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## **COMMENTS ON THE BC MINISTRY OF WATER, LAND AND AIR PROTECTION'S COALBED METHANE PRODUCED WATER CODE OF PRACTICE INTENTIONS PAPER**

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In late December 2004, the Ministry of Water, Land and Air Protection provided West Coast Environmental Law (West Coast) with its Code of Practice Intentions Paper [Code of Practice for the Discharge of Produced Water from Coalbed Gas Operations] for comment. The Intentions Paper is a summary document outlining the Ministry's proposed Code of Practice.

West Coast welcomes the opportunity to provide comments; however, a limited process is no substitute for full, transparent involvement of citizens and non-governmental organizations around the issue of coalbed methane development in British Columbia.

West Coast has assembled two documents which comment on the Intentions Paper or proposed Code of Practice:

- 1.) A Technical Review of the Intentions Paper, prepared on behalf of West Coast by the Center for Science in Public Participation;<sup>1</sup> and
- 2.) This report, which reviews the Intentions Paper in light of West Coast's *Checklist for BC Code of Practice for Discharge of Produced Water from Coalbed Gas Operations* – released in August 2004. Our comments respond to the questions that we asked in our Checklist in anticipation of the release of a Code of Practice.

Both documents may be viewed or downloaded from our website (<http://www.wcel.org>).

West Coast does not support coalbed methane development proceeding at this time. As stated in *Oil and Gas in British Columbia: 10 Steps to Responsible Development* (West Coast et al, 2004), we do not support coalbed methane development until such time as "...comprehensive studies into well spacing and water issues are completed to the satisfaction of affected communities, and until appropriate safeguards are put in place."

We sincerely hope that the Ministry, in developing and finalizing its regulatory regime for coalbed methane development, will take our comments into consideration, address the concerns that we have raised, and implement the safeguards that both we and our technical consultants have recommended. We also hope that the Ministry will engage the public in a broad and open process of consultation, on all issues of concern around coalbed methane development.

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<sup>1</sup> West Coast is grateful for participant funding provided by the Ministry of Water, Land and Air Protection.

**A. A RIGOROUS REGULATORY REGIME**

**1. Is the *Environmental Management Act* being used to its fullest potential to protect against a new and largely untested environmental challenge?**

Answer: NO

The Ministry's decision to proceed by way of a Code of Practice does not use the *Environmental Management Act* to its fullest potential, and British Columbians are not receiving the highest level of protection possible within the confines of our existing legislation. The highest level of protection afforded by the Act is to require individual permits or other authorizations for activities identified in Schedule 1 as high risk. Such permits provide an opportunity for site-specific concerns to be taken into account when authorizing waste discharges.

The Ministry's choice to proceed by way of a generic Code of Practice, rather than by individual permits, precludes the government from considering site-specific concerns or from regularly re-assessing the environmental safety on occasion of a permit renewal. In our view, a generic approach to regulating produced water is highly risky, given the newness of coalbed methane activity in BC, the fact that we simply don't know what kind of water will be produced as a result of that activity, and BC's high level of biodiversity.

In our view, given the environmental risks and all of the unknowns, the Ministry should adopt a precautionary approach and begin by regulating coalbed methane produced water in the most rigorous manner possible under the Act – i.e., through the use of individual permits. Only after the Ministry has gained some experience with produced water pollution, should the Ministry consider downgrading coalbed methane produced water discharges to Schedule 2 of the Waste Discharge Regulation, if in fact this is ever appropriate.

In addition, given that under a Code of Practice dischargers will not need to obtain a permit authorizing them to discharge water, persons aggrieved will not appear to have available to them the normal recourse of an appeal to the Environmental Appeal Board (under section 100 of the Act) in respect of a "decision of a director" (which includes issuance of a permit). Thus, some of the remedies which are normally available to the public under the *Environmental Management Act*, will not in this case be available in respect of concerns over the discharge of coalbed methane produced water.

