

Minister

## **BRIEFING NOTE**

For Information

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**SUBJECT: New West Partnership and project charter – “*Collaboration and Information Sharing, Industry Water Use and Hydraulic Fracture Technology*”**

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**DATE:** August 3, 2011

**ISSUE:**

The Minister’s of Energy for British Columbia, Alberta and Saskatchewan signed a Memorandum of Understanding December 16, 2010 to provide for collaboration and joint action on issues related to unconventional shale gas development. One of several priority initiatives of the partnership is to work together to address fracture technology and water issues.

This briefing includes information on the water and technology collaboration working group that has been assembled from the three provinces, including staff from the Water Policy Branch of Alberta Environment.

Support for the project charter is requested from the Assistant Deputy Minister for Environmental Policy.

**BACKGROUND:**

In addition to other ongoing projects in Alberta that address shale gas regulatory issues the Ministries of Energy of the three western provinces have formed the New West Partnership to foster collaboration between the three provinces on emerging energy issues. A copy of the New West Partnership Memorandum of Understanding is attached.

One priority initiative of the partnership is to foster information sharing and collaboration between regulatory agencies in the three provinces. The project mandate is provided in an update to the New West Partnership signed by the Deputy Ministers for Energy in April 2011:

***“Collaboration and Information Sharing, Industry Water Use and Hydraulic Fracturing Technology. This is a priority for all three provinces. A working group will develop and share information on best practices related to water use, leading to the development of standards. A work plan will be developed by July 2011, with 18 months to develop recommendations for industry standards or guidelines.”***

The British Columbia Ministry of Energy and Mines is the lead agency for the project. Staff from the Alberta Ministry of Energy, Alberta Environment and the Energy Resources Conservation Board provide input to the working group for Alberta.

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A project charter has been drafted by the interprovincial “collaboration and information” working group to provide scope and objectives for the project. The charter includes a work plan for delivery of results over an 18 month period, beginning in July 2011. Members of the working group are listed in section 5.0 of the project charter (attached).

### **Collaboration and Information Sharing, Industry Water Use and Hydraulic Fracture Technology, Project Charter**

The working group accepted all of Alberta’s input during development of the project charter. Peter Watson, the Deputy Minister for the Ministry of Energy is Alberta’s representative on the project steering committee. The project charter will be signed by the Deputy Minister for the Ministry of Energy and by corresponding authorities in British Columbia and Saskatchewan after the proposed charter is reviewed and accepted by the project steering committee.

Alberta Environment groundwater policy staff currently provide policy support for shale gas water management issues within the ongoing Energy Resource Conservation Board Unconventional Gas Review and will also provide input to the New West Partnership project.

The Alberta Ministry of Energy, Unconventional Gas, has identified the following policy initiatives related to shale gas development in Alberta and Western Canada:

**New West Partnership – Collaboration and Information Sharing, Industry Water Use and Fracking technology project.** The purpose of this committee is to develop and share information on best practices related to water use, leading to the development of standards. The Resource Development branch is coordinating DoE, ERCB and AENV engagement on this committee which also includes CAPP participation.

**Shale Gas Review Phase 1 (DoE).** The objective of this phase of the review is focused on information gathering and preliminary analysis to determine the potential nature and extent of changes to the policy framework, if any, to address shale gas development in Alberta. The Resource Development Branch is leading this project.

**Shale Gas Communications (GoA/CAPP& CSUG).** CAPP has approached the GOA requesting collaboration to enhance public communication on Alberta shale gas development. The DOE along with SRD, AENV and ERCB, are currently reviewing the CAPP request to determine the level of government involvement.

**Shale Gas Committee (DoE)** – Established in 2008 and chaired by Resource Development, this cross ministry committee shares information and will be used to facilitate and support Phase 1 of the Shale Gas Policy Framework Review and to enable enhanced coordination and communication on the progress of related GoA and industry association initiatives.

**Alberta Natural Gas Strategy (DoE)** – Led by Economics and Markets. A natural gas strategy document is under development. It will focus on maintaining short-term industry investment and longer term competitiveness of the Alberta and Western Canadian

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natural gas industry through efforts on research and technological development and the promotion of new markets.

**Well Spacing Framework (ERCB)** - the ERCB has proposed to remove subsurface well-density controls for CBM and shale gas reservoirs province-wide. Stakeholder feedback on the proposal was closed as of January 21, 2011. The ERCB is analyzing and evaluating select elements of the feedback received.

**Unconventional Resources Regulatory Framework Project (ERCB)** – The ERCB is looking at improvements to enhance an effective and efficient regulatory framework for unconventional gas and oil development to further mitigate risks to resource conservation, public safety, the environment, and to ensure orderly development, while using the least intrusive regulatory tool to mitigate risks.

**Shale Gas Water Use Strategy (ERCB, AENV)** - This policy initiative is lead by ERCB, as a component within the ERCB's overall Unconventional Gas Review. AENV staff and ERCB staff are collaborating to gather information from industry, and develop short-term medium-term and long-term actions to address water use, transport, storage and disposal issues for water in unconventional (shale) gas development areas.

**Shale Gas Mapping and Geological Study (AGS)** - DoE commissioned a study to generate maps and resource characterization reports. Reports will include resource assessment for gas, condensate and oil.

**Review of the Water Conservation and Allocation Policy (AENV)** – This review will be investigating potential regulatory options to effectively manage water uses for oil and gas development (conventional and unconventional reserves).

**CCME** – A backgrounder briefing has been requested to outline what was agreed to and the timelines for completion.

#### **RECOMMENDATIONS:**

Groundwater policy staff recommend that the New West partnership “Collaboration and Information sharing project” is of value in overall regulatory and policy development for shale gas development. The project charter supports development of improved communication with the public and stakeholders, sharing of information and collaboration on shale gas issues that are common to the three provinces.

Shale gas environmental concerns in the media and in the public in other jurisdictions are potentially problematic for energy development and environmental management in Alberta. Proactive collaboration by regulatory agencies in the three western provinces is one of several initiatives that may provide for better environmental outcomes and enhanced assurance for the public and local residents in areas of rapid development.

Several initiatives are underway by different groups within government and industry in Alberta and across Canada to address emerging issues and public interest concerns related to ongoing shale gas development in the United States, and emerging issues in Canada. It will be essential to maintain coordination between the different initiatives to

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prevent overlap and wasted effort. The New West Partnership project will expand collaboration and establish effective working relationships between provincial agencies that have separate mandates. Each province will continue to exercise independent regulatory processes and policies for energy development and environmental management.

An initiative has begun (July 2011) to address disclosure of fracture fluid chemistry publicly, lead by British Columbia Ministry of Energy and Mines and the Canadian Association of Petroleum Producers. This objective is included in the collaboration and information sharing project and will be the first deliverable of the project charter.

The Ministry of Energy is seeking the support of Alberta Environment for this project, through the Environmental Policy Division. Financial contributions are not needed. Staff time will be needed to support the work team (.25FTE over 1.5 years), within the context of ongoing water policy development for the oil and gas industry.

For Minister/Deputy Minister's Use:

- Agree with recommendations
- Disagree with recommendations

**MINISTER'S COMMENTS/DECISION:**

**CONTACT:** Robert George

**TELEPHONE:** 780-644-1122

**SUBMITTED BY:** Environmental Policy

- Requires legislative/regulatory change
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# **New West Partnership Collaboration and Information Sharing, Industry Water Use and Hydraulic Fracture Technology Project Charter**

**British Columbia  
Ministry of Energy & Mines  
Deputy Minister**

Steve Carr

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**Signature**

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**Date**

**Alberta  
Ministry of Energy  
Deputy Minister**

Peter Watson

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**Signature**

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**Date**

**Saskatchewan  
Ministry of Energy & Resources  
Deputy Minister**

Kent Campbell

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**Signature**

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**Date**

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## 1.0 Project Purpose

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To develop a common understanding and approach to collaboration and information sharing, industry water use and hydraulic fracturing technology in British Columbia, Alberta and Saskatchewan as identified in the New West Partnership Priority:

- **Collaboration and Information Sharing, Industry Water Use and Hydraulic Fracture Technology.** A working group will develop and share information on best practices related to water use, leading to the development of standards. A workplan will be developed by July 2011, with 18 months to develop recommendations for industry standards or guidelines.  
Lead: British Columbia

## 2.0 Project Background

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The development of unconventional shale gas resources in Western Canada began in about 2005. Innovative application of known technologies like horizontal drilling and hydraulic fracturing has allowed for development of previously uneconomic, deeply buried, gas-rich shales. This shift in exploration and development strategies has seen a wide range of techniques being tested and matched to different shale rock properties. In a number of situations, companies use very high water volumes to support a “slick water” type hydraulic fracture. Water used for initial shale gas exploration may be non-saline from surface or groundwater sources but full scale commercial operations need to consider the use of saline water. Hydraulic fracturing fluids can include water, hydrocarbons, gels or inert-gas based foams. Where high volumes of water are used, evaluation of alternative water sources and appropriate treatment and re-use of water can support a program of good water use management. U.S. reports on hydraulic fracturing and water usage have received considerable public attention.

British Columbia, Alberta and Saskatchewan have extensive regulatory environments governing traditional use of water for the development of oil and gas resources. With the advent of some types of shale gas fracturing techniques potentially creating a new large water use category a review of best practices and guidelines along with a consideration of what factors may benefit from a common western approach is needed to address regulatory outcomes, community concerns and industry’s need for water.

## 3.0 Objectives

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The key objectives of this project are:

1. To provide more confidence that hydraulic fracturing use of water for shale gas development is well managed;
  2. To support the achievement of regulatory outcomes; and
  3. To address concerns from the local community and help to address industry’s need for water.
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The project will assess industry practices and government regulations on water use to support shale gas development in the western provinces. The project will help to demonstrate that shale gas extraction is viable, safe and environmentally sustainable.

These objectives will be accomplished by pursuing outcomes in the following areas:

1. Review of shared information, development of industry practices (for consideration by government and industry) on water use requirements for hydraulic fracturing, identification of options for alternative water sourcing, water treatment and re-use, and fracture fluid disclosure. Provincial agencies will share information on hydraulic fracturing water use regulatory requirements in each of the three provinces, including water conservation and alternate sources of water, recycling and disposal of flow back water from hydraulic fracturing. Each province may develop provincial strategies for effective water management in areas of shale gas development;
2. Review opportunities for the western provinces to enhance communication and education of stakeholders and the public with consistent water use messages and terminology; and
3. Examine needs for surface and groundwater baseline information, including measurement and reporting while considering opportunities for common protocols or reporting systems. Technical requirements for baseline investigations (shallow fresh water aquifers and surface water) will be considered and appropriate recommendations for baseline investigation procedures and monitoring requirements will be prepared. Fundamental principles of environmental assurance will be developed and principles of baseline investigations, monitoring and investigation of potential environmental impact incidents will be developed, if possible, that are adaptable to the wide diversity of circumstances across the three Western provinces.

## **4.0 Scope**

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### **4.1 In Scope:**

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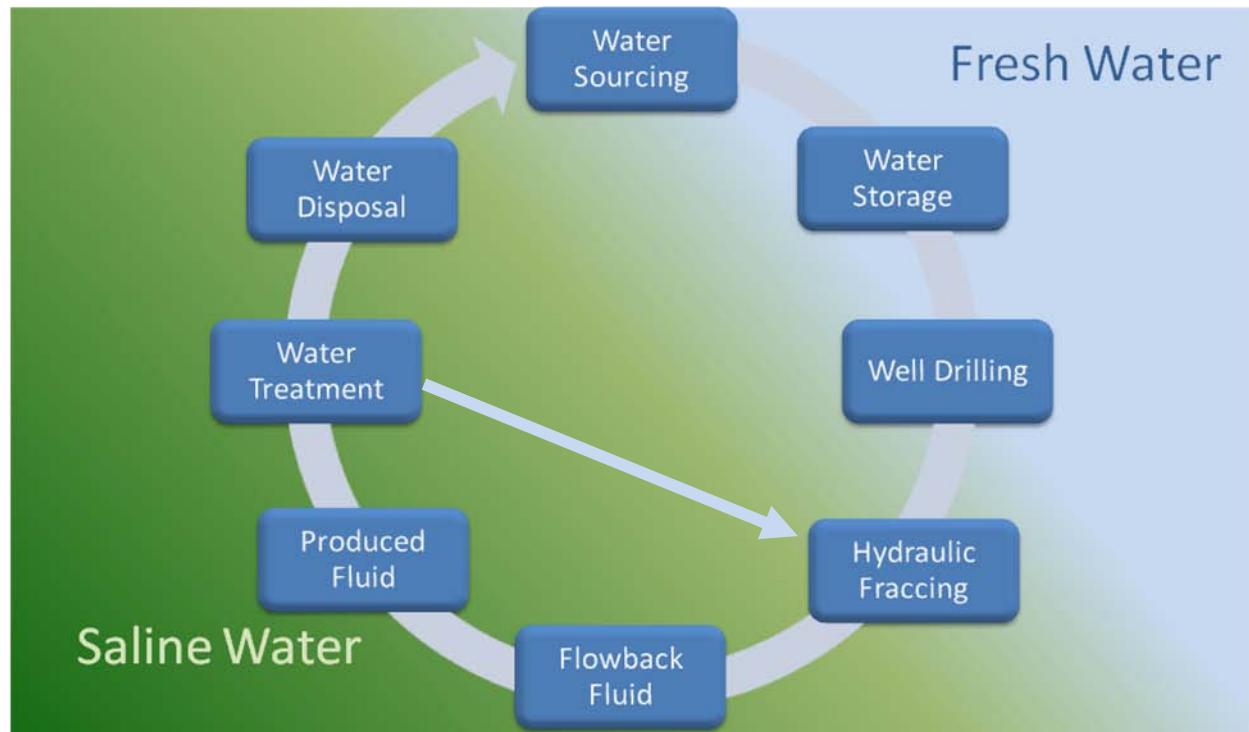
The scope of the project includes water use for hydraulic fracturing in British Columbia, Alberta and Saskatchewan's shale gas development areas. The scope includes science and possible future policy development based on best practices in support of conservation and responsible use of surface water and groundwater.

While fundamental water use principles may be common, the shale gas and water conditions may vary between the provinces and within different parts of a province. Accordingly, the project will not change provincial regulations or require any province to adopt a single best practice or guideline. The project should consider work currently being done on some of these issues and leverage off of this work rather than duplicating it. The project will focus on development of guidelines/best practices and fundamental water management principles that are adaptable to the variability found within a wide variety of resource constraints and competing development pressures.

Industry stakeholders will be consulted to compile a summary of current industry water use practices and a summary of current industry research and development initiatives. Recommendations for best practices will be reviewed and summarized.

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The water chart on the following page will guide the discussions and areas of focus.



#### 4.2 Out of Scope:

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The project does not include:

- coal bed methane development;
- oil shale development;
- new scientific research or water supply inventory or monitoring across the three provinces or the harmonization of legislation or specific regulatory procedures across the three provinces. Individual provinces will continue to be responsible for policy development and appropriate regulation of industry within their jurisdiction;
- consideration of bilateral agreements to address or harmonize water use issues in areas of cross-border shale gas plays; and
- major deliverables.

The deliverable documents for this project may include:

- a) Recommendations on the disclosure of fluids and the development of a hydraulic fracturing chemical registry;
  - b) Explore and make recommendations on the use of “green” chemicals in hydraulic fracturing;
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- c) Updated or new Industry Best Practices/Guidelines for water use in shale gas hydraulic fracturing where there is a common need in British Columbia, Alberta and Saskatchewan;
- d) Recommendations for future development of baseline environmental evaluations (water) and monitoring systems to provide public assurance or environmental sustainability in development areas;
- e) Recommendations for future development of new data gathering and reporting systems including updated or new water use and fracture fluid information reports (compilation and public reporting);
- f) Enhanced or consistent communication documents and key messages about shale gas development;
- g) Plans to address gaps in knowledge, research and industry practices or regulatory procedures. The project will document strategies within each province to address emerging shale gas water use issues; and
- h) Outline of hydraulic fracturing technology is needed for water in shale gas development as well as descriptions of approved experimental projects in Saskatchewan, Alberta and British Columbia.

## 5.0 Stakeholders

The following stakeholders' (internal and external) interests must be considered throughout the project:

Stakeholder	Participants
<b>Internal</b>	
BC Ministry of Energy and Mines	Linda Beltrano, Executive Director (Project Manager)
Oil & Gas Division	Adrian Hickin, A/Director
Geoscience & Strategic Initiatives Branch	Elizabeth Johnson, Senior Hydro Geologist
	Pat Kajda, Project Administrator
BC Oil and Gas Commission	Mayka Kennedy, Assistant Deputy Commissioner, Engineering
	Howard Madill, