REGULATORY AND LEGAL ISSUES RESPECTING COALBED METHANE DEVELOPMENT IN BRITISH COLUMBIA

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This article examines the regulatory and legal issues surrrounding coalbed methane development in British Columbia. It discusses how regulators are responding to the challenges posed by the proliferation of coalbed methane development in the last decade, highlighting the applicable codes, guidelines, and government agencies involved in regulating coalbed methane. The authors conclude with a discussion of some of the key issues relating to coalbed methane development, including challenges around First Nations, surface rights, and the environment.

Cet article examine les questions réglementaires et juridiques relatives au développement de méthane de houille en Colombie-Britannique. Les auteurs y discutent comment les organismes de réglementation réagissent aux défis posés par la prolifération du développement de méthane de houille au cours des dix dernières années et soulignent les codes, les directives et organismes gouvernementaux mêlés à la réglementation du méthane de houille. Les auteurs concluent par une discussion sur certaines questions clés relatives au développement du méthane de houille, y compris les défis autour des Premières nations, les droits de surface et l'environnement.

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I. INTRODUCTION

This article discusses the current legislative regime in British Columbia, including applicable *Codes* and *Guidelines* and the role of various governmental agencies. It also highlights the legal, regulatory, and environmental issues relating to coalbed methane (CBM) development. The focus will be on what British Columbia's regulatory regime means for oil and gas companies operating in British Columbia, as well as outline key issues and current trends relating to First Nations, surface rights, produced water disposal management, and environmental issues.

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II. OVERVIEW

The provincial government is supportive of CBM development in British Columbia. Current legislation in British Columbia brings together a number of different agencies collectively regulating CBM activities. These agencies include: the Ministry of Water, Land and Air Protection; the Ministry of Sustainable Resource Development; the Ministry of Energy, Mines and Petroleum Resources (MEMPR); and the Oil and Gas Commission (OGC).

The OGC was created under the *Oil and Gas Commission Act*[1] and is tasked with regulating all provincial oil and gas activities including exploration and development, production, processing, and storage of the province's resources. The *Act* mandates the OGC to regulate the oil and gas industry to ensure sound development of British Columbia's oil and gas resources. Accordingly, the OGC is responsible for developing processes to accept and review industry applications related to oil and gas activities and/or pipeline activities (falling within provincial jurisdiction). To approve such applications, the OGC must ensure that the application is in the public interest having regard to environmental, economic, and social effects of the activities.

The Crown owns most of the petroleum and natural gas rights in British Columbia. The *Coalbed Gas Act*[2] was enacted in 2003 and provides that CBM is owned by the party who holds the natural gas rights. Accordingly, unlike the situation in Alberta, there is no issue respecting ownership of the resource because the legislation decides the issue, applies retroactively, and prohibits litigation against the legislature for any rights that may be lost as a result of the *Act* coming into force.[3]

Large parts of British Columbia are subject to Aboriginal rights and title claims, and several First Nations have voiced strong opposition to CBM development in their traditional territories. Until these First Nations claims are resolved and thereafter, First Nations will undoubtedly play a big role in the process leading up to CBM development and production. To date, British Columbia has negotiated *Memoranda of Understanding*[4] with various Treaty 8 First Nations in accordance with its *Consultation Operating Guidelines*[5] for First Nations consultation. Much work has yet to be done, including the resolution of such issues as:

(1) The role First Nations will play in the development of the resource;

(2) Existing regulations and environmental safeguards; and

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1 S.B.C. 1998, c. 39.

2 S.B.C. 2003, c. 18 [*CGA*].

3 For an in-depth analysis of regulatory and legal issues pertaining to CBM development in Alberta, see David Farmer & Gavin Fitch, "Coalbed Methane Development: Legal and Regulatory Issues" (2007) 10 Environment Law 1, online: McLennan Ross LLP <http://www.mross.com/law/digitalAssets/4397_Coalbed_Methane_Development_-_Farmer_and_Fitch.pdf>.

4 OCG, *Memoranda of Understanding* for the Doig River (30 December 2006), Fort Nelson (30 December 2006), Halfway River (30 December 2006), Prophet River (30 December 2006), Saulteau (30 December 2006), West Moberly (30 December 2006), Dene Tha' (30 December 2006), and the Blueberry River First Nations (11 May 2007), as well as the McLeod Lake Indian Band (24 December 2002), online: OGC <www.ogc.gov.bc.ca/pubdoc.asp_view=9.html>.

5 (1 December 2006), online: OGC <www.ogc.gov.bc.ca/pubdoc.asp_view=9.html>.

(3) Economic opportunity for First Nations. This issue is generally the subject of negotiation between the province and First Nations. Industry proponents can expect to become involved in consultation sessions and commercial negotiations with the affected First Nation to conclude benefits agreements and other terms and conditions in order to secure the necessary surface and subsurface rights of entry and access to the area to be explored and drilled.

Referencing CBM exploration and development, Monte Stewart describes the situation in British Columbia succinctly:

> B.C.'s CBM is much more technologically challenging because it's distributed in a much different fashion. In Alberta, one type of coal — in the Horseshoe Canyon formation — is available in one large regional play on accessible terrain. Alberta CBM plays have access to an established oil and gas infrastructure and surface landowners are more knowledgeable of the industry. In B.C., by contrast, the coal is in mountainous areas and is localized in areas like Merritt, Princeton, Hat Creek and Vancouver Island. There's little oil and gas development outside of northeastern B.C., and surface landowners are inexperienced in petroleum development.[6]

CBM development will continue to be slowed by this learning curve. All parties, including landowners, First Nations, government, and industry must work towards creating a regime for responsible and environmentally safe CBM development and production, and certainty of the costs associated with such development and production.

III. LEGISLATIVE REGIME

In British Columbia, CBM development is primarily governed by the OGC through a three-phase approval process established in accordance with the *Petroleum and Natural Gas Act*,[7] together with the *CGA*, and the *Code of Practice for the Discharge of Produced Water from Coalbed Gas Operations*[8] promulgated under the *Environmental Management Act*.[9] The OGC created *Guidelines for Coalbed Methane Projects in British Columbia*, released 21 October 2002.[10] The *Guidelines* refer to CBM and Coalbed Gas (CBG) interchangeably and categorize the progress of CBM projects into the following plans:

- *CBG Evaluation Plan*: This plan permits a proponent to apply to drill for the purposes of testing a small number of wells to collect data and determine feasibility for gas recovery and dewatering requirements and water quality. Under this stage, a proponent can collect samples of the produce water.