**2. Are comprehensive valid baseline studies required in advance of development?**

Answer: Baseline monitoring has been stipulated as a requirement, but with insufficient detail

The Intentions Paper states that "Anyone proposing to discharge produced water into perennial or seasonal streams, or to ground via infiltration under the proposed code will need to do receiving environment baseline monitoring." (page 5)

This requirement is a step in the right direction; however, "baseline" needs to be properly defined to mean the state of affairs existing before development has begun or any produced water discharges have occurred in a particular stream. A true baseline does not measure an already contaminated environment or one where development has already occurred.

Secondly, a proper baseline study requires sufficient time to carry out and needs to take into account temporal variances in the environment that may occur with the passing of seasons, the influx of snowmelt, the occurrence of a drought, normal variations from year to year, etc.

For example, according to a report prepared by Summit Environmental Consultants for the BC Ministry of Energy and Mines reviewing available information in the Crowsnest Coalfield in the East Kootenays, dated March 31, 2004, there was very little data available and “[t]his is a potentially critical information gap and baseline water quality monitoring will very likely be needed at least three years before CBG (coalbed gas) development.”

Thirdly, the scope of the baseline monitoring program specified is not sufficiently broad. The program fails to require a survey of soil conditions, soil structure or wildlife which may be impacted by discharges to streams, or soil conditions, soil structure, vegetation or wildlife that may be impacted by discharges to the ground. The scale of the monitoring has also not been linked to the scale of the proposed development. If dozens or hundreds of coalbed methane wells will likely be planned, baseline data should be conducted on a watershed or even a regional level, since impacts will occur on this scale.

### **3. Is comprehensive produced water testing and monitoring required, and made available to the public in a timely manner?**

Answer: Under the proposed Code of Practice, testing and monitoring are required, but reports need not be routinely submitted to government. Summary reports of data only need to be submitted if a Code standard is exceeded, if analysis of the data indicates a “deleterious environmental change” or if a government official instructs the discharger to do so (page 4 and 6). Data need not be made publicly available unless a government official directs this to be done (page 6).

We are concerned that in the proposed Code there is no requirement for data to be routinely submitted to the government or made publicly available. Regular government and public oversight would not only encourage compliance with testing and monitoring requirements, but would also facilitate public scrutiny and analysis of the data. In our view, given the importance of maintaining the quality of our water as a public resource, and the implications that produced water discharges have for our water supply, testing and monitoring results should not only be subject to regular government verification and oversight, but should also be made publicly available at the same time results are known to the companies.

We are also concerned that “deleterious environmental change” has not been defined, making it open to interpretation by the discharger or its qualified professional. Reporting levels should be clearly and objectively defined, and there should be regular oversight of the monitoring.

### **4. Is produced water testing and monitoring independent and professional?**

Answer: The qualifications of the “qualified professional” have not been determined; and given that the professional is paid by the discharger, the relationship is not at “arm’s length.”

The proposed Code requires dischargers to implement a monitoring program (page 6), but while the program must be designed and supervised by a yet-to-be-defined “qualified professional”, it need not actually be performed by a professional person. Also, it cannot be said that the program is independent, since the qualified professional is contracted to, and paid by, the discharger.

Because “qualified professional” has not yet been defined, it is not clear whether the qualified professional will be liable for failure to perform duties in the same way that government is liable for

regulatory negligence, nor is it clear whether they will be legally accountable for their actions to a professional body. We recommend that if “qualified professionals” are to be used, these are important features necessary to ensure some level of public accountability.

Protecting public resources from damage is a public duty and we believe that the most effective way to ensure that standards are being met so as to protect our resources is to employ professional public officials who are singularly devoted to ensuring the protection of those resources, and won't be influenced by a contract, employment or financial relationship with, or dependence upon, the discharger.

#### **5. Will the use of toxic materials in fracturing fluids be banned?**

Answer: NO

The proposed Code of Practice fails to address this important issue at all.

