year time period – BCHydro 2005 Open Call for Power Non-Technical Overview, March, 2005.

<sup>8</sup> Government of Canada, “Wind Power Production Incentive” (November 30, 2005) online: <http://www.canren.gc.ca/programs/index.asp?CaId=107&PgId=622>.

Renewable Power Production Incentive (RPPI) program was announced to stimulate new renewable energy electricity generation development other than wind.<sup>9</sup>

The importance of renewable energy resources cannot be overstated. In a climate of rising oil and natural gas prices, enhanced environmental awareness and increasing evidence that fossil fuel supplies are finite, politically vulnerable and environmentally taxing, renewable energy is a promising energy alternative. While not totally without impact on the environment, renewable energy is cleaner than fossil fuels and, by definition, cannot be depleted. In addition, technological advances are making these energies increasingly affordable. The fact that there are no fuel costs involved results in the enhancement of long-term price stability. Finally, renewable energy development is poised to play a key role in Canada meeting the commitments that it has made under the Kyoto Protocol for the 2008-2012 period.

Typical renewable energy sources include solar, wind, hydro, biomass, tidal, geothermal and landfill methane. This paper focuses on two of these renewable energy sources – run-of-river hydropower and wind power.

In a run-of-river project, free-flowing water is channeled through a pipeline to a lower elevation and through a turbine and generator to capture the energy of the moving water.<sup>10</sup> Due to the placement of the turbines mid-stream, little if any water impoundment occurs.<sup>11</sup>

A wind power project converts kinetic energy present in the wind into mechanical energy when wind passes through wind turbine blades that turn a shaft and generator of electricity.<sup>12</sup> While wind projects require more land than conventional energy sources, the land can be concurrently used for other purposes such as agriculture and recreation.<sup>13</sup> Unlike conventional power plants, wind farms can be installed quickly (1 year) and on a modular basis that allows wind energy to respond to much more accurate projections of short-term changes in demand.<sup>14</sup>

### Run-of-River Projects in Canada

Canada is the world's largest producer of hydropower, generating over 350TWh/year.<sup>15</sup> British Columbia's hydropower capacity and potential is second only to Quebec.<sup>16</sup> While numerous run-of-river projects are already online, small hydro development in BC represents only a small proportion of the province's total hydroelectric capacity, despite the province's favorable geography that provides many opportunities for run-of-river small hydro development.<sup>17</sup> Studies have identified

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<sup>9</sup> Government of Canada, "Renewable Power Production Incentive" (November 30, 2005) online: <http://www2.nrcan.gc.ca/es/erb/erb/english/View.asp?x=681>.

<sup>10</sup> M. Umedaly, "A Vision For Growing a World-Class Power Technology Cluster in a Smart, Sustainable British Columbia", Report to the Premier's Technology Council, March 2005, at 110-111 ("Premier Council Report").

<sup>11</sup> *Ibid.*

<sup>12</sup> J. Nyboer et al., "A Review of Renewable Energy in Canada, 1990-2003" at 2 ("CIEEDAC Report").

<sup>13</sup> Canadian Wind Energy Association Submission to the Council of Energy Ministers' Meeting September 20, 2005, St. Andrews, New Brunswick at 7) online: <http://canwea.ca/en/Policy.html> ("CanWea Submission").

<sup>14</sup> *Ibid.*

<sup>15</sup> Canadian Hydropower Association, *Current and planned hydro development in Canada*, Hydropower & Dames Issue Two, 2003 at 3 ("CHA Report").

<sup>16</sup> *Ibid.*

<sup>17</sup> Premier Council Report, *supra* note 10 at 103

more than 600 potential small and micro hydro sites in BC<sup>18</sup>, and BC Hydro has published a handbook to assist independent power producers in developing these resources.<sup>19</sup>

Alberta's existing hydro capacity is minimal, constituting less than 8% of the total capacity for the province.<sup>20</sup> The exact number of run-of-river hydro projects is difficult to estimate however. Some research indicates that Alberta currently has only two run-of-river generation projects.<sup>21</sup> IRRICAN Power, owned and operated by three irrigation districts located in southern Alberta<sup>22</sup>, operates two small hydroelectric plants on the irrigation canals – the Chin Chute Hydroelectric Project (11MW) and the Raymond Reservoir Hydro Project (18MW).<sup>23</sup> Other sources suggest that additional small hydro projects exist meeting the typical “small hydro” criteria of little or no reservoir storage.<sup>24</sup> In any event, run-of-river hydro power generation makes up less than 1% of Alberta's total capacity.

### Wind Projects in Canada

Canada is the world's 13<sup>th</sup> largest wind energy producer, with 590 MW of installed utility-scale wind energy capacity as of September 2005.<sup>25</sup> While Canada lags well behind global wind power leaders like Germany (17,000 MW), Spain (8,959 MW), the United States (7,000 MW), India (3,595 MW) and Denmark (3,115MW)<sup>26</sup>, each of Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Prince Edward Island, Nova Scotia and the Yukon territory have installed utility-scale wind energy capacity feeding into the grid.<sup>27</sup>

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<sup>18</sup> BC Hydro “Enabling Small and Micro Hydro Development” (November 30, 2005) online: <http://www.bchydro.com/environment/greenpower/greenpower1753.htm>.

<sup>19</sup> BC Hydro “Handbook for Developing MICRO HYDRO in British Columbia” (March 23, 2004) at 17 online: <http://www.bchydro.com/environment/greenpower/greenpower1753.html> (“Micro Hydro Handbook”).

<sup>20</sup> Alberta Electric System Operator *20 year Transmission System Outlook [2005-2024]*, June 2005 at A-13 (“AESO 20 Year Plan”).

<sup>21</sup> Pembina Institute, *Low-Impact Renewable Energy Policy in Canada: Strengths, Gaps and a Path Forward*, February 23, 2003 at 23 available at [www.pembina.org/pdf/publications/](http://www.pembina.org/pdf/publications/) (“Pembina Report”).

<sup>22</sup> The St. Mary River Irrigation District, Taber Irrigation District and the Raymond Irrigation District.

<sup>23</sup> Pembina Report, *supra* note 21.

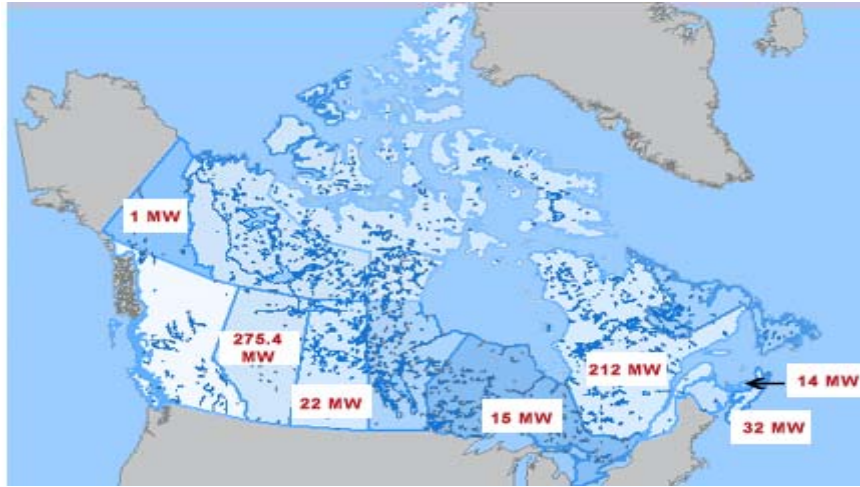
<sup>24</sup> AESO 20 Year Plan, *supra* note 20 at A-14; telephone conversation with David Ardell, Calgary Monitoring / Water Power Licensing Manager, Alberta Environment, on November 30, 2005 (“David Ardell”).

<sup>25</sup> CanWEA Submission, *supra* note 13 at 1-2.

<sup>26</sup> *Ibid.*

<sup>27</sup> *Ibid.*

## Canada's Installed Wind Capacity<sup>28</sup>



Canada is also the first large-area country to map its entire territory for wind potential<sup>29</sup> – in 2004, the federal government unveiled the Canada Wind Energy Atlas, an on-line resource that offers maps and data representing the average wind velocity and power across the whole country, as well as corresponding geophysical characteristics.<sup>30</sup> Between 2000 and September 2005, the annual growth rate in installed wind energy capacity in Canada has averaged 32%.<sup>31</sup>

Despite the heightened activity in the renewable energy sector, BC does not have a single active wind farm.<sup>32</sup> Similarly, small hydro development in Alberta is not expected to make a major contribution to supplying growth in total electricity demand.<sup>33</sup> While some lack of activity can be explained in relation to the abundance of specific resources (BC's rich water resources and Alberta's windy southwest corridors), the wealth of certain resources does not provide a complete answer.

The purpose of this paper is to examine the permitting process for run-of-river and wind power generation projects in BC and Alberta.<sup>34</sup> The paper also explores the process by which decision-makers determine whether a project should proceed. Despite the sequential layout of this paper, successful project development does not necessarily follow a series of sequential steps. Developers should consider all aspects of a project before expending too much effort in any one area, and are encouraged to contact the relevant local, provincial and/or federal organizations for more detailed information on required approvals and regulatory processes.

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<sup>28</sup> Canada Wind Energy Association (August 24, 2005) online: <http://canwea.ca/en/CanadianWindFarms.html>.

<sup>29</sup> Ebner Article, *supra* note 2.

<sup>30</sup> Available at <http://www.windatlas.ca/en/maps.php>.

<sup>31</sup> CanWea Submission, *supra* note 13 at 2.

<sup>32</sup> Premier Council Report, *supra* note 10 at 113.

<sup>33</sup> AESO 20 Year Plan, *supra* note 20 at A-15.

<sup>34</sup> Please note that this discussion is not exhaustive and that the legislation is subject to change.



## II PERMITTING ROADMAP

BC and Alberta have different approval processes and decision-makers for wind and waterpower project approvals. This section outlines the processes involved in acquiring water licenses and obtaining access to land. The permitting process for each province is described below.

