

From: Gilbert Larocque [mailto:glarocque@apeg.bc.ca]
Sent: Tuesday, March 15, 2011 11:53 PM
To: Living Water Smart ENV:EX
Subject: Proposal on Water Sustainability Act - Comments from the Association of Professional Engineers and Geoscientists of BC

Dear Sirs/Madams,

Kindly find enclosed an electronic copy of our correspondence dated March 14, 2011.

Regards,

Gilbert J. Larocque, CD, PEng, LLB | Associate Director, Professional Practice
Association of Professional Engineers and Geoscientists of British Columbia
200-4010 Regent Street, Burnaby BC V5C 6N2
Direct: 604-639-8178 | **Email:** glarocque@apeg.bc.ca
Toll Free: 1-888-430-8035 ext. 8178 | **Fax:** 604-430-8085
www.apeg.bc.ca

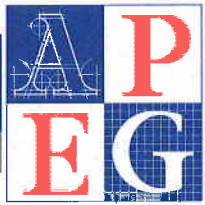
BC's Professional Engineers and Geoscientists: Building progress through innovation every day

The information in this e-mail and any attachments are privileged and confidential and for the intended recipient(s) only. Any unauthorized use is strictly prohibited. If you have received this e-mail in error, or are not an intended recipient, please notify the sender and delete or destroy all copies immediately.

Quality is not an act, it is a habit. Aristotle



 Please consider the environment before printing this email.



Building progress through innovation every day

200 - 4010 Regent Street, Burnaby, BC V5C 6N2
T. 604-430-8035 | F. 604-430-8085 | 1-888-430-8035
www.apeg.bc.ca

March 14, 2011

Via Email: livingwatersmart@gov.bc.ca

Living Water Smart
Ministry of the Environment
PO Box 9339
Stn Prov Govt
Victoria BC V8W 9M1

Dear Sirs/Madams:

Re: British Columbia's *Water Act* Modernization – Policy Proposal on British Columbia's new *Water Sustainability Act* (December 2010) – Comments from the Association of Professional Engineers and Geoscientists of British Columbia

Further to your email of February 20, 2010, the Division of Environmental Professionals and the Environment Committee of the Association of Professional Engineers and Geoscientists of British Columbia have reviewed the proposed policy on the new *Water Sustainability Act*.

Kindly find enclosed the comments of the Division and Committee on the proposed policy.

Should you have any comments or queries, please do not hesitate to contact Gilbert Larocque, CD, P.Eng, LLB, Associate Director, Professional Practice. Mr. Larocque can be reached directly at 604-639-8178 or glarocque@apeg.bc.ca.

Yours truly,

Gilbert Larocque, CD, PEng, LLB
Associate Director, Professional Practice

**Comments from the Division of Environmental Professionals and the
Environment Committee of the
Association of Professional Engineers and Geoscientists of British Columbia on the
British Columbia's *Water Act* Modernization – Policy Proposal on British Columbia's new
Water Sustainability Act (December 2010)**

Policy Proposal on British Columbia's new <i>Water Sustainability Act</i> (December 2010)		
Serial	Reference	Comments
General		
1.	General	APEGBC supports the principles and improvements suggested by the new <i>Water Sustainability Act</i> . To support the legislation and to ensure that adequate data is available for water resource assessment, the successful management of water resources in British Columbia will require significantly-greater resources at the provincial level. Serials 10 and 25 refer.
2.	General	Decision makers should also consider First Nations social cultural practices as well as traditional ecological knowledge.
3.	General	APEGBC understands that due to the impending enactment of the <i>Water Sustainability Act</i> , Phase 2 of the <i>Groundwater Protection Regulation</i> has been put on hold. APEGBC recommends that the elements of that <i>Regulation</i> , which contains provisions for well construction standards and mandatory submission of well records, be incorporated in the new <i>Act</i> .
4.	General	To ensure that the interdependence of these resources – particularly in areas where aquifers are directly connected to surface water bodies – is considered, APEGBC recommends that groundwater and surface water permitting and assessment be integrated under the new <i>Water Sustainability Act</i> .
5.	Page 6 2 nd paragraph	The expression “additional and more stringent requirements will apply” provides the rationale for a proactive and responsive approach in areas experiencing declining water supply. Fundamentally, some aquifers still require mapping and characterization. In addition, forecasting the climate change impacts to supply should be considered as part of the requirements.
1. Policy Direction – Protect Stream Health and Aquatic Environments		
6.	Page 8 1 st paragraph	APEGBC concurs with the notion that instream flows must be protected as an environmental value.
7.	Page 8 1 st paragraph and 2 nd bullet	<u>Guidelines</u> APEGBC welcomes the development of guidelines to assess instream flows. Professional engineers and professional geoscientists must provide input into any guidelines or standards to be used in determining instream flows. To that effect, APEGBC is prepared to offer its cooperation and services towards any such endeavour; APEGBC further suggests that it should be included in the formulation of any such guidelines or standards. It is requested that APEGBC be included in the development of any guidelines and similar documents intended to be used by professional engineers, professional geoscientist and other APEGBC licensees. Serials 11, 27, 32, 36 and 47 refer.