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6 Monte Stewart, "Oilpatch Cautious But Hopeful About B.C. Coalbed Methane" *Nickle's Daily Oil Bulletin* (19 April 2005), online: CBMwatch.ca <http://www.cbmwatch.ca/items/000053.html>.

7 R.S.B.C. 1996, c. 361 [*PNG Act*].

8 B.C. Reg. 156/2005 [*Code*].

9 S.B.C. 2003, c. 53 [*EMA*].

10 OGC, *Draft Guidelines for Coalbed Methane Projects in British Columbia* (21 October 2002), online: OGC <https://www.ogc.gov.bc.ca/documents/guidelines/Coalbed%20Methane%20Guidelines.pdf> [*Guidelines*].

- *CBG Feasibility Plan*: This plan permits a proponent to apply to develop and operate a limited number of wells (in the range of 20-40) in order to determine whether the recovery of the CBM is commercially viable.

- *CBG Production Plan*: This plan permits a proponent to apply to undertake full scale commercial CBM recovery and operations at the location.[11]

As highlighted in the flow chart below,[12] each of the foregoing plans has its own approval process. From a practical perspective, issues relating to produced water and its disposal will need to be addressed in the feasibility planning stage. Pursuant to s. 100 of the *PNG Act*, a proponent must submit a plan to the OGC that details how the proponent intends to deal with produced water.

> A scheme for any of the following must not be proceeded with unless the commission, by order, approves the scheme on terms the commission specifies:
>
> 100(1)
> (a) the development or production of petroleum or natural gas, or both, from a field or pool or portion of a field or pool;
>
> (b) the experimental application of oil field technology as defined by regulation;
>
> (c) the processing, storage or disposal of natural gas; [and]
>
> (d) the gathering, storage and disposal of water produced from a field or pool.[13]

In February 2007, the Government of British Columbia produced its new *Energy Plan*.[14] The *Energy Plan* mandates that produced water from CBM development is to be disposed of by water injection as a first priority to other disposal methods outlined in the *Code*. While the policies in the *Energy Plan* have yet to be translated into regulations or codes of practice, it is reasonable to assume that the OGC will not approve water disposal plans that run contrary to those stated in the *Energy Plan*. The OGC is also responsible for approving of well spacing, guided by the *PNG Act*, and authorizing flaring and wildlife protection. Again, the recently released *Energy Plan* could adversely impact CBM production as it mandates significant reduction of flaring in oil and gas operations. The *Energy Plan* is discussed in greater detail in Part VIII, below.

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11 *Ibid.* at 11.

12 Derived from *ibid.* at 3, Fig. 1.

13 *PNG Act*, *supra* note 7, s. 100.

14 Government of British Columbia, *The BC Energy Plan: A Vision for Clean Energy Leadership* (February 2007), online: Government of British Columbia <http://www.energyplan.gov.bc.ca/PDF/BC_Energy_Plan.pdf> [*Energy Plan*].

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Critics of CBM development have expressed concern about whether the *Code* has the same effect as regulations promulgated under the *EMA* and specifically, whether the enforcement and other penalty provisions in the *EMA* will apply in respect of a violation of the *Code*. As the *Code* has yet to be judicially considered, this issue has not been answered. The key arguments raised in the debate are discussed below in the review of key provisions of the *Code*.

In British Columbia, surface rights are also governed by the *PNG Act*. The *PNG Act* also governs all aspects of exploration, development, and production, providing for the entry, occupation, or use of publicly held land for the purposes of exploration and development of CBM.[15] The chart entitled, "Oil and Gas Commission Regulatory Process for Coalbed Methane Projects," reproduced below, is taken from the *Guidelines* and provides a good summary of the procedures required.

The *Pipeline Act*,[16] also administered by the OGC, sets out the legislative regime for the safety and integrity of pipelines and transmission facilities as well as the design, construction, operation, and maintenance of gas gathering systems, pipelines, and compressor stations. Other *Acts* that speak to CBM development include the *Forest Act*,[17] the *Heritage Conservation Act*,[18] the *Forest Practices Code of British Columbia Act*,[19] and the *Water Act*.[20]

Also, the federal *Canadian Environmental Assessment Act*[21] may be triggered in some circumstances, such as when resources are located on federal lands (including First Nation lands), or when federal agency approvals may be required. Further, s. 35 of the federal *Fisheries Act*[22] designed to prevent "harmful alteration, disruption and destruction"[23] (HADD) of fish and fish habitat may be applicable to CBM development in certain circumstances. Notably, Bill C-45, a Bill to amend the federal *Fisheries Act*, was recently introduced by Parliament and represents a significant change to existing legislation.[24]

CBM projects are also subject to the British Columbia *Environmental Assessment Act*[25] if CBM is extracted at the rate of 75 litres per second or more[26] or if there is significant pipeline construction. Pursuant to s. 8 of the *EAA* and its associated regulations, groundwater extraction required for CBM production may be considered a "reviewable project" subject to an existing certificate for the project or a determination by the Executive Director that

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15 B.C. Government Statistical Report, Ministry of Energy and Mines, *Coalbed Gas – Energy for Our Future* (Victoria: Ministry of Energy and Mines, 2005), online: Government of British Columbia <http://www.em.gov.bc.ca/download/Coalbedgas/CoalbedGas_Doc_web.pdf> at 11.

16 R.S.B.C. 1996, c. 364.

17 R.S.B.C. 1996, c. 157.

18 R.S.B.C. 1996, c. 187.

19 R.S.B.C. 1996, c. 159.

20 R.S.B.C. 1996, c. 483.

21 S.C. 1992, c. 37.

22 R.S.C. 1985, c. F-14.

23 *Ibid.*, s. 35(1).

24 Bill C-45, *An Act respecting the sustainable development of Canada's seacoast and inland fisheries*, 1st Sess., 39th Parl., 2006 (first reading 13 December 2006).