### 1. British Columbia

In BC, Crown land accounts for 94% of the provincial land base.<sup>35</sup> As such, virtually all power projects require Crown land tenure approval under the *Land Act*.<sup>36</sup> The provincial Crown also owns all water present in streams, rivers and lakes in BC.<sup>37</sup> Those seeking to divert and use this surface water in any manner are required to obtain a licence under the *Water Act*<sup>38</sup> in order to do so.<sup>39</sup>

Where a project is to be located partly or wholly on private lands, approvals from private landowners are necessary. Generally, negotiations with private landowners are completed independent of the government approval process, and evidence that the proponent has achieved the necessary arrangements with private landowners must be submitted to the government as a component of the application process.<sup>40</sup> This paper does not address the process for obtaining private landowner approval to construct and operate a power project, either in whole or in part, on private lands.

There have been recent changes in the government bodies that make decisions for approving wind and water projects in BC. Land and Water British Columbia Inc. (LWBC) was the primary decision-maker until October 2005, when its responsibilities were dispersed to different ministries.<sup>41</sup> LWBC is no longer responsible for any wind/water program delivery. The following ministries are now involved in the approval process:

- The **Ministry of Energy, Mines and Petroleum Resources** (MEMPR): responsible for developing Crown land tenuring policies for all power projects.
- The **Ministry of Agriculture and Lands** (MAL): makes land use allocation decisions and provides tenure rights to Crown land under the *Land Act*. The **Integrated Land**

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<sup>35</sup> Land and Water British Columbia Inc. (LWBC), *Service Plan Fiscal 2005/2006 – 2007/2008* (Victoria: National Library of Canada, 2005) at 3.

<sup>36</sup> *Land Act*, R.S.B.C. 1996, c.245 at s.11. (“*Land Act*”) This section grants the Minister of Agriculture and Land (previously the Minister of Sustainable Resource Development) the power to dispose of Crown land, including the ability to sell, lease, grant a right-of-way or licence over Crown land.

<sup>37</sup> Micro Hydro Handbook, *supra* note 19 at 17.

<sup>38</sup> *Water Act*, R.S.B.C. 1996, c.483 at s.12. (“*Water Act*”).

<sup>39</sup> LWBC “Guide for Waterpower Projects” (March 2003) online: <http://lwbc.bc.ca/02land/tenuring/waterpower/guide.pdf>. (including the land use policy and information from the LWBC website) (“Waterpower Guide”).

<sup>40</sup> Telephone conversations with David Ingleson, Land Officer with ILMB (November 8 and 17, 2005) (“David Ingleson”).

<sup>41</sup> Ministry of Agriculture and Lands Staff, “Wind Power Projects on Crown Land” (October 21, 2005) at 1, online: <http://lwbc.bc.ca/02land/tenuring/windpower/index.html>. (“Wind Power Policy”). At the time of preparing this paper, much of the research information provided on the BC Government websites continued to reflect the old process for land and water power project approvals, prepared by LWBC.

**Management Bureau** (ILMB) is a branch of MAL and is responsible for reviewing wind and waterpower project applications requiring Crown land tenure.<sup>42</sup> MAL has also established regional **FrontCounterBC: Natural Resource Opportunity Centres** (“FrontCounterBC”) throughout the province, which coordinate and accept applications for access to Crown lands and natural resources.<sup>43</sup>

- **Ministry of Environment** (MOE): responsible for water licensing under the *Water Act*.<sup>44</sup> The **Environmental Assessment Office** (EAO) is part of this ministry and completes the environmental assessment process where applicable.<sup>45</sup>

Applications for Crown land tenure and water licensing are submitted as a joint application to FrontCounterBC.<sup>46</sup> This single window service centre guides proponents through the approvals process by helping to complete applications, to follow up and track applications under review, to act as a liaison between ministries, agencies and governments, and to facilitate the consultation processes with First Nations.<sup>47</sup> Obtaining the necessary permits and licenses for a water project can take a year or longer, depending on the complexity of the project and its location.<sup>48</sup>

### **(a) Water Power Projects**

The LWBC Guide for Waterpower Projects (“Guide”)<sup>49</sup> sets out a 10-step process for developing a waterpower project. Although LWBC’s mandate has been dispersed to other government ministries, the general process set out in the Guide remains the same. Steps 1 through 7 relate to the requirements for the submission, review and adjudication of an application. Steps 8 through 10 relate to the requirements for construction, operation and monitoring of the project. The recent changes to the process are noted throughout the step-by-step description below.

#### *Step 1: Submission of Application*

Applications for waterpower projects are submitted to FrontCounterBC. FrontCounterBC is responsible for ensuring that applications provide enough information for the review process to begin.<sup>50</sup> While there is no set timeline for processing a waterpower application, a quick turn-around time<sup>51</sup> is adhered to for advising a proponent of whether the application is sufficiently complete to

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<sup>42</sup> David Ingleson, *supra* note 40.

<sup>43</sup> Integrated Land Management Bureau (ILMB) (November 30, 2005) online: <http://ilmbwww.gov.bc.ca/ilmb/>.

<sup>44</sup> *Water Act*, *supra* note 38; David Ingleson, *supra* note 40.

<sup>45</sup> David Ingleson, *supra* note 40.

<sup>46</sup> Telephone conversations with Neil Banera, Director, IPPP Policy and Operations, Ministry of Energy, Mines and Petroleum Resources (November 8<sup>th</sup> and 16<sup>th</sup>, 2005) (“Neil Banera”)

<sup>47</sup> FrontCounter BC (November 30, 2005) online: <http://www.frontcounterbc.gov.bc.ca/>.

<sup>48</sup> Micro Hydro Handbook, *supra* note 19 at 29.

<sup>49</sup> Waterpower Guide, *supra* note 39. This guide, published in March 2003, is to be consulted in conjunction with the LWBC application package. LWBC no longer processes applications, however, it was confirmed with David Ingleson that the process continues to be the same with only the government ministries that receive and process the information being changed.

<sup>50</sup> Neil Banera, *supra* note 46.

<sup>51</sup> *Ibid.* Approximately 1 week.

proceed to the next stage. Incomplete applications are returned to proponents with deficiencies identified for correction and re-submission.<sup>52</sup>

If an application is not anticipated to have extensive impacts on the environment, a proponent may move directly to Step 3, prepare a Development Plan and submit it in place of the preliminary project definition required in this step. FrontCounterBC may also proceed at this time to provide information to affected First Nations and other interested parties in the area of the project, thereby commencing the aboriginal rights and title consultation and assessment as prescribed by the *Provincial Policy for Consultation with First Nations*.<sup>53</sup>

### *Step 2: Review of Application*

Once FrontCounterBC has determined that a complete application is submitted, the application is divided, with the Crown land tenure application going to ILMB and the water licence application going to the MOE.<sup>54</sup> If the project is complex, a Project Review Team (PRT) made up of representatives from each of the various government agencies that have an interest in the project may be established.<sup>55</sup> ILMB will complete a detailed land status review to ensure that all areas covered by an application are lands available to be tenured to the proponent under the *Land Act*.

### *Step 3: Preparation of Development Plan*

A development plan sets out a full description of the project and identifies the impacts of construction and operation of the project. A single plan is submitted incorporating both the land and water elements as necessary.<sup>56</sup> An integral element of the plan is identification of the interested/affected parties that should be consulted in relation to the proposed project.<sup>57</sup>

The ILMB, in conjunction with the proponents, will identify the parties that are to be consulted. Interested/affected parties may include government agencies, non-governmental organizations, First Nations, private landowners, existing Crown tenure holders, the general public and any other persons whose interests may be affected by the proposed project. The Guide prescribes when certain parties should be contacted, and who is to be contacted.<sup>58</sup>

At this stage, the interested/affected parties are provided with a copy of the tenure and/or water licence applications, together with a feedback form. All direct discussions between interested/affected parties and the proponent are to be documented as the ILMB requires information about all consultation discussions.<sup>59</sup> Given that development plans may be extensive

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<sup>52</sup> Waterpower Guide, *supra* note 39 at 6-12.

<sup>53</sup> Government of BC, "Provincial Policy for Consultation with First Nations" (October 2002) online: <http://srmwww.gov.bc.ca/clrg/alrb/cabinet/ConsultationPolicyFN.pdf>.

<sup>54</sup> Neil Banera, *supra* note 46.

<sup>55</sup> *Ibid*; Wind Power Policy, *supra* note 41 at 14.

<sup>56</sup> Neil Banera, *supra* note 46.

<sup>57</sup> Waterpower Guide, *supra* note 39 at 13-15.

<sup>58</sup> *Ibid* at Appendix F.

<sup>59</sup> *Ibid* at 14.

and complicated, these plans may be submitted to ILMB in draft form to ensure that all necessary issues are addressed prior to submission of a final development plan.<sup>60</sup>

#### *Step 4: Review of Development Plan*

This step entails a review of the development plan by ILMB to determine if the proponent has submitted all of the necessary information. This is not a decision about the granting of the application. The key to this step is ensuring that the best information is available for all parties who will be asked to provide input under the next step.<sup>61</sup>

#### *Step 5: Project Review*

At this stage, all identified interested/affected agencies and parties have an opportunity to comment on the proposed project.<sup>62</sup> Specifically, the ILMB and MOE seek to determine the impacts of the project and what measures can be put in place to mitigate or compensate for these impacts. It is a fundamental part of the review to look for the potential infringement of aboriginal rights or title over land and water resources.<sup>63</sup>

Submissions by interested/affected parties may be written or oral (or some combination of the two), and may be submitted to either ILMB or the project proponent directly.<sup>64</sup> Consultation approaches by ILMB include general meetings, working committees focussed on specific issues, direct discussions between the proponent and a particular party, public consultations and formal inquiries.<sup>65</sup> Where a proponent has initiated direct consultation with parties in advance of the ILMB's involvement the process may be completed faster than if the ILMB is left to complete all consultations.

#### *Step 6: Preparation of Summary Report*

All of the feedback collected during the step 5 consultation process is then incorporated into a summary report prepared by the proponent. The report must lay out the conclusions of the impact assessments from the project review process, and the proposed mitigation and compensation measures submitted by each party. The proponent must also provide whether an agreement was reached between the proponent and each of the interested/affected parties in respect of mitigation or compensation measures. All submissions must be reflected in the report, whether the proponent agrees with them or not.<sup>66</sup>

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<sup>60</sup> *Ibid* at 14.

<sup>61</sup> *Ibid* at 16.

<sup>62</sup> Wind Power Policy, *supra* note 41. Notices are sent to existing independent water power producers and wind tenure holders within 1 km of the area in the application.