**Comments from the Division of Environmental Professionals and the
Environment Committee of the
Association of Professional Engineers and Geoscientists of British Columbia on the
British Columbia's *Water Act* Modernization – Policy Proposal on British Columbia's new
Water Sustainability Act (December 2010)**

Policy Proposal on British Columbia's new <i>Water Sustainability Act</i> (December 2010)		
Serial	Reference	Comments
8.	Page 8 1 st paragraph and 2 nd bullet	<p><u>Water Licenses</u></p> <p>The issues related to the grandfathering of existing licenses must be addressed, particularly in areas where surface water supplies are already over-allocated.</p> <p>Will there be an expiry date on water licenses? This validity date would need to coincide with the assumptions made as part of the flow assessment and other studies provided as part of the water allocation application process. If an allocation has not been used after a certain period of time – for example, as for an unexplored mineral title - the Province should reclaim the associated water rights.</p> <p>Serial 9 refers.</p>
9.	Page 8 1 st bullet	<p>How often will formula-based instream flow assessments be conducted or revisited? The impression left from the language in this policy item is that this will only apply for new surface water allocations. The language is appropriate should all current <i>Water Act</i> licenses be cancelled and a new <i>Water Sustainability Act</i> license be issued.</p> <p>Serial 8 refers.</p>
10.	Page 8 2 nd bullet	<p>When reviewing applications, the assumption should not be made that there is a scarcity. As seen on Figure 2 of Appendix A, most of the land base of the Province has no water supply issues – e.g. North of Highway 16 and the areas above 1000 m in elevation – and on a risk basis should not require much time and effort for review. The delegation of the licensing authority (e.g. to Mines Branch) would facilitate this process.</p> <p>Serials 1 and 25 refer.</p>
11.	Pages 8 3 rd bullet	<p>Will this statement mean setting baseline instream flow levels and maintaining them? If so, how will they set the baseline with differences in high/low stream flow levels in different seasons, different regions, or changing climates? APEGBC members must be involved in defining these flows.</p> <p>It is requested that APEGBC be included in the development of any guidelines and similar documents intended to be used by professional engineers, professional geoscientist and other APEGBC licensees.</p> <p>Serials 7, 27, 32, 36 and 47 refer.</p>
12.	Page 8 2 nd bullet	Additional hydrometric monitoring data is required to evaluate allowable flows.
13.	Page 8 4 th bullet	Further water balance analysis, which considers both groundwater and surface water resources, is required to assess sustainable withdrawals.
14.	Page 8 4 th bullet	The last sentence of this bulleted paragraph – “The need to maintain instream flows may result in increased pressure to use groundwater” – should not imply that groundwater could be used to enhance surface water flow.

**Comments from the Division of Environmental Professionals and the
Environment Committee of the
Association of Professional Engineers and Geoscientists of British Columbia on the
British Columbia's *Water Act* Modernization – Policy Proposal on British Columbia's new
Water Sustainability Act (December 2010)**