25 S.B.C. 2002, c. 43, ss. 5-6, 8 [*EAA*].

26 V. Levson *et al.*, "Understanding the Business of Coalbed Methane: Managing CBM Water in B.C. — New Approach for Industry" (Presented at the Metropolitan Centre in Calgary, Alberta, 25 February 2003) [unpublished] at 5; *EAA*, *ibid.*, ss. 3, 8.

such a certificate is not required for the project. Depending on whether the project is considered a new facility or a modification to an existing facility, and considering the design of the facility itself, CBM production involving groundwater extraction characterized as a water management project may be subject to the *Reviewable Project Regulations*.[27]

Finally, pursuant to the *Local Government Act*[28] and *Vancouver Charter*,[29] municipalities have certain powers of strategic planning for growth and development, zoning powers to regulate use and density, and powers to pass bylaws related to environment, disturbances, and economic development. However, "[t]he zoning power is limited in relation to coalbed methane development. 'Land' in the *Community Charter* and *Local Government Act* is defined as excluding mines or minerals, and recently the term 'minerals' has been defined to specifically include coalbed methane."[30] And further "[i]n 2004, the Union of BC Municipalities passed a resolution calling upon the provincial government to consult directly with local governments regarding the Ministry of Energy and Mines' Oil and Gas Regulatory Improvement Initiative."[31] Accordingly, some groups acknowledge that local governments cannot prohibit CBM development, but assert that local governments may be able to "regulate associated land uses as well as other important issues such as set backs, density of structures, location of structures, and landscaping."[32] In particular, "Courts have upheld zoning bylaws that stopped a mine from storing and processing minerals, and gravel pit operators from crushing gravel, or from mixing gravel to produce ready mix. They have even held that processing which was essential to the economic viability of a mine could be prohibited."[33]

It remains to be seen how local governments in British Columbia will respond to proposals for CBM development and production.

IV. THE *COALBED GAS ACT*

The *CGA* establishes separate tenure rights for CBM and expressly provides that natural gas must be considered to be and to have always been a "mineral"[34] and that coalbed gas is a "natural gas."[35] Section 4 states that:

> Natural gas tenure includes coalbed gas

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27 B.C. Reg. 370/2002, s. 3, Part 5.

28 R.S.B.C. 1996, c. 323.

29 S.B.C. 1953, c. 55.

30 Karen Campbell & Susan Rutherford, *Coalbed Methane: A BC Local Government Guide* (Vancouver: West Coast Environmental Law, 2006), online: West Coast Environmental Law (WCEL) <http://www.wcel.org/wcelpub/2006/14250.pdf> at 16 .

31 *Ibid.* at 12.

32 *Ibid.* at 16.

33 *Ibid.* at 16, referring to *Squamish (District) v. Great Pacific Pumice Inc.*, 2003 BCCA 404, 229 D.L.R. (4th) 93; *Maple Ridge (District) v. Thornhill Aggregates Ltd.* (1993), 14 M.P.L.R. (2d) 288 (B.C.S.C.); *Pitt River Quarries Ltd. v. Dewdney-Alouette (Regional District)* (1995), 27 M.P.L.R. (2d) 257 (B.C.S.C); *Cowichan Valley (Regional District) v. Norton* (14 July 2005), Victoria 05/3148 (B.C.S.C), respectively.

34 *Supra* note 2, s. 2.

35 *Ibid.*, s. 3.

> 4(1) A natural gas tenure, whether made before or after the coming into force of this Act, includes any coalbed gas rights.
>
> (2) A coal tenure, whether made before or after the coming into force of this Act, does not include any coalbed gas rights.[36]

In an effort to address split title claims and ongoing court actions, s. 6 of the *CGA* expressly eliminates any rights of action against the government, the natural gas rights holder, or the coal rights holder for claims. Section 6 provides that:

> No compensation or right of action
>
> 6(1) A person has no right of action and must not commence or maintain proceedings, as a result of the enactment of this Act or the exercise by the minister of powers referred to in section 5 or 7,
>
> (a) to claim damages or compensation of any kind from the government, or
>
> (b) to obtain a declaration that damages or compensation are payable by the government.
>
> (2) For all purposes, including for the purposes of the *Expropriation Act*, no expropriation or injurious affection occurs as a result of the enactment of this Act or the exercise by the minister of powers referred to in section 5 or 7.
>
> (3) The natural gas owner or a person who has acquired coalbed gas rights from the natural gas owner has no right of action and must not commence or maintain proceedings against the government, the surface owner or the coal owner for damages or compensation because of extraction, production or removal of coalbed gas if that extraction, production or removal occurred before the coming into force of this Act.[37]

Before passing the *CGA*, the Government of British Columbia conducted several rounds of discussion with industry participants to obtain comments on the *CGA*. The *CGA* came into force on 10 April 2003, and, to date, it has not been judicially considered. The provincial government also negotiated agreements with various parties affected by the retroactive application of the *CGA*, namely the owners of major blocks of coal lands on Vancouver Island and in the Kootenay region, specifically for Crown petroleum and natural gas rights within specific coal formations. While the terms of those agreements appear to be publicly unavailable, the MEMPR website indicates that the agreements allow the Crown to acquire petroleum and natural gas tenures in the form of drilling licenses for a five-year period and that the Crown must exercise the option on at least twenty percent of the lands each year.[38]

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36 *Ibid.*, s. 4.

37 *Ibid.*, s. 6.

38 Government of British Columbia, Ministry of Energy and Mines, Titles-04-06: "Issuance of Crown petroleum and natural gas rights on Vancouver Island and the Kootenay's to the holders of Freehold Coal Agreements with the Province" (7 July 2004), online: MEMPR <http://www.em.gov.bc.ca/subwebs/landsale/InfoLetters/petitles/Titles-04-06.htm>.