<sup>63</sup> Waterpower Guide, *supra* note 39 at 17.

<sup>64</sup> Neil Banera, *supra* note 46.

<sup>65</sup> Waterpower Guide, *supra* note 39 at 17-21.

<sup>66</sup> *Ibid* at 22.

### *Step 7: Decision on Application*

All information relating to the project is reviewed by ILMB and MOE, and a decision is made to either grant or deny the Crown land tenure and/or water licence. Potential aboriginal right and title infringement is specifically considered. The Crown land tenure and water licences granted will be subject to any construction, operation and environmental obligations imposed in order to mitigate the impacts of the project. While there is only one form of water licence available<sup>67</sup>, there are several forms of Crown land tenure available depending on the status of the project<sup>68</sup>:

#### 1. Investigative Permit

An Investigative Permit is a short-term form of tenure used to facilitate inspections, surveys and investigations by the proponent of an area in which it is interested in developing a water power project. This 2-year permit is renewable at the discretion of ILMB, but does not allow for buildings to be erected on the land. Time extensions are often granted if an environmental assessment is underway.<sup>69</sup>

#### 2. Licence of Occupation

A Licence of Occupation grants a proponent more rights than an investigation permit but does not grant the rights to Crown land that would generally be seen in a standard landlord-tenant lease agreement. Specifically, a licence of occupation does not grant exclusive use of the land, except where the licensee's rights are affected. The licence may also allow for development (such as the erection of a building) under certain circumstances.<sup>70</sup> Various types of licences of occupation exist, including general area licences, transmission line licences, communications site licences, powerhouse site licences, right-of-way licences (for transmission lines) and road licences.<sup>71</sup> The term of a licence may vary from 3 years to indefinite<sup>72</sup> with an "interim" 3-year licence of occupation being first applied for and then a 20-year licence of occupation. The applications for investigative permits and a licence of occupation should be made concurrently, or within 6 months of the issuance of the investigative permit.<sup>73</sup>

#### 3. Works Permit

A Works Permit is needed for the construction stages of building a road, airstrip, bridge or trail over Crown land, which will generally be used during construction of a project. The

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<sup>67</sup> LWBC, "Waterpower Projects" (November 30, 2005) online: <http://lwbc.bc.ca/02land/tenuring/waterpower/index.html>. This licence is granted in respect of a specific quantity of water.

<sup>68</sup> Wind Power Policy, *supra* note 41 at 5-9.

<sup>69</sup> ADM, Crown land Administration Division, "Water Power Policy" (August 16, 2004) at 4, online: LWBC <http://lwbc.bc.ca/01lwbc/policies/policy/land/waterpower/pdf> ("Water Power Policy").

<sup>70</sup> Wind Power Policy, *supra* note 41 at 6.

<sup>71</sup> Water Power Policy, *supra* note 69 at 4-9.

<sup>72</sup> Wind Power Policy, *supra* note 41 at 7-8.

<sup>73</sup> *Ibid* at 6.

maximum term of the works permit is 2 years and it does not grant exclusive use of the road, airstrip, bridge or trail to the proponent.<sup>74</sup>

#### 4. Crown Lease

Leases are generally only available at the later stages of a project, for example once a powerhouse is being constructed for the project. Long-term tenure is needed for such a project given that substantial improvements are being made and definite boundaries are needed to ensure that no conflicts arise with neighbouring licensees. A lease grants exclusive use of the area and is a registrable interest in land.<sup>75</sup>

When the land tenure(s) and water licence are accepted, the proponent is required to pay the full amount of annual rent and fees for each approval. The annual water rental fees for hydro projects will depend on the use of the power (residential<sup>76</sup>, commercial<sup>77</sup> or general<sup>78</sup>), the capacity of the plant and the actual annual output of the plant.<sup>79</sup> For commercial use projects, the annual fee is \$1.726/kW of installed capacity, plus \$1.036 for each MW/hour of electricity produced.<sup>80</sup> For general use projects, the annual fee is \$3.45/kW of installed capacity, plus \$1.036 for each MW/hour of electricity produced.<sup>81</sup> The rents imposed for land tenure are dependent on the location of the land and the type of use proposed.<sup>82</sup>

Once a decision is made by the ILMB to issue Crown land tenure to the proponent, there is no right of appeal in respect of that decision. The *Water Act* does grant a right of appeal in respect of water licence decisions to proponents, landowners physically affected by the project and riparian landowners.<sup>83</sup> Appeals must be filed with the Environmental Appeal Board within 30 days of the decision being issued by the MOE.<sup>84</sup>

#### *Step 8: Construction of Project*

The proponent must submit criteria for the design of the project and plans for its construction (including an environmental management plan) before construction begins, to ensure that all terms and conditions of the approvals issued are complied with. Proponents may be required to retain

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<sup>74</sup> Water Power Policy, *supra* note 69 at 5.

<sup>75</sup> Wind Power Policy, *supra* note 41 at 8.

<sup>76</sup> Micro Hydro Handbook, *supra* note 19 at 33. Applies to project with a capacity of 25 kW or less, where the power is used to meet the household requirements of the licensee.

<sup>77</sup> *Ibid* at 33. Where the power is sold to immediate family members, employees or tenants of the licensee and the project capacity does not exceed 499kW, or where the project supplies power to an industrial facility in which the licensee has an interest of more than 50%.

<sup>78</sup> *Ibid*. Where the capacity exceeds the licensee's household and commercial needs, and includes projects that sell energy into the provincial power grid.

<sup>79</sup> *Ibid*.

<sup>80</sup> *Ibid*.

<sup>81</sup> *Ibid*.

<sup>82</sup> *Ibid* at 34.

<sup>83</sup> *Water Act*, *supra* note 38 at s.40(1).

<sup>84</sup> *Ibid* at s.40(2).

professionals independent from the proponent, including engineers and/or environmental monitors.<sup>85</sup>

### *Step 9: Operation of Project*

Before commencing operations, the proponent (now the licensee) is required to submit a report to the Regional Water Manager to outline the parameters and procedures of the project in accordance with the terms and conditions of approval. Written permission must be obtained by the licensee for commencement of the project.<sup>86</sup>

### *Step 10: Monitoring of Project*

The licensee is responsible for carrying out a monitoring program to track specific impacts of the project, including the amount of electricity generated and compliance with conditions for mitigating impacts.<sup>87</sup> Monitoring may also involve implementation of an environmental monitoring program for a specified period of time. For example, the licence may require the licensee to monitor the impact on fish in the water source being used for the project.<sup>88</sup>

### **(b) Wind Power Projects**

On October 21, 2005, MAL released a new policy for wind power projects on Crown Land (the “Wind Policy”).<sup>89</sup> Prior to the release of the Wind Policy, only investigative permits and licences of occupation were available to wind power project proponents, thereby preventing long-term wind energy developments from being approved in BC. The new policy incorporates all of the Crown land tenure permit options noted in the water power project section above.<sup>90</sup>

The process by which a proponent obtains approval for a wind power project is very similar to the water power project process set out above. Although the Wind Policy describes a three (3) phase approach, when those steps are laid out as in the water power policy Guide, the Crown land tenure elements correspond almost identically to the above-referenced 10-step Crown land tenure part of the water project approval process.<sup>91</sup> Only a few differences are evident for the wind power process, which are outlined below.

The types of permit vary from those issued in respect of hydro power projects. Investigative permits are usually called General Investigation Area – Investigative Permits. Licences of Occupation can be interim or not and are for General Area, Meteorological Towers, and Wind Power Projects. The Wind Policy also discusses the ability of a proponent to purchase the Crown

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<sup>85</sup> Waterpower Guide, *supra* note 39 at 25.

<sup>86</sup> *Ibid* at 26; Micro Hydro Handbook, *supra* note 19 at 33.

<sup>87</sup> Micro Hydro Handbook, *supra* note 19 at 33.

<sup>88</sup> Waterpower Guide, *supra* note 39 at 28.

<sup>89</sup> Wind Power Policy, *supra* note 41.

<sup>90</sup> *Ibid.*

<sup>91</sup> *Ibid.*

lands on which the project has been built, however, such negotiations and agreements are beyond the permitting process.<sup>92</sup>

The ILMB has a special mandate for allocating Crown land for wind power development. The mandate includes a first-come first-served approach to encourage proponents to submit applications early, rather than waiting to submit a full Development Plan when lengthy research reports are complete. Certain Crown lands have also been earmarked for development<sup>93</sup> and the ILMB seeks to grant tenure for these lands on a priority basis. The ILMB will not issue overlapping investigative permits and will accept non-wind applications within an investigative permit area only if the application is for a compatible land use, thereby not interfering with wind power investigations.<sup>94</sup>

Finally, a new rent policy was recently announced for wind power projects. On October 14, 2005, MEMP announced a participation rent policy specially designed for wind power project developers.<sup>95</sup> The participation rent policy applies to projects with Crown land tenures in the form of a lease, and states that no participation rents will be paid for the first 10 years of commercial operations. Starting at year 11, rents are varied according to the annual electricity production of the project. The range is 1-3% of gross revenue from annual production.<sup>96</sup>

### **(c) Other Legislative Requirements**

In addition to meeting the *Land Act* and *Water Act* requirements as set out above, wind and water projects may also be required to fulfill additional legislative requirements. Below is a discussion of some of the numerous other acts and regulations that may impact the approval, construction or operation of such projects.

#### ***(i) Environmental Assessment Act***<sup>97</sup>

Certain large-scale projects must undergo an environmental review under the BCEAA.<sup>98</sup> Water and wind projects with a capacity greater than 50MW are defined as "reviewable projects", and are subject to such review.<sup>99</sup> The Minister of Environment<sup>100</sup> or the Executive Director of the EAO<sup>101</sup>

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<sup>92</sup> *Ibid* at Appendix 1.

<sup>93</sup> Areas for development may be influenced by the areas of development identified by BCTC for constructing transmission lines and interconnection facilities, as is discussed below, or lands that were previously granted to proponents for wind development but were not used diligently and/or defaulted back to the MAL.

<sup>94</sup> Wind Power Policy, *supra* note 41 at 5.

<sup>95</sup> Government of BC, "Wind Power Policy Supports Alternative Energy Industry" (October 14, 2005) online: [http://www2.news.gov.bc.ca/news\\_releases\\_2005-2009/2005EMPR0046-00928htm](http://www2.news.gov.bc.ca/news_releases_2005-2009/2005EMPR0046-00928htm).