The failure to address fracturing fluid toxicity is an important regulatory omission. Coalbed methane producers commonly use toxic substances, including diesel fuel, in their fracturing fluids. These fluids can travel into groundwater with devastating effects: even trace quantities of toxic substances such as benzene can contaminate vast quantities of fresh water. Remediation of groundwater is very expensive, very difficult, and is sometimes impossible.

Water-based alternative fluids do exist and their use is preferable to the use of oil-based fluids. Given the availability of a choice, and the importance of protecting the purity and integrity of BC's groundwater supplies, toxic fluids should be banned and water-based fluids should be required in all cases.

### **B. PROTECTING WATERCOURSES, FISH AND FISH HABITAT**

#### **6. Is produced water treatment mandatory?**

Answer: Produced water treatment is not mandatory in all cases. In the Intentions Paper (page 3), the only time that water treatment is prescribed is to remove iron and manganese precipitates if necessary so as to minimize discolouration in a perennial stream to the greatest extent practical or if necessary to minimize discolouration in a seasonal stream. (Emphasis added.) (Note that this language is vague: it is not clear what level of discolouration is acceptable or not acceptable.)

In our view, in order to protect BC's increasingly valuable water resources, companies should be required to treat produced water and to adhere to disposal schedules that do not adversely affect water absorption or surrounding land, stream habitat structure, stream flow quantity or ground water quantity. There should be no exceptions, though levels of treatment should be adjusted to reflect different disposal options, keeping in mind that the preferred option is always going to be reinjection. For example, where it is possible that any produced water could be discharged on lands, or into waterways, it should be treated to a standard comparable to local rainwater or snowmelt.

The provisions of the federal *Fisheries Act* should be kept in mind in this context. Should produced water – even when treated – come into contact with fish-bearing streams or their tributaries, the provisions of the *Fisheries Act* prohibiting the harmful alteration, disruption or destruction of fish

habitat become operative.<sup>2</sup> The existence of a Code of Practice must not excuse compliance with the *Fisheries Act* nor insulate against potential prosecutions under that Act should harmful alteration of fish habitat occur even when complying with the Code of Practice.

In our view, given that the proposed Code of Practice contemplates surface disposal in or near fish-bearing streams or their tributaries, the Code of Practice should expressly refer to the requirements of the approval provisions of the section 35(2) of the *Fisheries Act* before any disposal into waters that could affect fish or fish habitat.

**7. Does the Code, or ideally, will a permit, clearly indicate that re-injection of the produced water is the default preferred option?**

Answer: NO

While the Intentions Paper states that “[d]eep-well injection is one option available to the coalbed gas industry to dispose of poor quality produced water” (page 1), the proposed Code does not *require* dischargers to reinject their water nor to place any kind of legal priority on reinjection as an option for disposal.

In contrast to this, research carried out after experience with this industry in the United States confirms that deep well reinjection is the safest and most sustainable method of disposal of produced water.<sup>3</sup> This is because the organic and inorganic chemistry of produced water has not been well studied. The long-term impacts of dissolved contaminants such as phenols or arsenic are not well understood, and the impacts of produced water on different aquatic ecosystems across the province could be significant if its disposal is allowed on the surface. The negative impacts of surface disposal of coalbed methane produced water in the United States are extensively documented.

In this context, the default method of disposing produced water should be deep well injection so that the public does not end up bearing the risk of operations generating profit for private gain.

The burden of proof to deviate from default reinjection must lie with the company to prove that reinjection is not possible for geological reasons, not for lack of technology or ability on the part of the company, and that where surface disposal is to occur, that it will not adversely affect the local receiving environment.<sup>4</sup> In order to ensure that those potentially affected are made aware of the possibility of surface disposal, the process whereby such approval is granted should be conducted in a transparent and accountable manner – an application should be made to the Ministry of Water,

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<sup>2</sup> R.S.C. 1985, c. F-14, s. 35(1)

<sup>3</sup> Kuipers, J., K. MacHardy, W. Merschhat and T. Myers, 2004. Coalbed Methane Produced Water: Management Options for Sustainable Development. Prepared for Northern Plains Resource Council, Billings, MT.