Policy Proposal on British Columbia's new <i>Water Sustainability Act</i> (December 2010)		
Serial	Reference	Comments
2. Policy Direction – Consider Water in Land-use Decisions		
15.	Pages 8-9 General	Land use activities within watersheds are identified as having the potential to affect water quality and quantity; it is good that land use activities are seen to impact water. APEGBC notes that the same is true for vulnerable aquifers. Provisions for groundwater and surface water protection planning should be made.
16.	Page 9 3 rd bullet 1 st sub-bullet	The construction of water storage infrastructure (dams) to maintain instream flows contributes to humans manipulating the seasonal changes in stream flows that may impact the ecosystems downstream. How will the need for storage of water be assessed or how will storage structures be regulated? Serial 32 refers.
17.	Page 9 3 rd bullet 1 st sub-bullet	Will there be a conflict with effluent discharge permits? For the stream quality to be maintained, a certain quantity of water is assumed to be present.
18.	Page 9 3 rd bullet 2 nd sub-bullet	When it comes to water quality standards, how will the Provincial Water Objectives relate to the non-enforceable Water Quality Guidelines and the conversely-enforceable <i>Contaminated Sites Regulation</i> , BC Reg 375/96?
19.	Page 9 3 rd bullet 2 nd sub-bullet	How will Provincial Water Objectives be managed in different regions by different managers? Flexible PWOs could lead to differing opinions on issues within the regulatory agency itself. What mechanisms/procedures will be implemented to consistently handle and apply PWOs?
3. Policy Direction – Regulate Groundwater Use		
20.	Page 9 1 st paragraph	As well as larger withdrawals, smaller withdrawal rates in aquifers with low recharge can lead to supply problems. For this reason, all – small and large – withdrawals should be regulated.
21.	Page 9 General	Will domestic supply use be regulated?
22.	Page 9 1 st paragraph	Will the definition of a large withdrawal for the unconsolidated and bedrock aquifers be numerically-based and/or consider requirements for beneficial use within the watershed (current projected)? Vulnerability as well as productivity should be considered.
23.	Page 9 2 nd paragraph	The permit process must consider the cumulative effects of multiple withdrawals. To facilitate these assessments, adequate data concerning aquifer characteristics, regional water use, groundwater levels and instream flows is required.
24.	Page 9 General	The regulation of geothermal extractions should also be considered.

**Comments from the Division of Environmental Professionals and the
Environment Committee of the
Association of Professional Engineers and Geoscientists of British Columbia on the
British Columbia's *Water Act* Modernization – Policy Proposal on British Columbia's new
Water Sustainability Act (December 2010)**

Policy Proposal on British Columbia's new <i>Water Sustainability Act</i> (December 2010)		
Serial	Reference	Comments
25.	Page 10 2 nd bullet	APEGBC supports the regulation of large groundwater withdrawals, together with hydrogeological assessments to support those withdrawals. Such regulation of groundwater withdrawals, however, must be applicable throughout the Province. Areas which currently have enough water might not have the same levels in the future; consequently, all areas must be regulated. APEGBC acknowledges that government personnel issues are likely to arise in areas where water supply is not presently a concern. Serials 1 and 10 refers
4. Policy Direction – Regulate During Scarcity		
26.	Page 10 1 st paragraph And 4 th bullet 1 st sub-bullet	Who decides when "scarcity" exists?
27.	Page 10 General	Professional engineers and professional geoscientists must be involved in water supply forecasting, the development of guidelines, and in the creation of codes of practice, preparedness plans, incentives, etc. It is requested that APEGBC be included in the development of any guidelines and similar documents intended to be used by professional engineers, professional geoscientist and other APEGBC licensees. Serials 7, 11, 32, 36 and 47 refer.
28.	Page 10 General	Adequate data is required to facilitate the assessments required to support decisions related to water allocation. This data includes data related to aquifer mapping and characterization, groundwater levels from observation well networks, stream flows measurements and existing groundwater and surface water use.
29.	Page 10 1 st bullet	The licensees' certainty of access during times of scarcity should be focused on "beneficial use" and not on political, economic, and non-quantifiable concerns.
30.	Page 10 1 st bullet	"Encouraging" licensees to implement efficiency and conservation measures may not be sufficient? Why not <u>requiring</u> them to do so?
31.	Page 10 4 th bullet 1 st sub-bullet	As the needs of the end-users vary (and usually increase), scarcity changes with the seasons and year-over-year. Will water effectively get scarcer or will the level at which scarcity is decided change over time?
32.	Page 11 4 th bullet 5 th sub-bullet	Water storage is mentioned again; there are significant issues with manipulating stream flows through damming storage. Serial 16 refers. These issues need to be assessed by professional engineers and professional geoscientists. Serials 7, 11, 27, 36 and 47 refer.