<sup>96</sup> Neil Banera indicated that the rent policy is a way to characterize the increased value of Crown land because of the wind power production on that land. A participation rent is not payable until electricity is being produced and sold and the policy provides a 10-year window where no rents are payable.

<sup>97</sup> Environmental Assessment Act, S.B.C. 2002, c.43 ("BCEAA").

<sup>98</sup> B.C. Environmental Assessment Office, "Guide to the BC Environmental Assessment Process" and "summary Guide to the BC Environmental Assessment Process" (March 2003) at summary p.1. ("BCEAA Guide")

<sup>99</sup> BCEAA, *supra* note 97 at s.1, 'reviewable project' includes projects defined in the Reviewable Projects Regulation, B.C. Reg. 370/2002, enacted under the BCEAA. Part 4 of the Regulation outlines certain Energy Projects as reviewable projects, including the electricity projects set out in Table 7. Table 7 includes 'hydroelectric power plant' (defined in section 9 of the regulation to include run-of-river projects) and 'another power plant' (defined in s.9 of the regulation to include wind power projects).



may also designate a project with less than 50MW capacity as "reviewable" where significant adverse environmental, economic, social, heritage or health effects are evident.<sup>102</sup> Environmental assessment certificates are granted for 3 to 5 years and may be extended for up to 5 years.<sup>103</sup>

An eight step review process has been established to obtain an Environmental Assessment Certificate (EAC) under the BCEAA.<sup>104</sup> Project construction or operation may not begin until an EAC has been issued.<sup>105</sup> The Minister of Environment and the Minister of Energy, Mines and Petroleum are the ultimate decision-makers in the wind and water power project assessment process.<sup>106</sup>

*Step 1: Determining if the BCEAA applies – is it a “reviewable project”?*

A project is reviewable if it (a) fits within the *Reviewable Projects Regulation*<sup>107</sup>; (b) the Minister of Environment designates the project as reviewable<sup>108</sup>; or (c) the Executive Director of the EAO designates the project as reviewable because the proponent requested this designation<sup>109</sup>.

*Step 2: Determining the Review path*

The environmental assessment is generally led by the EAO, although a project may be referred to the Minister of Environment for determination of how the assessment should be conducted.<sup>110</sup> The assessment may also be waived if the Executive Director of the EAO determines that a reviewable project does not have a significant adverse environmental, economic, social, heritage or health effect.<sup>111</sup>

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<sup>100</sup> *Ibid* at s.6 permits the minister to designate a project as reviewable under certain circumstances, even if it does not fit a prescribed form. The Ministers power is not limited and can order an assessment be conducted (i) by a commission that the minister appoints; (ii) as a public hearing before a hearing panel appointed by the Minister; or (iii) by any other method the Minister considered appropriate under s.14 of the BCEAA.

<sup>101</sup> *Ibid* at s.7 permits a proponent to apply to the Executive Director to have a project designated as a “reviewable project”. S.11(2) provides the Executive Directors with the discretion to order facilities as reviewable projects, however, this provision enumerates the limitations of this discretion.

<sup>102</sup> Reviewable Projects Regulation, *supra* note 99 at s.4.

<sup>103</sup> LWBC, “Wind Power Application Package” (February 2005) at 18 online: LWBC <http://www.lwbc.bc.ca/02land/tenuring/windpower/index.html>.

<sup>104</sup> BCEAA Guide, *supra* note 98.

<sup>105</sup> *Ibid* at 6.

<sup>106</sup> Telephone conversation with Gary Alexander, Project Review Manager of the EAO (November 15, 2005) (“Gary Alexander”). The Minister of Environment is a decision-maker for all assessments, however, the second minister will vary depending on the form of project seeking approval. The Minister of Energy, Mines and Petroleum Resources is the ‘responsible minister’ for wind and water power projects.

<sup>107</sup> BCEAA, *supra* note 98 at s.5 allows the Lieutenant Governor in Council to make regulations constituting a reviewable project.

<sup>108</sup> *Ibid* at s.6.

<sup>109</sup> *Ibid* at s.7.

<sup>110</sup> *Ibid* at s.14; Gary Alexander, *supra* note 106 - noted that a referral to the Minister is very rare.

<sup>111</sup> BCEAA, *supra* note 98 at s.10(1)(b).

### *Step 3: Determining How the Assessment will be Conducted*

The EAO determines the process and scope of assessment and issues a Procedural Order setting out the environmental assessment process.<sup>112</sup> The EAO considers input and advice from government agencies, First Nations and the public in establishing each project-specific process. The Procedural Order will address the scope of the project; the methods of the environmental assessment; the potential impacts of the project; the terms of reference and other information that will be required from the proponent; how First Nations and the public are to be consulted; and the time limits for the assessment. The Order is legally binding but may be amended if unforeseen circumstances arise. Amendments to the Order are not routinely made.<sup>113</sup>

### *Step 4: Developing and Approving Terms of Reference for the Application*

Based on the Procedural Order, the proponent prepares an application for an EAC. The application includes terms of reference, which are fully developed in consultation with government agencies, First Nations and the public.

### *Step 5: Preparing and submitting the Application*

Once the terms of reference are finalized and approved, the proponent prepares an application according to the terms of reference. The EAO ensures the application contains all necessary information and advises the proponent within 30 days as to whether all necessary information has been submitted. If deficiencies in the application are identified, the proponent must review and resubmit the application.

### *Step 6: Reviewing the Application*

The Procedural Order determines the review process, which normally includes review by government agencies, First Nations and the public. There may also be First Nation and public consultation, a formal public comment period and an opportunity for the proponent to respond to issues. The government has 180 days to complete this review and refer the application to the Ministers for decision-making. If additional information is required from the proponent, the timeline may be suspended. A suspension may not exceed three years.<sup>114</sup>

### *Step 7: Preparing the Assessment Report and Referring the Application to Ministers*

Once the review is complete, the EAO prepares an assessment report to the ministers setting out the findings of the assessment. The report includes the issues raised during the review, whether or not these issues have been addressed, and recommendations of the EAO. The Ministers use this report to determine if an EAC should be issued. The "ministers" are the Minister of Environment

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<sup>112</sup> Gary Alexander, *supra* note 106. If a review under the Canadian Environmental Assessment Act (CEAA) is also required, the process for assessment is set out under the Canada-BC Agreement on Environmental Assessment Cooperation, which will include who is able to provide input to the decision-makers. Otherwise, the EAO will determine who is consulted and how.

<sup>113</sup> BCEAA Guide, *supra* note 98 at 16.

<sup>114</sup> *Ibid* at 18 & 19.

and the “responsible minister” for the particular type of project (i.e. Minister of Energy, Mines and Petroleum Resources for wind and water power projects).<sup>115</sup>

*Step 8: Deciding to Issue/Not issue an EA Certificate*

The ministers make a decision within 45 days of receiving the assessment report. They may agree to issue or not issue the certificate or ask for further assessment. The decisions are generally unanimous<sup>116</sup> and will set out any conditions of issuance.<sup>117</sup>

(ii) *Water Protection Act*<sup>118</sup>

Intended to foster sustainable use of BC's water resources, the *Water Protection Act* sets out restrictions on water licences issued under the *Water Act* if a project diverts water out of the province of BC or includes other potentially damaging diversions or extractions.<sup>119</sup> For example, the issuance of a licence, approval or permit that allows a person to construct a large scale project capable of transferring water from one major watershed to another is prohibited.<sup>120</sup> Any *Water Act* licence applications must therefore be considered in light of this legislation.

(iii) *Fish Protection Act*<sup>121</sup>

The *Fish Protection Act* sets out rivers and related tributaries in the province that are protected. Projects that propose a bank to bank dam are not permitted on protected rivers, which means that a structure is not permitted if it is capable of impounding water that spans both banks of the stream. Therefore, a run-of-river project that seeks to divert all water from a protected river is not permitted<sup>122</sup> and the MOE, when considering an application for a water licence under the *Water Act*, must consider the restrictions under this Act.

(iv) *Crown land reserves under the Water Act and/or Land Act*

The *Water Act* and *Land Act* have provisions that allow for water of a stream and/or Crown land to be 'reserved' from disposition.<sup>123</sup> Reserves are areas of land or water that are saved for a particular use and, therefore, no tenure rights or licensing is permitted for these areas. Should an area of water or land be reserved, the MOE and/or the ILMB will not be able to issue a water licence or tenure, respectively, for development of a wind or water project in that area.

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<sup>115</sup> *Ibid* at 19; Gary Alexander, *supra* note 106.

<sup>116</sup> *Ibid*. It has never happened that the Ministers did not agree with each other. It is a yes or no decision; there are no 'dissents'.

<sup>117</sup> BCEAA Guide, *supra* note 98 at 20.

<sup>118</sup> *Water Protection Act*, R.S.B.C. 1996, c.484 (“Water Protection Act”).

<sup>119</sup> *Ibid* at s.2.

<sup>120</sup> *Ibid* at s.7.

<sup>121</sup> *Fish Protection Act*, S.B.C. 1997, c.21 (“Fish Protection Act”).

<sup>122</sup> *Ibid* at s.4.

<sup>123</sup> *Water Act*, *supra* note 38 at s.44; *Land Act*, *supra* note 36 at s.15

(v) *Fisheries Act*<sup>124</sup>

Any water intake project constructed to conduct water from Canadian fisheries waters for power generation must provide for an entrance with a fish guard to prevent fish from entering the intake<sup>125</sup>. Water power projects will be assessed to determine if the project will be on Canadian fisheries waters, and if so, what structures and/or safeguards are required. The MOE, in assessing the water licence application of the proponent, will determine if the federal minister needs to be contacted for review in this regard.<sup>126</sup>

(vi) *Canadian Environmental Assessment Act*<sup>127</sup>

The CEAA requires that federal authorities<sup>128</sup> undertake an environmental assessment for certain projects.<sup>129</sup> Environmental assessments involve the public in an open and participatory manner and allow for the integration of environmental considerations and public concerns into the decision-making process. The Inclusion List Regulation lists projects that must undergo assessment and includes projects that affect National Parks, protected areas, fisheries and/or aboriginal lands. Wind and water power projects are not expressly enumerated in this regulation, however, reference is made to those water projects requiring review under section 35(2) of the *Fisheries Act*.<sup>130</sup> Therefore, if the project may result in harmful alteration, disruption or destruction of fish habitat, a CEAA review may be required. Also, while wind projects may not trigger CEAA review in the normal course, in order to qualify for funding under the federal government's WPPI program, an environmental impact review must be completed and submitted with the WPPI application.<sup>131</sup>

(vii) *Navigable Waters Protection Act*<sup>132</sup>

If a proposed project affects navigable waters then approvals are required from the Minister of Transport. It is forbidden to construct or place any work in, on, over, under, through or across any navigable water unless it is approved by the Minister of Transport.<sup>133</sup>

(viii) *Canadian Aviation regulations*

Wind projects require NAV Canada and Transport Canada approvals. Proponents require Aeronautical Obstruction Clearance from Transport Canada in compliance with Canadian Aviation Regulations, due to the height of wind structures and the hazard they may pose to aviation. Various

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<sup>124</sup> *Fisheries Act*, R.S.C. 1985, c.F-14. ("*Fisheries Act*").