V. SPLIT TITLE

The MEMPR has issued Information Letters setting up a process for disputes between coal and petroleum and natural gas rights existing separately within a single parcel of land. A description of the process for resolving conflicts is provided in Titles-05-02: "Managing Co-existing Coal and Petroleum and Natural Gas Rights (Replacing E92-11)" issued by the MEMPR.[39] The Titles-0-5-02 outlines MEMPR's policy for reducing conflicts and managing development where co-existing coal and petroleum and natural gas rights occur, and it appears to apply to CBM development as well. In brief, the policy states:

> If the coal and P&NG rights holders cannot reach agreement on compatible work programs, a three-member panel from MEM and the OGC will examine the issues and facts associated with the development of the resources and recommend a resolution to the appropriate decision maker. The panel may recommend that the decision maker approve, approve with conditions, or not approve the application.[40]

When dealing with such disputes, the MEMPR and the OGC will consider facts such as "financial feasibility, cost/benefit of each resource activity, social and environmental impacts, resource recovery potential, resource use compatibility and the respective projected program commencement and completion dates of each activity."[41] The Director of OGC's Project Assessment Branch is empowered to make the decision for an oil and gas activity, and the MEMPR's Chief Inspector of Mines is empowered to make the decision for a coal activity.[42] It is possible that the directors may require indemnity agreements as a condition to the activity approved.[43] While the policy does not provide for a right of appeal, any decision rendered is arguably subject to judicial review.

VI. SURFACE RIGHTS

Surface rights are governed by the *PNG Act*,[44] including all aspects of exploration, development and production, providing for the entry, occupation, or use of publicly held land for the purposes of exploration and development of CBM. In order to exercise subsurface rights to develop a CBM well, a surface lease must be negotiated with existing land owners, which, in British Columbia, generally means the Crown. The CBM developer would also be wise to negotiate with First Nations. In addition, modern day treaties or land claim agreements include provisions for consultation and accommodation. Accordingly, the situation is markedly different from other jurisdictions, including Alberta, because for the most part in British Columiba, industry must consult with and negotiate directly with First Nations affected by CBM development.

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39 Government of British Columbia, Ministry of Energy and Mines, Titles-05-02: " Managing Co-existing Coal and Petroleum and Natural Gas Rights (Replaces E92-11)" (8 April 2005), online: MEMPR <http://www.em.gov.bc.ca/subwebs/Landsale/InfoLetters/petitles/Titles-05-02.htm> [Titles-05-02].

40 *Ibid.*

41 *Ibid.*

42 *Ibid.*

43 *Ibid.*

44 *Supra* note 7.

VII. WATER DISPOSAL

The *Code*[45] is the "nuts and bolts" of CBM development in British Columbia and details quality and quantity criteria for disposal of produced water. The *Code* pulls together a myriad of other provincial legislation to address the discharge of produced water, including legislating applicable standards for produced water discharged to perennial, seasonal streams and groundwater, and monitoring, record-keeping, and reporting. Various other guidelines and legislation in British Columbia are referenced, including:

- *British Columbia Approved Water Quality Guidelines (Criteria)*;[46]
- *British Columbia Laboratory Methods Manual*;[47]
- *Waste Discharge Regulation*;[48] and
- *A Compendium of Working Water Quality Guidelines for British Columbia*.[49]

Two overriding issues are notable with respect to the *Code*. First and foremost, while it is entitled a *Code of Practice*, it is promulgated under the *EMA*[50] as a regulation and thus has the force of a regulation. There may, however, be some uncertainty with respect to whether the penalty and enforcement provisions under the *EMA* apply to a violation of the *Code*. Secondly, the Code does not provide for a permit process and treats each CBM project generally, including the discharge of produced water from coalbed production, rather than on a case-by-case basis with reference to the particular stream or ecological area potentially affected.

With respect to the first issue, namely whether the penalty and enforcement provisions under the *EMA* apply to a violation of the *Code*, the following analysis is relevant to the discussion. The *Code* was created pursuant to s. 22(1) of the *EMA*, which states that in addition to the regulation-making powers of the Lieutenant Governor-in-Council, "[t]he minister may make regulations establishing codes of practice for industries, trades, businesses, activities or operations, or classes of industries, trades, businesses, activities or operations, for the purposes of section 138(2)(s)."[51] Section 22 of the *EMA* goes on to list the

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45 *Supra* note 8.

46 Government of British Columbia, Ministry of Environment, Science and Information Branch, *British Columbia Approved Water Quality Guidelines (Criteria)* (2006 Edition), online: Government of British Columbia, Ministry of Environment <http://www.env.gov.bc.ca/wat/wq/BCguidelines/approv_wq_guide/approved.html>.

47 Government of British Columbia, Ministry of Environment, Environmental Quality Branch, Water and Air Monitoring and Reporting Section, *British Columbia Laboratory Manual — For the Analysis of Water, Wastewater, Sediment, Biological Materials and Discrete Ambient Air Samples* (2007 Edition), online: Government of British Columbia, Ministry of Environment <http://www.env.gov.bc.ca/air/wamr/labsys/lab_man_07.html>

48 B.C. Reg. 320/2004.

49 Government of British Columbia, Ministry of Environment, Science and Information Branch, *A Compendium of Working Water Quality Guidelines for British Columbia* (August 2006), online: Government of British Columbia, Ministry of Environment <http://www.env.gov.bc.ca/wat/wq/BCguidelines/working.html>.

50 *Supra* note 9.

51 *Ibid.*, s. 22(1).

types of regulations that the Minister can make. The *Code* was issued pursuant to s. 22(2)(a),(g)-(h) and (j), which state:

> For the purposes of establishing codes of practice under subsection (1), the minister may make regulations as follows:
>
> (a) prescribing the form and content of a notice;
>
> …
>
> (g) prescribing a substance as a waste and prescribing circumstances in which a substance is a waste;
>
> (h) regulating and imposing requirements and restrictions respecting the use, supply, storage, transportation, handling, treatment or disposal of any substance specified in the regulations, whether natural or artificial and whether in solid, liquid or other form, if the minister considers it appropriate to do so for the purpose of preventing the substance from causing damage to persons, animals or plants or pollution of air, water or land;
>
> …
>
> (j) requiring the keeping of records and authorizing the inspection of records.[52]

It has been suggested that because the *Code* is a code of practice, it does not have the force and effect of an ordinary regulation consistent with the Supreme Court of Canada's decision in *Council of Canadians with Disabilities v. VIA Rail Canada Inc.*,[53] where the Court stated that, "voluntary codes of practice cannot be elevated to the status of laws as if they were legally binding regulations."[54] However, in this case, the *Code* was promulgated under the *EMA* as a regulation and thus it has the force of a regulation and cannot be described as "voluntary."