**Comments from the Division of Environmental Professionals and the
Environment Committee of the
Association of Professional Engineers and Geoscientists of British Columbia on the
British Columbia's *Water Act* Modernization – Policy Proposal on British Columbia's new
Water Sustainability Act (December 2010)**

Policy Proposal on British Columbia's new <i>Water Sustainability Act</i> (December 2010)		
Serial	Reference	Comments
5. Policy Direction – Improve Security, Water Use Efficiency, and Conservation		
33.	Page 11 Paragraph 5.1	Economic instruments incentives should focus on water scarcity i.e. for efficient use of water.
34.	Page 11 Paragraph 5.2	"Beneficial use" of water can be non-quantifiable.
35.	Page 11 Paragraph 5.2	APEGBC agrees that requiring water use efficiency is a suitable and desirable approach.
36.	Page 11 Paragraph 5.2	Professional engineers and professional geoscientists must be involved in developing Best Management Practices and codes of practice. It is requested that APEGBC be included in the development of any guidelines and similar documents intended to be used by professional engineers, professional geoscientist and other APEGBC licensees. Serials 7, 11, 27, 32 and 47 refer.
37.	Page 11 Paragraph 5.3	The concept of Agricultural Water Reserves, when used in conjunction with Agricultural Land Reserves, is a sound one. A mechanism must be developed to deal with surface water and groundwater that straddles or crosses ALRs and other land uses.
38.	Page 11 Paragraph 5.3	Agriculture can have huge water use requirements; consequently, the <i>Water Sustainability Act</i> should drive efficiency in water being used for agricultural purposes. The levy of higher rates for inefficient uses should be considered.
39.	Page 11 Paragraph 5.3	Fee-based measures as economic instruments should be fair regardless of the sectors where they are applied. Consideration should be given to the productivity and vulnerability of the aquifer.
40.	Page 11 Paragraph 5.3	Government approval should be considered prior to the commencement of the use of the water rights by the purchasers of permits (e.g., water markets).
6. Policy Direction – Measure and Report		
41.	Page 12 1 st paragraph	APEGBC supports monitoring and reporting as a condition for groundwater and surface water licensing. In the case of groundwater, consideration should be given to the installation of additional groundwater monitoring wells in critical areas. Groundwater surface water interactions should be considered when establishing monitoring requirements
42.	Page 12 1 st paragraph	Who is responsible for reporting where stream flows and aquifer levels are impacted by multiple licensees?

**Comments from the Division of Environmental Professionals and the
Environment Committee of the
Association of Professional Engineers and Geoscientists of British Columbia on the
British Columbia's *Water Act* Modernization – Policy Proposal on British Columbia's new
Water Sustainability Act (December 2010)**

Policy Proposal on British Columbia's new <i>Water Sustainability Act</i> (December 2010)		
Serial	Reference	Comments
43.	Page 13 1 st bullet	Reported/measured surface and groundwater water levels are great scientific resources; they should be readily available to professional engineers and professional geoscientists, and other stakeholders working on water-related issues.
44.	Page 13 2 nd bullet	Especially in areas of low-likelihood of scarcity/competing demands, non-extractive uses (e.g. IPPs) should not be subject to the same reporting requirements as extractive users in high-demand areas.
45.	Pages 12-13 General	Reporting procedures need to be simple and inexpensive; to tie-in with annual licensing fee payments; and to reward demand reduction and use efficiency.
7. Policy Direction – Enable a Range of Governance Approaches		
46.	Page 13 2 nd bullet	APEGBC concurs with the notion that the ultimate responsibility for water resources resides with the provincial government, with input at the local level. To support this governance model, significant funding and staff resources are required at the Provincial level.
47.	Page 13 3 rd bullet	For an area-based approach to be successful, it will need the input of area experts. Professional engineers and professional geoscientists can and should play a big role here. It is requested that APEGBC be included in the development of any guidelines and similar documents intended to be used by professional engineers, professional geoscientist and other APEGBC licensees. Serials 7, 11, 27, 32 and 36 refer.
48.	Page 13 General	Some expected challenges include a) the repartition of duties by the provincial government; b) staffing level; c) the appropriateness of staff knowledge; and d) the possible hiring of experts to assist.