<sup>125</sup> *Ibid* at s.30.

<sup>126</sup> *Ibid* at s.30.

<sup>127</sup> 1992, c.37 ("*CEAA*").

<sup>128</sup> *Ibid* at s.1, "federal authorities" are a federal Minister, an agency of the Government of Canada, a department under the Financial Administration Act or other bodies established under the CEAA.

<sup>129</sup> *Inclusion List Regulations*, SOR/94-637.

<sup>130</sup> *Fisheries Act*, *supra* note 124 at s.35(1)-No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat. S.35(2) states: no person contravenes (1) if the alteration, disruption or destruction is by any means or under any conditions authorized by the Minister or under regulations.

<sup>131</sup> Government of Canada, "Environmental Impact Statement Guideline for Screenings of inland Wind Farms Under the CEAA" at 9 (2003) online: <http://www.canren.gc.ca/programs/index.asp?CaId=190&PgId=1155>.

<sup>132</sup> R.S.C, c.N-19 ("*NWPA*").

<sup>133</sup> *Ibid* at s.5.

conditions, including lighting requirements on proposed facilities, may often be imposed. NAV Canada requires proponents to submit land use and construction proposal submissions to obtain approval for the form of structure proposed.<sup>134</sup>

(ix) *Miscellaneous*

Additional regulations and acts may govern the approval of a project. While some do not require a specific permit to be issued, there may be requirements to inform the applicable agency or authority as part of the referral/consultation process. Potentially relevant additional legislation includes the *BC Fisheries Act*, *BC Wildlife Act*, *BC Environmental Management Act*, and *BC Heritage Conservation Act*, to name a few.<sup>135</sup>

**(d) Subsequent Regulatory Processes**

(i) *Interconnection*

Interconnection is the connection between a water or wind power project and the BC Hydro distribution system or the British Columbia Transmission Corporation (BCTC) transmission network. As interconnection is separate from the permitting process, an application must be made to either BC Hydro or BCTC to study and determine the cost of the facilities needed to connect the project to the grid, and to deliver the electricity generated by the project to load. As the costs of interconnection are the responsibility of the proponent and can be extremely high, a project proponent will generally start with an interconnection assessment, following the steps below, before proceeding to the applicable Crown land tenure and/or water licence application process. This process is also completed first because the timing for constructing interconnection and transmission facilities may be substantially longer than the time needed to construct the project itself.<sup>136</sup>

If a proponent develops a project that will not be connected to the grid (e.g. on-site generation for industry), there is no need to complete the following interconnection process. However, if a project is to connect to the grid, an Interconnection Agreement is required with either BC Hydro or BCTC. Projects that will interconnect at voltages less than 35kV go to the office for Distribution Generator Interconnections (DGI) at BC Hydro for help in selecting the appropriate interconnection to the BC Hydro distribution grid. If the interconnection is at 35kV or more, the proponent goes to BCTC for interconnection directly into the transmission system.<sup>137</sup>

BCTC is in the process of implementing a new interconnection process based on the US Federal Energy Regulatory Commission's (FERC) large generator interconnection procedures established in FERC Order 2003. Thus, some of the procedures outlined below are expected to change when BCTC completes the implementation in Spring 2006. Proponents bidding into a BC Hydro competitive electricity acquisition process will follow the interconnection procedures set out in the applicable call for tender documents, which will be different from the process outlined below.

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<sup>134</sup> EUB Directive 028 – *Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations* (formerly Guide 28), December 2003, incorporating Revision 1, Errata May 2004 at 17 (“Directive 28”).

<sup>135</sup> Micro Hydro Handbook, *supra* note 19, Appendix B at 65.

<sup>136</sup> Telephone conversation with Cam Lusztig, Director of Regional Market Policy at BCTC (November 15, 2005) (“Cam Lusztig”).

<sup>137</sup> Micro Hydro Handbook, *supra* note 19.

*Guidelines for interconnections with BC Hydro of 35kV or less*

To apply for interconnection to BC Hydro, a Generator Interconnection Preliminary application is sent to DGI for review.<sup>138</sup> DGI will notify a proponent within 10 business days if the application is incomplete. If the application is complete it proceeds to the Preliminary Study, which takes about 3-8 weeks<sup>139</sup> to evaluate the feasibility of interconnecting the project to the grid and to provide preliminary cost estimates of such interconnection.<sup>140</sup> Upon receipt of the study report from DGI, the proponent will determine if the project is economically and technically viable.<sup>141</sup>

If a project is deemed viable, an impact/design study will be completed by DGI to more thoroughly consider the issues identified in the preliminary study. The 4-16 week study provides a design cost estimate and assesses whether the project meets distribution interconnection requirements. The report evaluates any modifications that are needed for the project to be connected to the distribution system.<sup>142</sup>

Within 15 days of completion of these studies, DGI provides an interconnection agreement to the proponent setting out the legal and technical requirements of interconnection. Before implementation of the agreement, an agreement is also made between BC Hydro Engineering and the proponent.<sup>143</sup>

*Guidelines for interconnections with BCTC of more than 35kV*

Proponents with projects of this nature will first meet with BCTC Market Operations staff to review the interconnection process, get more application information to discuss the project.<sup>144</sup> The proponent may then elect to complete a preliminary study or proceed directly to the Generator Interconnection application.<sup>145</sup>

If the proponent decides to complete a preliminary study, they forward the application to the Market Operations office and will be advised within 10 days if the application is deficient.<sup>146</sup> BCTC and the proponent then enter into a Preliminary Study Agreement to formalize the study request. This 8-week study<sup>147</sup> evaluates the proposed generator system and the facilities necessary to interconnect to

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<sup>138</sup> All application forms and requirements are set out on the BC Hydro website: [www.bchydro.com](http://www.bchydro.com).

<sup>139</sup> Dependent on the complexity of the project and the number of studies currently underway

<sup>140</sup> BC Hydro, "Distribution Generator Interconnections" (December 2003) online:

<http://www.bchydro.com/info/ipp/ipp992.html> ("DGI Guide"). All costs associated with the studies that are part of the application process are paid for by the proponent.

<sup>141</sup> *Ibid* at 1.

<sup>142</sup> *Ibid* at 2.

<sup>143</sup> *Ibid*. This agreement outlines the costs for BC Hydro's interconnect facilities; construction and payment schedules and timelines for implementation. A letter of credit for the network upgrade portion may also be required by BC Hydro to ensure the proponent is able to cover the costs of the interconnection facilities.

<sup>144</sup> BCTC, "Transmission Generator Interconnection Process Summary" at 1 (2005) online:

[http://www.bctc.com/generator\\_interconnection?transmission\\_generator\\_interconnection\\_process\\_chart.hrm](http://www.bctc.com/generator_interconnection?transmission_generator_interconnection_process_chart.hrm). ("BCTC Summary") There is no cost for the initial meeting and all information shared is confidential and released by BCTC only with consent of the proponent.

<sup>145</sup> *Ibid* at 1. If an proponent is confident about the feasibility of the project on economic and technical levels, then they often proceed directly to the Generator Interconnection Application

<sup>146</sup> *Ibid*. The proponent is responsible for the costs of all studies associated with this process.

<sup>147</sup> The timing will depend on the complexity of the project and the number of other studies being completed.

the transmission system, which helps the proponent determine if the project is feasible before investing significant resources in the interconnection impact and facilities studies.<sup>148</sup>

Upon receipt of a Generator Interconnection Application, BCTC completes interconnection impact<sup>149</sup> and facilities studies.<sup>150</sup> Normally, the proponent, their engineering consultants and BCTC meet to finalize the information to be relied upon in the studies and set out in the Impact and Facilities Studies Agreement (IFSA).<sup>151</sup> The studies take about 16 to 30 weeks, at which time the proponent receives the reports and project interconnection requirements to aid in determining if the project is economically and technically feasible.<sup>152</sup>

If the proponent chooses to proceed with the project, BCTC prepares an Interconnection Agreement, which must be signed before an electrical connection is planned (whether or not arrangements for the sale of electricity have been made).<sup>153</sup> Once security and payment are received, BCTC designs and builds the necessary facilities for interconnection. Before the project is energized, BCTC prepares an Operating Order to define operating boundaries and safety procedures. The final step is that BCTC's Field Co-ordinator completes the commissioning process, which brings the generating facility on-line to the transmission system.<sup>154</sup>

### (ii) *Transmission*

The Interconnection Agreement with BCTC does not give the proponent the right to inject power into the BC transmission system.<sup>155</sup> If the proponent wishes to use the transmission to deliver the energy to a load, a Transmission Service Agreement<sup>156</sup> with BCTC is required.<sup>157</sup>

As noted in the Interconnection section, transmission is a front-end issue for wind and water power projects. If the proponent wishes to sell its power off site then the proponent should ensure its project is viable in consideration of interconnection and transmission costs before proceeding with the project permitting processes.

### (iii) *Energy Sales*

If a proponent plans to sell some or all of the energy from the project, then the proponent must also enter into an Energy Purchase Agreement (EPA) with BC Hydro or another energy purchaser. Privately owned generators in BC may sell their power to BC Hydro, transmission-connected industries, marketers, or in export markets. A copy of the EPA may need to be filed with the BC

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<sup>148</sup> *Supra* note 144 at 2.