<sup>4</sup> We do not equate this statement with not causing pollution under the *Environmental Management Act*, given that the Act defines pollution as “substances or contaminants that substantially alter or impair the usefulness of the environment,” as this definition clearly envisions impacts to the environment. The earlier comments about the application of the *Fisheries Act* are also relevant in this context.

Land and Air Protection (NOT to the Oil and Gas Commission), and should be made available for public comment and review before a decision is made.

**8. Where surface water disposal occurs, will it have a beneficial use? And at a minimum, will it not adversely impact environmental quality?**

Answer: All that is required under the proposed Code is for the discharger to “consider” beneficial uses; there is no requirement to actually put the water to a beneficial use.

The Intentions Paper states, “The use of this water for irrigation, stream flow augmentation or industrial purposes is encouraged if the quality is good enough or if the industry chooses to apply treatment to an acceptable level” (page 1).

In our view, if discharges are to be made to the surface (rather than the preferable course of reinjection) then if a beneficial use is possible, dischargers should be required to treat the water to an environmentally sound level appropriate to the proposed use of the water.

Currently, the proposed Code does not mandate a preference for beneficial use of the produced water; and as set out in our technical experts’ report, we also have many concerns about negative impacts to the environment arising from the standards and practices which are outlined in the Intentions Paper.

We are concerned about potential pollutants which are not on the government’s list of required substances to test for. We are also concerned that the prescribed standards are not sufficiently stringent or comprehensive and:

- will allow degradation of BC’s streams and water supplies;
- fail to protect against unacceptable cumulative impacts; and
- do not adequately protect fish and other aquatic life from total dissolved solids or other pollutants or pollutant levels.

Please see our technical expert’s report, on our website ([www.wcel.org](http://www.wcel.org)), for a full discussion of these and other concerns.

**C. MEANINGFUL COMPLIANCE AND ENFORCEMENT**

**9. Is the Code of Practice legally binding and therefore enforceable?**

Answer: We remain concerned about the enforceability of the Code provisions.

While there does appear to be an intention to make the Code enforceable by the Oil and Gas Commission (Intentions Paper, page 1), at the present time the Code has not yet been implemented so its legal enforceability has not yet been tested.

We are concerned, however, about the wisdom of instituting a system that does not require a specific permit or review of intended operations for compliance with standards from the outset of operations. In particular, given the significant cuts to numbers of government staff which have taken place over the last several years, we are very concerned with a system that places such heavy reliance on field inspection staff to ensure that the Code’s standards are being met out in the field.

In addition, we are further concerned with the fact that under the Waste Discharge Regulation<sup>5</sup> a discharger may apply for substitution of a different requirement in lieu of the requirements set out in the Code of Practice, however, there is no process whereby a member of the public or a person affected by the waste may apply for a substitution to “protect the public or the environment.”

**10. Will enforcement responsibility exist with the Ministry of Water, Land and Air Protection and NOT the Oil and Gas Commission?**

Answer: NO

The Intentions Paper states (at page 1) that enforcement of the Code of Practice will rest with the Oil and Gas Commission, rather than being subject to the oversight of the Ministry of Water, Land and Air Protection.

We would prefer that enforcement responsibilities be given to the Ministry of Water, Land and Air Protection (and that adequate funding be provided to the Ministry for it to do so), not only because MWLAP has the most expertise in the area of environmental protection, but also because the independence of the Oil and Gas Commission has been compromised since amendments to the *Oil and Gas Commission Act* in 2003 made the Deputy Minister of Energy and Mines the Chair of the Oil and Gas Commission, having the tie-breaking vote in decisions. Additionally, there is also emerging concern about the ability of the Oil and Gas Commission to respond effectively to public concerns. For example, on at least four occasions, the Oil and Gas Commission’s independent Advisory Committee conducted reviews of specific approvals and recommended that those approvals be reconsidered, yet in every instance, the Commission went ahead with the original approval.

**11. Does the Code of Practice provide meaningful penalties for non-compliance?**

Answer: These have not yet been established, so we cannot evaluate at this time.

The Intentions Paper states (at page 2) that to meet its objectives, the Ministry of Water, Land and Air Protection “...will...[e]stablish appropriate penalties for contravention of the Code of Practice under provisions of the *Environmental Management Act*.” Those penalties have not yet been made public.

A 2001 West Coast study found that most penalties for environmental infractions in BC are valued at \$220 or \$575, little more than a speeding ticket.<sup>6</sup> Similar results have been found with the Oil and Gas Commission compliance reviews.

In our view, meaningful administrative penalties should not only be applied and effectively enforced but the government should also stipulate directly that the offence provisions of the Act will apply in the event of non-compliance with the Code of Practice.

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<sup>5</sup> See B.C. Reg. 320/2004, sections 7 and 8.

<sup>6</sup> See *Undermining the Law: Addressing the Crisis in Compliance with Environmental Mining in BC*, West Coast Environmental Law, December 2001, p. 46; and *Oil and Gas in British Columbia: 10 Steps to Responsible Development*, West Coast Environmental Law, et al, April 2004, p. 12.

Finally, in order to encourage deterrence, we urge the Ministry to reinstate non-compliance reporting, if not across the board, then for specific violations of this Code of Practice in order that local citizens can better understand the impacts of the development, and the corporate performance of the companies operating in their communities.

**12. Will the Code of Practice allow for citizen prosecution of offenders?**

Answer: NO

The proposed Code makes no allowance for citizen prosecution of offenders.

The BC government has a current policy of staying private prosecutions commenced under federal or provincial environmental laws, including the federal *Fisheries Act*. This effectively stops violation charges from proceeding in the courts. At a time when the government itself is laying off monitoring and enforcement staff, allowing citizen prosecution of polluters to occur could be a means for the government to uphold its promises to “strengthen” enforcement.

West Coast opposes the policy of staying private prosecutions in BC, and believes that the threat of coalbed methane produced water impacting fisheries presents a prime opportunity to modify and ultimately reverse this policy. Since the Code of Practice potentially ventures into federal jurisdiction through the *Fisheries Act*, we recommend that the Code expressly recognize and respect the right to citizen prosecution under the *Fisheries Act*. This Act contains express incentives (through sharing of penalties) for citizen prosecution.

**13. Given that it is a new and untested environmental challenge, will the Code provide for public review to evaluate the success of its implementation?**

Answer: NO

There is no provision for a public review of the success of the Code’s implementation. This is very disappointing.

In our view, implementation of the Code will be a “work in progress” for the first number of years of coalbed methane production in BC. In order to ensure that the Code is meeting its goals and the goals of the public in protecting the environment and quality of life for British Columbians, the Code should provide for regular, yearly, open, accountable, public reviews in order to evaluate its success. Citizen participation should be a component of these reviews, as it is the citizens in local communities who will gain real knowledge of the success or failure in implementation of the Code.

**D. CONCLUSION**

For all the reasons stated, West Coast cautions British Columbia against rushing ahead with coalbed methane development. Instead, West Coast urges the adoption of a precautionary approach involving careful study, implementation of duly rigorous safeguards to protect our water and land, and a through consultation with the public on all issues of concern. Thus, while West Coast welcomes the opportunity to engage in a discussion of appropriate safeguards, West Coast submits that, consistent with the *10 Steps to Responsible Development*, much work remains to be done before the province should give the green light to coalbed methane development.