There may, however, be some issue with respect to whether other sections of the *EMA* are still applicable in respect of a violation of the *Code*, namely the enforcement and penalty provisions of Part 10 of the *EMA*. The *Code* was promulgated under s. 22 of the *EMA* pursuant to the Minster's powers under s. 138(2)(s) which exempts "any operation, activity, industry, waste or works or any class of persons, operations, activities, industries, wastes or works from any or all of the provisions of this Act or the regulations in circumstances and on conditions that the Lieutenant Governor in Council prescribes."[55]

By enacting the *Code*, the Minister exempted certain CBM activities from the provisions of the *EMA*, but arguably, did not provide a complete exemption in that only certain of the provisions of the *EMA* were exempted consistent with the authority in s. 138(2)(s) to exempt "any or all of the provisions" of the *EMA*. Accordingly, compliance with the general provisions of the *EMA* is arguably still mandatory.

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52 *Ibid.*, s. 22(2)(a), (g)-(h), (j).
53 2007 SCC 15, [2007] 1 S.C.R. 650 [*VIA Rail*].
54 *Ibid.* at para. 346.
55 *EMA*, *supra* note 9, s. 138(2)(s).

Second, the *Code* does not provide for a permit process, but treats each CBM project generally, including the discharge of produced water from coalbed production, rather than on a case-by-case basis with reference to the particular stream or ecological area potentially affected. Contrast the British Columbia situation with Alberta where legislators have recognized that individual review is required in every circumstance.[56] Critics point to the fact that in this way, the *Code* does not limit the number of operations that "could discharge into the same stream or into seasonal streams that discharge into the perennial steam with many dischargers."[57]

On the other side of the debate, reviewers of the emerging regulatory framework in Canada state that in reference to the British Columbia legislative regime, the *Code*

> provides a well coordinated framework to protect water quality and address the potential impact of CBM development on aquifers. In light of the success of [the *Code*] in providing a more streamlined approval process than currently exists in Alberta, it is interesting to note that the Alberta CBM/NGC Multi-Stakeholder Advisory Committee has included in the recommendations released last week that the Alberta Government adopt a "decision tree approach" and a "code" to improve the coordination of the regulatory approval process.[58]

The *Energy Plan* recently introduced by the Government of British Columbia mandates that the default process to deal with produced water must be subsurface injection. Subsurface injection is governed by the *PNG Act*[59] and the *Drilling and Production Regulation*[60] pronounced under that legislation. The *Energy Plan* expressly mandates that companies will not be permitted to surface discharge produced water. The *Energy Plan* therefore throws into question the issue of whether those provisions of the *Code* that addressed surface disposal water will still be operative. What happens in situations where subsurface injection cannot be achieved? Will the *Code* govern, or will a proponent be denied approvals to proceed with the CBM development? The answers are unknown at this time. However, it may be useful to reference the *Code* provisions for dealing with surface disposal of produced water, found in s. 2 of the *Code*. Pursuant to the definition of "produced water" found in s. 1(1) of the *Code*,

> "produced water" means water extracted from a coal seam or a formation contiguous to a coal seam that
>
> (a) originated from within the coal seam or contiguous formations,
>
> (b) is pumped out in advance of and in aid of the release of gas from the coal seam, and

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56 See Farmer & Fitch, *supra* note 3.

57 Tom Myers, David Chambers & Amy Crook, *Technical Review: Code of Practice for the Discharge of Produced Water from Coalbed Gas Operations in British Columbia* (Victoria: Center for Science in Public Participation, 2005), online: WCEL <http://www.csp2.org/reports/CBM%20Code%20in%20BC%20-%20CSP2%20-%201.25.05.pdf> at 6.

58 Allan Ingelson, Pauline K. McLean & Gason Gray, *CBM Produced Water — The Emerging Canadian Regulatory Framework*, Paper No. 4 of the Alberta Energy Futures Project (Calgary: The Institute for Sustainable Energy, Environment and Economy, 2006) at 22 [footnotes omitted].

59 *Supra* note 7.

60 B.C. Reg. 362/98.

(c) is produced in the course of a coalbed gas exploration and production industry operation.[61]

The definition of produced water establishes a three-part test for water to be considered "produced water." First, the water must originate from a coal seam; second, it must be water that is pumped out in advance of and aids the release of gas from the coal seam; and, third, the water must be produced in the course of coalbed gas exploration and production.

Section 2 provides that:

Produced water may be discharged under this code only to

(a) a perennial stream,

(b) a seasonal stream, or

(c) the ground by percolation through the ground.[62]

There are similar sections for perennial and seasonal streams groundwater discharges. A "perennial stream" is defined as "a watercourse that from a point directly upstream of a point at which produced water is discharged or proposed to be discharged has observable water flow at all times."[63] A "seasonal stream" is defined as "a watercourse that between a point at which produced water is discharged or proposed to be discharged and its confluence with a perennial stream (a) has intermittent observable water flow each year, and (b) is associated with a water table."[64]

The *Code* establishes guidelines regarding surface disposal of produced water by setting out discharge standards for the three types of surface disposal methods. Schedules 1-3 of the *Code* provide the legislated quality and quantity details of such discharges:

4 (1) Produced water may be discharged into a perennial stream only if

(a) the flow of the perennial stream directly upstream from the point of discharge is sufficient, at all times, to provide *a minimum of 10:1 dilution for the total produced water* discharged by the discharger into that perennial stream, and

(b) the requirements of this code and the standards specified in *Schedule 1* are met.

(2) Produced water may not be discharged into a perennial stream *in a manner or quantity that impairs the proper ecological function* of the perennial stream or otherwise *causes excessive erosion*.

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61 *Supra* note 8, s. 1(1).
62 *Ibid.*, s. 2.
63 *Ibid.*, s. 1(1).
64 *Ibid.*

(3) A discharger must ensure that a discharge of produced water into a perennial stream is treated, if necessary, to remove iron and manganese precipitates *so that discoloration in the perennial stream is minimized*.[65]

What is meant by the above phrases "in a manner or quantity that impairs the proper ecological function of the perennial stream or otherwise causes excessive erosion" or "so that discoloration in the perennial stream is minimized" has yet to be considered by any regulatory agency or court.