<sup>149</sup> *Ibid* at 3. The Interconnection Impact Study (IIS) determines the technical feasibility of the facilities connecting to the transmission system. The study examines transmission interconnection options, transmission constraints and if network upgrades are required

<sup>150</sup> *Ibid*. The Interconnection Facilities Study (IFS) uses the IIS to identify BCTC interconnection facilities needed to connect the project to the transmission system and facilities needed to mitigate project impacts.

<sup>151</sup> *Ibid* at 2.

<sup>152</sup> *Ibid* at 3.

<sup>153</sup> *Ibid* At 4.

<sup>154</sup> *Ibid*.

<sup>155</sup> *Ibid*.

<sup>156</sup> Also known as a Wholesale Transmission Service contract.

<sup>157</sup> Micro Hydro Handbook, *supra* note 19 at 38.

Utilities Commission,<sup>158</sup> though certain exemptions apply. It is the responsibility of the proponent to find a buyer that is interested in purchasing the energy generated by the project.<sup>159</sup> Generally, a proponent will be unable to secure funding from a lending institution until an EPA has been entered into.<sup>160</sup>

## 2. Alberta

In Alberta, Crown land accounts for approximately 60% of the provincial land base,<sup>161</sup> with the majority of southern Alberta being privately owned and most of northern Alberta being Crown owned. As most wind power harnessed to date has been in southwest Alberta (the Crowsnest Pass/Pincher Creek area), wind power projects that are already operating are located almost exclusively on private land.<sup>162</sup> Only recently has the Government of Alberta turned its mind to the task of developing a policy for wind power project development on Crown lands. Until guidelines are put in place, the Alberta Minister of Sustainable Resource Development has declared a moratorium on wind power project development on Crown land.<sup>163</sup>

The key agency involved in wind and run-of-river power project approvals in Alberta is the Alberta Energy and Utilities Board (EUB). The EUB is an independent, quasi-judicial agency of the Alberta Government mandated with the review of proposed energy projects in the public interest.<sup>164</sup> Facility applications for both wind and run-of-river power projects in Alberta are made to the EUB pursuant to the *Hydro and Electric Energy Act (HEEA)*.<sup>165</sup> The following is an outline of the application and hearing processes for water and wind power projects in Alberta.

### (a) Water Power Projects

EUB Directive 28 outlines the project application requirements for all power plants, substations and transmission lines.<sup>166</sup>

#### (i) *The Application Process*

When a proponent seeks to apply for EUB approval of a proposed waterpower project, the first step is to carry out a public notification and involvement program. While EUB Directive 56 outlines personal consultation and notification requirements in respect of oil and gas-related energy developments,<sup>167</sup> no formal public notification and involvement guidelines currently exist addressing consultation requirements in relation to electric facility applications.<sup>168</sup> The EUB has prepared draft

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<sup>158</sup> *Utilities Commission Act*, R.S.B.C. 1996, c.473 at Part 5, s.71.

<sup>159</sup> Micro Hydro Handbook, *supra* note 19 at 38.

<sup>160</sup> Neil Banera, *supra* note 46.

<sup>161</sup> Alberta Sustainable Resource Development (SRD), at [http://www3.gov.ab.ca/srd/land/APL\\_Sale.html](http://www3.gov.ab.ca/srd/land/APL_Sale.html).

<sup>162</sup> Telephone conversation with Mary Christensen, Technologist with Land Use Operations, Public Lands and Forests, SRD (Nov 29/05) (“Mary Christensen”).

<sup>163</sup> *Ibid.* Moratorium declared August 2005.

<sup>164</sup> EUB Mission Statement, at <http://www.eub.gov.ab.ca/BBS/eubinfo/default.htm#mission>.

<sup>165</sup> R.S.A. 2000, c.H-16 (“HEEA”).

<sup>166</sup> Directive 28, *supra* note 134.

<sup>167</sup> EUB Directive 056 – *Energy Development applications and Schedules* (formerly Guide 56), September 2005.

<sup>168</sup> Telephone conversation with Pat Wickel, Utilities Branch, Alberta Energy and Utilities Board, November 30, 2005 (“Pat Wickel”).



guidelines for public notification and involvement in relation to such projects, and expects to incorporate them into Directive 28 in the near future.<sup>169</sup>

In short, the draft guidelines require project proponents, at minimum, to: (a) identify all parties within a 2000 meter radius from the proposed power plant who may be directly and adversely affected by the proposed project; (b) notify such parties of the proposed project and provide them with an information package, including specific information about the project; and (c) provide them with a fair opportunity to submit their views in respect of the project to both the proponent and/or the EUB.<sup>170</sup> Project proponents are responsible for identifying when public notification and involvement should exceed the minimum requirements contained in the guidelines.<sup>171</sup> EUB staff does not generally participate in the public notification and involvement program.<sup>172</sup>

Directly and adversely affected parties, which can include landowners, residents, leaseholders, trappers, people working in the area and/or local authorities<sup>173</sup>, are those that have a legally recognized interest that may be directly or adversely affected by the proposed project – some degree of connection must exist between the project proposed and the rights asserted.<sup>174</sup> Where the location of a proposed facility is in a densely populated area, such as a major urban centre, the proponent may as a minimum requirement provide the information package to only the first line of dwellings in the immediate vicinity of the project, as well as any other dwellings in the direct line of sight of the project.<sup>175</sup> Project proponents are also expected to adhere to the Alberta Government's First Nations Consultation Policy on Land Management and Resource Development issued May 16, 2005.<sup>176</sup> If the public notification and involvement information contained in the application is subsequently found to be false or inaccurate, any EUB approvals obtained in relation to the project may be suspended.<sup>177</sup>

Once the participant involvement program is complete, the proponent may file an application with the EUB.<sup>178</sup> EUB staff in the Utilities Branch will review the application. If key information is missing, the application will be returned to the proponent with an explanation of the deficiencies and the EUB file is closed. Where only minor deficiencies exist, such deficiencies will be identified and the proponent will have an opportunity to remedy the deficiencies within a stated time frame.<sup>179</sup> The EUB file will be closed if deficiencies are not corrected in a timely manner.

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<sup>169</sup> *Ibid.*

<sup>170</sup> EUB Draft consultation guideline for electric facility applications, Minimum Requirements section (“Draft Consultation Guideline”).

<sup>171</sup> *Ibid* at Purpose section.

<sup>172</sup> The EUB will generally hold various open houses to discuss the hearing process once a project application has been filed and a notice of hearing issued by the EUB. The EUB does not engage in discussions regarding the specifics of a particular project.

<sup>173</sup> Draft Consultation Guideline, *supra* note 170, at Electric Facility Development: A cooperative Venture section.

<sup>174</sup> *Dene Tha' First Nation v. Alberta (Energy and Utilities Board)*, 2005 ABCA 658 (ABCA).

<sup>175</sup> Draft Consultation Guideline, *supra* note 170, at Minimum Requirements section.

<sup>176</sup> *Ibid* at Purpose section. The Alberta Government's May 16, 2005 aboriginal consultation policy is available at [www.aand.gov.ab.ca/PDFs/Consultation\\_Policy-May16.pdf](http://www.aand.gov.ab.ca/PDFs/Consultation_Policy-May16.pdf).

<sup>177</sup> *Ibid* at Electric Facility Development: A cooperative Venture section.

<sup>178</sup> Note that participant involvement does not end with the issuance of a licence – it must continue throughout the life of a project.

<sup>179</sup> Directive 28, *supra* note 134 at 4.

The application to the EUB must include a list of all parties identified by the proponent as being potentially affected by the proposed project (including all owners, occupants and residents on lands within 2000 m of the project area), and the concerns of each party.<sup>180</sup> The proponent must endeavor to address all of the concerns raised by such parties through the participant involvement program. Where parties are not able to come to a resolution on any particular issue, the EUB's dispute resolution program offers options to help resolve issues, such as negotiation, facilitation, mediation and arbitration.<sup>181</sup> The proponent must advise the EUB if further discussion is unlikely to resolve issues and outline the outstanding concerns and the steps taken to resolve the problems.<sup>182</sup>

In addition to a discussion of the participant involvement program undertaken, proponents must include in the application a detailed project description and technical information, including equipment details, production expectations, construction timelines, and interconnection plans.<sup>183</sup> A noise impact assessment must also be completed for any power plant application.<sup>184</sup>

### (ii) *The Hearing Process*

Once the application is submitted to the EUB and assessed as complete on a preliminary basis, the EUB publishes a notice of application to give directly affected persons an opportunity to intervene in the proceeding and file submissions explaining the disposition of the application sought, including the reasons why the EUB should decide in the manner advocated by the intervener. If directly affected persons file no submissions, then the EUB may approve the proposed project without a hearing.<sup>185</sup> If intervener submissions objecting to the proposed project are received, a hearing must be held in connection with an application and a notice of hearing will be published at least 30 days before the date of the hearing. A pre-hearing conference may be held to address procedural matters and narrow the issues to be raised at the hearing. Depending on the nature of the project, the hearing may be written, oral, or a combination of the two. Eligible interveners may submit a claim for the costs of participation in a proceeding.<sup>186</sup>

The EUB's governing legislation requires it to consider the public interest in its deliberations when deciding whether to grant the approvals requested, and empowers it, where necessary, to apply conditions to mitigate site-specific or local impacts.<sup>187</sup> The EUB is prohibited from considering the need for the facility, as market forces are to dictate need in the Alberta deregulated electrical generation market.<sup>188</sup> The specific test for approval is whether a proposed project is in the public

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<sup>180</sup> *Ibid* at 16.

<sup>181</sup> EUB Information Letter 2001-1: Appropriate Dispute Resolution [ADR] Program and Guidelines for Energy Industry Disputes (IL 2001-1).

<sup>182</sup> Directive 28, *supra* note 134 at 5.

<sup>183</sup> *Ibid*.

<sup>184</sup> In accordance with EUB Interim Directive (ID) 99-8 – Noise Control Directive.

<sup>185</sup> *Energy Resources Conservation Act*, R.S.A. 2000, c.E-10, at s.26(1) (“*ERCA*”).

<sup>186</sup> *Ibid* at s.28 – the proponent is responsible for intervener costs that the EUB approves as being reasonable and directly and necessarily related to the preparation and presentation of the eligible intervener's submission before the EUB in relation to the proceeding.

<sup>187</sup> EUB Decision 2005-060, *Compton Petroleum Corporation Applications for Licences to Drill Six Critical Sour Natural Gas Wells* (June 22, 2005) at 12 (“*Compton Decision*”).

<sup>188</sup> HEEA, *supra* note 165 at s.3; Decision 2003-020, *Glacier Power Ltd. Dunvegan Hydroelectric Project Fairview, Alberta*, Report of the EUB-NRCB Joint Review Panel (March 25, 2003) at 5 (“*Dunvegan Decision*”) – the 1995 enactment of the *Electric Utilities Act* and the concurrent amendments to the HEEA signaled a clear intention from the Alberta

interest, having regard to the social and economic effects of the project and its effects on the environment.<sup>189</sup> A recent decision of the EUB had the following to say about the “public interest”:

It is difficult to define concretely what is meant by the public interest and how the Board will apply consideration of this interest in any given situation. To assert that the public interest is found where the greatest good for the greatest number can be identified ignores the very specific elements that [the legislation] requires the Board to consider in assessing the public interest.

Clearly, it is not just the interest of the applicant and the interveners that are at stake. The Board has a duty to safeguard the interests of all the citizens of the province of Alberta.

Concepts as fluid as social, economic, and environmental impact are not easily resolved through the application of fixed principles. The Board must identify the elements of each applied-for energy development that would provide benefit not exclusively to the applicant and those directly connected to the development, but to Albertans in general. The Board must also weigh those benefits against the risk factors that are present, given the nature of the development, the location proposed, and other factors associated with the specific situation.

A finding by the Board that the approval of a development would be in the public interest does not imply that there will be no site-specific impacts. The challenge for the Board is to ensure that any site-specific or local impacts are mitigated to an appropriate and acceptable level.

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[A] project may be found to be consistent with the public interest where the Board finds that the benefits of the project outweigh the potential for negative consequences and that appropriate mitigative measures can be applied to reduce or eliminate any negative aspects of the project<sup>190</sup>

Regarding the adequacy of a proponent’s public notification and involvement program (a matter frequently raised at hearings<sup>191</sup>), the EUB has stated that effective consultation requires proponents to: (1) identify and communicate directly with potentially affected parties; (2) identify and communicate with aboriginal, environmental, and other groups that are likely to have an interest in the project; (3) develop an effective communication plan that involves affected parties at an early stage in project planning prior to submitting an application; and (4) provide parties with sufficient information for them to be able to participate meaningfully in the decision making process.<sup>192</sup>

Once the review process is complete, the EUB will either approve or deny the application, and may impose any conditions it deems necessary to mitigate the impacts of the proposed project in the public interest.

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legislature that electrical generation in Alberta was to be developed through the mechanism of a competitive, deregulated electrical generation market and not through the former regulatory regime which required the EUB to determine the need, construction and commissioning of such facilities, the allowed cost of such facilities in rates, as well as the price of electricity to be charged to consumers through regulated rates.

<sup>189</sup> ERCA, *supra* note 185 at s.3.

<sup>190</sup> Compton Decision, *supra* note 187 at 12-13.

<sup>191</sup> Dunvegan Decision, *supra* note 188 at 56

<sup>192</sup> *Ibid* at 56-57.

A decision of the EUB is final.<sup>193</sup> However, the EUB may review any decision, order, licence or approval that it has made on its own initiative or at the request of an affected person or party. Review and variance requests are of two types. Where an affected party was not provided notice of the hearing, or if the EUB made a decision without holding a hearing, an affected party may apply for review to the EUB within 30 days of the issuance of the decision. Alternatively, any party to the hearing may request review and variance of an EUB decision.<sup>194</sup> In response to this type of review request, the EUB uses a two-step process: first, it determines whether the decision in question should be reviewed, and second, if the EUB grants the review, a hearing on the merits is conducted. Generally, the party seeking review must either raise new facts or evidence that could lead the EUB to materially vary the decision, order, licence or approval, or identify an error in the decision or order that raises a substantial doubt as to the correctness of the EUB's decision.<sup>195</sup> EUB decisions may also be appealed to the Alberta Court of Appeal based on questions of jurisdiction or law – no appeal is available on pure questions of fact.<sup>196</sup> Permission to appeal the decision must be obtained from the Alberta Court of Appeal within 30 days after the EUB's decision is issued.<sup>197</sup>

Where other regulatory agencies are required to issue approvals in respect of the same project (see below discussion), the EUB works with those agencies to establish joint processes, including the issuance of joint notices, and the striking of joint panels to hear such applications where necessary. For example, the EUB and the NRCB have agreed in the past to hold a cooperative proceeding to consider an application, with a joint panel made up of members from both boards.<sup>198</sup>

### **(b) Wind Power Projects**

The process by which wind power projects obtain EUB approval is identical to the water project process set out above. Wind power project applications must also include additional details regarding dynamic voltage control at the point of interconnection.<sup>199</sup>

### **(c) Other Legislative Requirements**

Depending on the type of project, other environmental approvals, licensing, development and operations permits may also be required in order to proceed with a particular project.

#### ***(i) Environmental Protection and Enhancement Act (EPEA)***<sup>200</sup>

Where a power project meets one of the thresholds prescribed under the EPEA and associated regulations for an environmental impact assessment (EIA), an EIA is required. Threshold criteria in respect of run-of-river projects include the height of the proposed dam (>15m), reservoir capacity (>30 million cubic metres), facility capacity (>100MW) and water diversion structure/canal capacity

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<sup>193</sup> EUB Guide 29: Energy and Utility Development Applications and the Hearing Process (January 2003) at 19.

<sup>194</sup> *Ibid.*

<sup>195</sup> *Ibid.*

<sup>196</sup> Alberta Energy and Utilities Board Act, R.S.A. 2000 c.A-17, at s.26 (“AEUB Act”).

<sup>197</sup> *Ibid.*

<sup>198</sup> See Dunvegan Decision, *supra* note 188.

<sup>199</sup> Directive 28, *supra* note 134 at 18.

<sup>200</sup> R.S.A. 2000, c.E-12 (“EPEA”).

(>15 cubic m/s).<sup>201</sup> Wind powered electrical generation projects are not designated as a mandatory activity under the legislation, and do not trigger any of the EIA threshold criteria. Even where EIA thresholds are not triggered however, the Director retains the discretion to direct a proponent to prepare an EIA in respect of a project where the Director is of the view that the potential environmental impacts of a proposed activity warrant further consideration under the environmental assessment process.<sup>202</sup>

Where a proponent is required to prepare an EIA, they must submit proposed terms of reference to the Director. The Director will issue final terms of reference to guide the preparation of the EIA.<sup>203</sup> Any EIA submitted pursuant to the EPEA should be included as part of the application to the EUB.

Where no EIA is required, neither wind nor run-of-river electrical generation projects require approval from and/or registration with the Director under the EPEA. Only power plants that produce steam or thermal electrical power and have a rated production output of over 1MW require approval under the EPEA.<sup>204</sup> An overview of environmental impacts from the proposed project (such as noise, wildlife and vegetation, and visual impacts) is nevertheless required as part of the general project description in the EUB application.<sup>205</sup>

(ii) *Natural Resources Conservation Board Act (NRCBA)*

Run-of-river projects may trigger application of the *Natural Resources Conservation Board Act*<sup>206</sup>, which governs construction and operation of water management projects in the province.<sup>207</sup> A water management project includes any project proposing a water diversion structure or canal capable of conducting water, for which an environmental impact assessment report has been ordered.<sup>208</sup> The Natural Resources Conservation Board (NRCB) is the regulatory agency of the Alberta Government responsible for reviewing proposals for projects that affect Alberta's non-energy natural resources. The NRCB works closely with Alberta Environment to ensure that the terms of reference for the EIA report and the information ultimately provided in the report satisfy the information needs of both agencies.<sup>209</sup> The NRCB also works closely with the EUB to coordinate a joint hearing process where possible. The Rules of Practice of the NRCB prescribe the specific information that must be included in any application to the NRCB.<sup>210</sup>

(iii) *Fisheries Act, Navigable Waters Protection Act and the CEAA*

As discussed above in the context of the BC permitting process, review under the CEAA may be triggered by a run-of-river project where fish habitat is affected contrary to the *Fisheries Act* or where

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<sup>201</sup> Alberta Regulation 111/93 - Environmental Assessment (Mandatory and Exempted Activities) Regulation at Schedule 1.

<sup>202</sup> EPEA, *supra* note 200 at s.41 and 43, 44 and 45.

<sup>203</sup> *Ibid* s.48.

<sup>204</sup> Alberta Regulation 157/2005 – Activities Designation Regulation, at Schedule 1.

<sup>205</sup> Directive 28, *supra* note 134 at 16.

<sup>206</sup> R.S.A. 2000, c.N-3 (“NRCBA”).

<sup>207</sup> *Ibid* at s.4(d).

<sup>208</sup> *Ibid* at s.1(j).

<sup>209</sup> NRCB website at <http://www.nrcb.gov.ab.ca/web/about/government.cfm> (“NRCB website”).

<sup>210</sup> Alberta Regulation 77/2005 – Natural Resources Conservation Board Rules of Practice, at s.3.

a project affects navigable waters requiring a permit under the *Navigable Waters Protection Act*. Issues surrounding bird migration may represent a CEAA trigger for wind power projects.<sup>211</sup>

If a review of a project is required under both EPEA and CEAA, it will be assessed according to the terms of the *Canada-Alberta Bi-Lateral Agreement for Environmental Assessment Cooperation (2005)*.<sup>212</sup> The Federal Minister of the Environment and the Chair of the EUB may agree to the establishment of a joint environmental assessment panel for a project charged with fulfilling the review requirements pursuant to both the CEAA and the EPEA. Where the Canadian Environmental Assessment Agency is required to hold a public hearing, CEAA and the NRCB form a joint panel and discharge both federal and provincial regulatory responsibilities.<sup>213</sup>

(iv) *Canadian Aviation regulations*

As noted above, wind projects require NAV Canada and Transport Canada approvals. Approval from Alberta Transportation is also required for roadside development permits where the proposed facility is within 300m of a numbered highway.<sup>214</sup>

(v) *Historical Resources Act clearance*

Where a project is in the vicinity of any historical or archaeological sites and/or parks, an historical and/or the Cultural Facilities & Historical Resources Division of Alberta Community Development may require archaeological impact assessment.<sup>215</sup> Where new historical resource sites are recorded during the assessment, additional studies/work may be required. Project proponents and their representatives have an ongoing obligation to report the discovery of any additional archaeological resources, palaeontological resources, or historic sites that may be encountered during the conduct of roadway construction and/or reclamation activities.<sup>216</sup>

(vi) *Municipal Development approvals*

Development applications must be filed with local municipal districts/counties and permits must be issued prior to the commencement of construction. Local authorities generally impose conditions requiring compliance with municipal bylaws and various logistical and development agreements.

(vii) *Act of Legislature*

Once the EUB approval process has been completed for a run-of-river project, a bill authorizing the project to be built is required from the Alberta Legislature – the EUB is not authorized to approve the construction of a hydro development unless there is an Act authorizing an order of the EUB for the construction of the hydro development.<sup>217</sup>

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<sup>211</sup> David Ardell, *supra* note 24.

<sup>212</sup> Available at [http://www.ceaa-acce.gc.ca/010/0001/0003/0001/0001/2005agreement\\_e.htm](http://www.ceaa-acce.gc.ca/010/0001/0003/0001/0001/2005agreement_e.htm).

<sup>213</sup> NRCB website, *supra* note 209.

<sup>214</sup> Directive 28, *supra* note 134 at 15.

<sup>215</sup> *Historical Resources Act*, R.S.A. 2000 c.H-9, at s.37(2) (“HRA”).

<sup>216</sup> *Ibid* at s.31.

<sup>217</sup> HEAA, *supra* note 165 at s.9

(viii) *Water Act*<sup>218</sup>

Before undertaking any construction activity in a water body or before diverting and using any water in the province, an approval and/or licence is required from Alberta Environment (AE) under the *Water Act*.<sup>219</sup> Applications must submit project plans in sufficient detail to assess the hydraulic, hydrological and hydrogeological effects of the project, as well as the effects on the aquatic environment, public safety and other users of the water resource.<sup>220</sup> Any decisions made regarding applications for approvals and licenses may be appealed to the Environmental Appeal Board.<sup>221</sup> Unlike other water approval holders, hydropower generation projects are charged an annual water rental by Alberta Environment.<sup>222</sup>

**(d) Subsequent Regulatory Processes**

(i) *Interconnection*

Once a project is approved by the requisite Board(s), the project must be constructed and connected to the Alberta transmission system.<sup>223</sup> The Alberta Electric System Operator (AESO) manages the interconnection process to ensure that all customers are provided with open and fair access to the transmission grid.<sup>224</sup> The AESO is a not-for-profit entity, independent of industry, and owns no transmission assets. The AESO is responsible for managing the Alberta grid, including the development of long-term transmission expansion plans.<sup>225</sup> Upon request and upon payment of the appropriate application fee<sup>226</sup>, the AESO will prepare an interconnection assessment and proposal. This is generally done prior to (or at least concurrently with) proceeding with any power plant application process, given the significant lead time involved in building transmission facilities.

Of the four interconnection processes that govern the various types of transmission expansions or additions that may be required for customer projects, two are applicable where new generators seek to interconnect with the system.<sup>227</sup> The generator is responsible for all interconnection costs except those characterized as system-related or “deep system” costs.<sup>228</sup> Where new facilities are required to facilitate interconnection, the AESO is responsible for justifying the need to the EUB to construct or alter a substation or transmission line to accommodate the new project.<sup>229</sup>

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<sup>218</sup> R.S.A. 2000, c.W-3 (“*Alberta Water Act*”).

<sup>219</sup> Alberta Environment Water Act Fact Sheet – Approvals and Licences, available at <http://www3.gov.ab.ca/env/WATER/Legislation/FactSheets/Index.cfm> (“Water Act Fact Sheet”).

<sup>220</sup> *Ibid* at 1-2.

<sup>221</sup> *Alberta Water Act*, *supra* note 218 at s.115.

<sup>222</sup> David Ardell, *supra* note 24.

<sup>223</sup> Unless a power project is an isolated generating unit or has obtained an industrial systems designation, in which case the project may not require interconnection with the Alberta system.

<sup>224</sup> AESO, “Policy & Regulation” (December 5, 2005) online at <http://www.aeso.ca/transmission/8875.html>.

<sup>225</sup> AESO, “Transmission” (December 5, 2005) online at <http://www.aeso.ca/transmission/211.html>.

<sup>226</sup> \$10,000 for projects under 10MW, \$20,000 for projects between 10-25MW, and \$30,000 for projects over 25MW. The application fee is refunded 100% once the proposed project achieves commercial operation.

<sup>227</sup> Industrial Load and Generators (New Substations) Process or Mega Projects Process, as per December 2, 2005 conversation with Jana Mosley, AESO (“Jana Mosley”).

<sup>228</sup> *Ibid*.

<sup>229</sup> *Electric Utilities Act*, R.S.A. c.E-5.1 at s.34 (“EUA”).

Effective January 1, 2006, the AESO is required to collect an additional system contribution charge of \$10,000/MW from the owners of new generators for system upgrades to existing transmission facilities required as a result of a generator's entry on to the AES grid, and an additional system contribution charge of no more than \$40,000/MW from the owners of new generators who locate in areas of the transmission system where generation exceeds load.<sup>230</sup> The amount of the final charge is based on the location of the new generation unit relative to the load. Such charges are to be refunded over a period of 10 years from the date paid unless the operation of the generating unit fails to meet satisfactory performance standards.<sup>231</sup>

When the need for the additional facilities is approved by the EUB, construction of the project is direct-assigned by the AESO to the relevant Transmission Facility Owner (TFO) for the area. The TFO submits the detailed route and construction application for the transmission facility to the EUB for approval.<sup>232</sup> TFOs are also required to complete a public notification and participant involvement program, and generally complete the same application process described above pursuant to EUB Directive 28. Once approved, the TFO builds the substation and/or other transmission interconnection facilities to link the project to the grid.

While the AESO is working to collapse the AESO need application and the detailed TFO transmission facility application into a single step<sup>233</sup>, the interconnection process currently remains a 3 step approval process that can range anywhere from 10 to 36 months. Similar to the process in BC, project proponents are wise to pursue both the project approval and transmission development components of the project in tandem. The interconnection report prepared by the AESO is generally required for inclusion in the power plant application filed with the EUB.<sup>234</sup>

## (ii) *Energy Sales*

All electric energy bought and sold in Alberta must be exchanged through the Power Pool of Alberta.<sup>235</sup> The Power Pool does not buy or sell electric energy. It is an independent, central, open-access pool that functions as a spot market, matching demand with the lowest supply to establish an hourly pool price.<sup>236</sup>

In order to participate as either a supplier or consumer of wholesale power through the Power Pool, a customer must become a Power Pool Participant. To become a Pool Participant, a Pool Participant Agreement must be entered into with the AESO whereby the participant agrees to abide by the AESO's Rules. Where the project proponent is already a Power Pool Participant with the Power Pool of Alberta, they may file an asset addition request once all project approvals are in place.

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<sup>230</sup> While this Generator Contribution Policy was approved by the EUB in Decision 2005-096, the tariff is not yet finalized as the decision is currently under review in relation to other matters.

<sup>231</sup> Alberta Regulation 174/2004 - Transmission Regulation, at s.17.

<sup>232</sup> HEAA, *supra* note 165 at s.14

<sup>233</sup> Jana Mosley, *supra* note 227.

<sup>234</sup> See Directive 28, *supra* note 134 at 17.

<sup>235</sup> EUA, *supra* note 29, at s.18(2).

<sup>236</sup> Alberta Agriculture, Food and Rural Development website at [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/eng4394?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/eng4394?opendocument).



(iii) *Physical Interconnection with the Grid*

To ensure that new generating facilities do not jeopardize the reliability and security of the Alberta Integrated Electric System (AIES), the AESO specifies general technical requirements for connecting a generating facility to the AIES, which applies to all power generating projects wishing to interconnect with the system.<sup>237</sup> The AESO is currently finalizing a new generation interconnection standard, which is expected to be effective before the end of the year.<sup>238</sup> In 2004, the AESO released technical requirements specifically for wind power facilities interconnecting with the AIES.<sup>239</sup> Operational requirements for wind power facilities are currently being developed, and are expected to be finalized once the wind variability study initiated by the AESO earlier this year is completed.<sup>240</sup>

### III. CONCLUSION

Each of BC and Alberta have established unique permitting processes for energy projects. In BC, the ILMB, MOE and/or the EAO take a hands-on approach to facilitating the development of projects, coordinating the review, consultation and approval process from start to finish. By comparison, the Alberta permitting process appears to be more proponent driven, with independent agencies acting as adjudicators in respect of power project approval applications.

As indicated above, Alberta has taken a leading role in the development of wind power projects in Western Canada. In that area, BC has recently developed a wind tenure policy to encourage the development of future projects, positioning BC to capitalize on the world's fastest growing source of electricity. Already a world leader in hydro generation development, BC is also actively working to facilitate additional small hydro development across the province.

While the permitting process is critical, it is apparent that subsequent processes, for example the process to interconnect power generation projects to the transmission system, present additional challenges to project proponents seeking to generate electric energy for sale into the market.

Both BC and Alberta continue to pro-actively develop policies for the development of run-of-river and wind generation projects. The BC Government's recent issuance of a wind policy offering a lengthy rent-free period is just one example of the kinds of initiatives being undertaken to support and encourage development of renewable resources. The pro-active approaches taken by each of BC and Alberta, coupled with the geographic strengths of each province and the continued advances in technology for the efficient and economical development of renewable resources represents a tremendous opportunity for both British Columbia and Alberta to become global leaders in developing renewable energy projects.

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<sup>237</sup> Technical Requirements for Connecting to the AIES Transmission system, Part 1: Technical Requirements for Connecting Generators December 2, 1999.

<sup>238</sup> AESO DRAFT Generation and Load Interconnection Standard, dated November 8, 2005.

<sup>239</sup> AESO Wind Power Facility Technical Requirements, November 15, 2004. AESO has also issued a Technical Guide to the wind Power Facility Technical Requirements, November 30, 2004 to assist wind power facility developers in applying the Technical requirements to specific project applications.

<sup>240</sup> In January, 2005 the AESO retained an independent consultant to conduct a wind variability study. Based on the results of that study, the AESO prepared a system impact study to gauge the effect on system performance of increased wind penetration.

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