The *Code* also provides specific rules for points of discharge in proximity to existing drinking water and irrigation use, and the maximum amount of produced water that may be discharged from a well, namely 1850 m^3 a day.[66] However, an exemption from the *Waste Discharge Regulation*[67] can be obtained.

VIII. *THE BC ENERGY PLAN*

In February 2007, the government announced *The BC Energy Plan*.[68] It is apparent that the government listened to some of the criticisms of the *Code* as the *Energy Plan* effectively changed the current regulatory regime for CBM. First, the *Energy Plan* mandates that produced water from CBM development be disposed of by water injection as a first priority to other disposal methods outlined in the *Code*. Second, in response to climate change issues and greenhouse gas emission reductions, the *Energy Plan* mandates that flaring from oil and gas producing wells will come to an end in 2016.

The relevant part of *The BC Energy Plan* that is applicable to CBM development is derived from the Policy Actions outlined in the "Oil and Gas" section: "Best coalbed gas practices in North America. Companies will not be allowed to surface discharge produced water. Any re-injected produced water must be injected well below any domestic water aquifer."[69] Further Policy Actions include:

- Eliminate all routine flaring at oil and gas producing wells and production facilities by 2016 with an interim goal to reduce flaring by half (50 percent) by 2011.

- Establish policies and measures to reduce air emissions in coordination with the Ministry of Environment.

- Enhance the Oil and Gas Environmental Stewardship Program, ensuring sound environmental, land and resource management.[70]

Specifically referring to the "Best Coalbed Gas Practices in North America," the *Energy Plan* states:

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65 *Ibid.*, s. 4 [emphasis added].
66 *Ibid.*, ss. 7, 8.
67 *Supra* note 48.
68 *Supra* note 14.
69 *Ibid.* at 29.
70 *Ibid.*

> Government will continue to encourage coalbed gas development with the intent of demonstrating that British Columbia is a leading socially and environmentally responsible coalbed gas developing jurisdiction. Coalbed gas, also known as coalbed methane, is natural gas found in coal seams. It is one of the cleanest burning of all fossil fuels. Proponents wanting to develop coalbed gas must adopt the following best practices:
>
> - Fully engage local communities and First Nations in all stages of development.
> - Use the most advanced technology and practices that are commercially viable to minimize land and aesthetic disturbances.
> - Companies will not be allowed to surface discharge produced water. Any re-injected produced water must be injected well below any domestic water aquifer.
> - Meet any other conditions the Oil and Gas Commission may apply.
> - Demonstrate the company's previous experience with coalbed gas development, and information must be publicly available as to how the company plans to meet and be accountable for these best practices.[71]
>
> …
>
> Through The BC Energy Plan, government has committed to eliminate all routine flaring at oil and gas producing wells and production facilities by 2016 with an interim goal to reduce flaring by half (50 per cent) by 2011. In addition, government will adopt policies to reduce natural gas flaring and venting at test sites and pipelines, and encourage compressor station efficiency to cut back emissions. Government will also explore opportunities and new technologies for safe, underground disposal of carbon dioxide or sequestration from oil and gas facilities. Sequestration is considered a cost effective mitigation strategy in reducing carbon dioxide emissions.[72]

The *Energy Plan* has yet to be translated into a regulation or a code of practice so there is some uncertainty with respect to the discharge of produced water from CBM development in British Columbia. However, it is reasonable to assume that the OGC and the relevant government ministries and agencies will no doubt be driven by the *Energy Plan* when considering CBM applications for approval. It is equally reasonable to assume that the *Code* will eventually be amended to account for these changes in government policy.

IX. CRITIQUE OF THE *CODE*

Part 3 of the *Code* addresses discharge, monitoring, record-keeping, and reporting requirements relating to CBM activities. This part of the *Code* has also been highly criticized because the government has adopted a general, permissive process with no apparent consideration of case specific situations. Further, critics argue that the government has taken a "hands-off" approach with respect to who will monitor, keep records, and report on water quality relating to discharge. The responsibility for monitoring and reporting has been

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71 *Ibid.* at 31.
72 *Ibid.* at 30.

delegated to qualified professionals. Under the *Code*, a "qualified professional" is an individual who:

> (a) is registered in British Columbia with a professional organization, is acting under that organization's code of ethics, and is subject to disciplinary action by that organization, and
>
> (b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.[73]

The definition is broad and mandates that a qualified professional need only be registered with a professional organization and have "suitable education, experience, accreditation, and knowledge" to provide advice on the issues in question. However, it is unclear whether the professional should be, for example, a biologist or an environmental engineer. The effect is to leave it open to the proponent to decide what qualified professional they will rely upon.

From a practical perspective this approach may be reasonable; however, critics point to the fact that the *Code* does not require qualified professionals to be certified by the government. Critics also argue that these qualified professionals are not required to and may not operate at arms length from the company proposing the CBM project and, as a result, their discretion and opinions may be compromised:

> The Province must recognize that there is potential for Qualified Professionals to be co-opted to a lesser or greater extent by the people they depend upon for their livelihood. In order to prevent this from happening and since a good portion of the regulatory authority normally invested in the government is being delegated to the Qualified Professionals, the Province should take care to define just who and what a Qualified Professional is, and to ensure that there is a mechanism to ensure accountability for this delegated authority.[74]

Section 11 of the *Code* requires that a company planning to discharge produced water must first ensure that a "receiving environment baseline monitoring program is designed by, and conducted under the supervision of, a qualified professional"[75] (noticeably not *actually conducted or undertaken* by) for at least one year before discharging the produced water. This requirement means that the baseline study should be included in any applications to the OGC and effectively means that CBM development at the site will be delayed by, at minimum, this one-year period.

Critics also argue that the lack of government oversight and monitoring could mean that the discharge of produced water could be allowed to continue unchecked, perhaps indefinitely. For example, Sierra Legal Defence Fund, in its critique of the *Code* states:

> B.C.'s new laws controlling polluted water produced by coalbed methane operations (Code of Practice for Discharge of Produced Water) merit particular mention. They put virtually all the decision-making authority in the hands of consultants paid by the companies, and permit the deposit of polluted water at levels fatal to fish right into a drinking or irrigation stream, as long as the consultant says [it's] ok. The Code represents

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73 *Supra* note 8, s. 1(1).
74 Myers, Chambers & Crook, *supra* note 57 at 8.
75 *Supra* note 8, s. 11(1).

> an extreme example of off-loading government responsibilities to private companies with a vested interest in pumping the gas, leaving the environment and affected drinking water users at risk.[76]

This concern emanates from the *Code* provisions that provide that the company must maintain appropriate records.[77] However, only upon the request of the Director (appointed under the *Code*) or if a company exceeds allowable discharge quality criteria, must the company report to the Director and submit or post monitoring data. Environmentalists and opponents to CBM argue that the lack of positive government enforcement and oversight is bad news as it allows rogue operations to avoid the requirements of the *Code* until caught.[78]

From an industry perspective, the lack of enforcement and oversight while beneficial in some ways, may also prove to be a significant detriment for those in the industry that strictly adhere to the legislation of the day. There is the risk that other companies who do not strictly adhere to the rules will further tarnish the view of the public with respect to CBM development. This will inevitably make it more difficult for other projects to get off the ground and may lead to more stringent regulations and enforcement.

Finally, the lack of involvement of the public is arguably another mistake on the part of the Government of British Columbia. British Columbia is home to a strong environmental movement and many opponents to CBM projects. Even industry has commented that for CBM development to succeed in British Columbia, public consultation is going to be integral to that process. CAPP's manager predicted that

> CBM's success in B.C. will hinge on land-use issues, available technology and adequate public-consultation processes. Public consultation is a key component … because the public helps to address specific issues. The industry would prefer that the government reach agreements with the stakeholders before activity begins in earnest. Producers can't invest until they are more certain of their costs.[79]

There are also numerous other groups outside of British Columbia that oppose CBM development in British Columbia and refer to the controversial and negative early experiences of CBM production in the United States, particularly with respect to produced water disposal issues. On 7 April 2005 for example, the Montana Legislature passed a resolution respecting CBM development in the Flathead Valley of British Columbia,[80] recognizing the importance of the transboundary region of the Flathead Lake and river drainage. That resolution urged the Governor of Montana to negotiate an operating agreement with the British Columbia government and to request that the International Joint

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76 Tim Howard, *This Land is Their Land: An Audit of the Regulation of the Oil and Gas Industry in BC* (Vancouver: Sierra Legal Defence Fund, 2005) at 7.

77 See *Code*, *supra* note 8, Part 3.

78 *Supra* note 76 at 27; WCEL, *Comments on the BC Ministry of Water, Land and Air Protection's Coalbed Methane Produced Water Code of Practice Intentions Paper*, online: WCEL <http://www.wcel.org/wcelpub/2005/14179.pdf> at 2-3, 7; see generally Myers, Chambers & Crook, *supra* note 57.

79 Stewart, *supra* note 6.

80 U.S., S.J. 7, *Recognizing the Importance of the Transboundary Region of the Flathead Lake and River Drainage; Urging that the Governor of Montana Negotiate an Operating Agreement with the Government of British Columbia; and Urging that the International Joint Commission Conduct and Complete an Environmental Assessment Prior to a Final Decision on Coal Bed Methane and Other Hydrocarbon Development in the Valley of the Flathead River and Critical Adjacent Environs*, 2005, Reg. Sess., Mont., 2005.

Commission conduct and complete an environmental assessment prior to a final decision on CBM development in the area.[81]

Concerns have also been expressed by the Governor of Montana when British Columbia held a land sale in southeast British Columbia. The Governor of Montana strongly opposed CBM recovery in the Flathead area arguing that the potential risk of adversely affecting transboundary rivers and watercourses was too high.[82] Under the present provisions of the *Code*, unless there is a compliance issue that requires the attention of the Director and the Director requires reports to be produced and filed with the OGC or other governmental agency, it is doubtful that the public will have access to the requisite information to monitor CBM development in their area. The lack of access to such information will continue to create misunderstandings and increase the distrust between the public, industry, and various stakeholders.

Finally, assuming that the *Code* provisions relating to disposal of produced water remain relevant and of use in light of the *Energy Plan* mandating subsurface injection of produced water, there are some that take the view that British Columbia's CBM legislation encroaches too much on federal jurisdiction because it allows for discharge of produced water into streams.[83] Setting aside any jurisdictional issues, proponents must consider the federal regulatory regime when developing CBM in British Columbia, as that regime is changing. On 13 December 2006, the federal government tabled Bill C-45, *An Act respecting the sustainable development of Canada's seacoast and inland fisheries* (*Fisheries Act*, 2007).[84] An in-depth discussion of such legislation is beyond the scope of this article; however, the new *Fisheries Act* will need to be considered for any future CBM project.

X. FIRST NATIONS

The Government of British Columbia's promotion of CBM has been generating mixed reviews and increasing interest in exploring and producing CBM in some areas of British Columbia. The response of First Nations has also been mixed. In the northwest area of the province, opposition by several First Nations likely resulted in Shell Canada rethinking some of its CBM activities in British Columbia. In contrast, First Nations in the Flathead Valley, in the southeast area of the province wanting to access the economic opportunities, did not necessarily oppose CBM projects. However, we are not aware of any benefit agreements being negotiated between proponents and these First Nations. One reason for the lack of any such agreements might be the stiff opposition to CBM activities in the Flathead Valley from other stakeholders, including environmentalists, the general public, and the Governor and two state senators from Montana, as well as the threat of a protracted international dispute between Canada and the U.S. It was likely this opposition that contributed to British Petroleum recently announcing it would not pursue CBM in the Flathead Valley.

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81 *Ibid.*

82 Grady Semmens, "U.S. Officials Vow to Fight B.C. Mining Plans" *CanWest News Service* (10 May 2004).

83 WCEL, *supra* note 78 at 4-5.

84 *Supra* note 24.

Unfortunately, there is a perception in industry that it is almost impossible to do anything in British Columbia, let alone explore, develop, and produce CBM given outstanding and unresolved First Nations claims. That is truly not the case. However, significant consultation and accommodation is required for a proposed CBM project, and industry must be prepared to negotiate benefits agreements with and accommodate First Nations in respect of any project. Now is the time to seize the opportunity, both for industry and for First Nations to work together towards the development of CBM. CBM development raises unique issues distinct from traditional oil and gas development. First Nations need the requisite expertise and technical background on CBM and the industry needs to move away from an individualistic "can-do" attitude and move towards fostering a community of understanding with a view to sharing technologies and benefits.

The first step towards developing new relationships is to recognize, acknowledge, and give weight to the strong ties between First Nations and the land, recognizing that the land provides a means of survival and not merely an asset for recreation or resource development. The land must be preserved so that fishing, hunting, and other traditional uses of the land will remain intact. Accordingly, the cumulative impacts of CBM development must be addressed and dealt with by industry and First Nations working together.

It must also be recognized that because of historical uses of the land, First Nations have inherent knowledge and values about the land, including skills and expertise in relation to land management activities. First Nations people understand the cumulative effects of resource development and the connectivity of all things in ways that someone who does not live off the land may not fully appreciate. These concepts appear to have been recognized in *The BC Energy Plan* as follows:

> Government is working to ensure that oil and gas resource management includes First Nations' interests, knowledge and values. Government has recently concluded consultation agreements for oil and gas resource development with First Nations in Northeast British Columbia. These agreements increase clarity in the process and will go a long way to enhancing our engagement with these First Nations.[85]

The Government of British Columbia developed its *Consultation Operating Guidelines* on 1 December 2006 for consultation with First Nations on CBM projects.[86] These *Guidelines* include pre-determined criteria for CBM development such as Application Criteria, Notification Requirements, Extension Criteria, and Complex Consultation Zones, including methodology for documenting and mapping.[87] Pursuant to the *Guidelines*, to date, the Ministry has negotiated *Memoranda of Understanding* with various Treaty 8 First Nations.[88]

One such agreement was negotiated between the Doig River First Nation and Government of British Columbia with respect to oil and gas activities, defined to include "oil and gas exploration development … for which the approval of the Oil and Gas Commission is

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85 *Supra* note 14 at 29.
86 *Supra* note 5.
87 *Ibid.*
88 *Supra* note 4.

required,"[89] that have the "potential to adversely impact the exercise by the First Nation of rights recognized and affirmed by section 35(1) of the *Constitution Act, 1982*."[90] The province has yet to negotiate a consultation agreement under these guidelines with a First Nation not party to a treaty.

XI. ENVIRONMENTAL CONCERNS

First Nations and other stakeholders must inform themselves about CBM development and recognize that exploration and production of CBM is distinct from conventional oil and gas exploration, production, and development, and thus must be treated in a distinct manner. In particular, the following characteristics are unique to CBM development and of interest to First Nations and stakeholders:

> In order to access the methane gas, coal seams need to be dewatered. While the quantities of produced water will vary from basin to basin, it is possible that large quantities of [produced water] could be released for which disposal will be an issue.
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> …
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> To allow water or coalbed methane to flow more easily, companies will usually inject a high-pressure compound of sand and chemicals into the well to fracture or 'frac' the coal seam. Fraccing compounds can contain diesel fuel and other hydrocarbons.[91]

Moreover:

> [M]ethane gas is often held in the coal by water pressure and a company must first decrease this pressure by "de-watering" or pumping out the groundwater.… This "produced" water can vary in quality from being relatively pure to being highly polluting. It is often saline, and may contain heavy metals that can have long-term effects on aquatic ecosystems, depending on disposal practices. In the US, courts have determined the coalbed methane produced water is a "pollutant" under the US *Clean Water Act*.[92]
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> …
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> Coalbed methane wells generally require much denser spacing than conventional gas wells.… Coalbed methane wells have a longer lifespan than conventional oil and gas wells, and can be in operation for up to 40 years, whereas conventional wells tend to be exhausted after 25 years.… Coalbed methane wells are likely to be flared for longer periods than conventional gas wells.[93]

However, the recently announced *Energy Plan* which mandates that produced water must be disposed of by subsurface injection should go some way towards addressing First Nations and other stakeholder concerns relating to the impact of CBM on the water tables.

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89 OGC, *Consultation Process Agreement between Her Majesty the Queen in Right for the Province of British Columbia and the Doig River First Nation* (1 December 2006), online: <https://www.ogc.gov.bc.ca/pubdoc.asp_view=9.html>, art. 1.

90 *Ibid.*, art. 2.1.

91 Campbell & Rutherford, *supra* note 30 at 3, 7.

92 *Ibid.* at 5, referring to *Northern Plains Resource Council v. Fidelity Exploration and Development Co.*, 325 F.3d 1155 (9th Cir. 2003).

93 Campbell & Rutherford, *ibid.* at 3-4.

Again, the recently announced *Energy Plan* purports to eliminate gas flaring in ten years in an attempt to address concerns with respect to flaring, including the impacts on climate change and greenhouse gas emissions.

Other factors to consider include:

- Setback requirements for infrastructure, post-construction operations measures for equipment, visual impacts of compressors, meter houses, pump jacks, tanks and water pits;[94]

- Increased production life means that the length of the lease for production could be negotiated to bring certainty to land-use conflicts and to limit the long-term environmental impact of CBM;

- Water management planning and water quality issues, protection of wetland riparian rights, communication notice provisions for surface owners, dispute resolution planning, pipelines and power lines concerns, habitat species production, and public safety issues;[95]

- Direct involvement with selecting "qualified professionals" under the *Code* to monitor and obtain baseline data including cumulative impact analysis for land-use planning, including zoning amendments, performance standards, use of development permits, and land-use resource development agreements;

- Tax assessment mechanisms to address property values, disclosure of mineral ownership and land transfers, resources and means to maintain additional and existing road infrastructure, diversion of tax revenue, extra fees, bonding, road construction and use;[96] and

- Noise abatement and aesthetic issues including the use of berms, compressors, location and size of flare stacks, and air quality and emissions issues.

XII. CONCLUSION

The current legislative regime, including the *Codes* and *Guidelines* as modified by the new *Energy Plan* and the role of various governmental agencies, represents a sophisticated approach to CBM development in British Columbia that is not immune from criticism. There are several key issues and current trends, including First Nations issues, surface rights, produced water disposal management, and general environmental issues including flaring, which continually need to be reassessed by oil and gas companies conducting, or intending to conduct, CBM operations in British Columbia.

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94 *Ibid.* at 10.
95 *Ibid.*
96 *Ibid.*

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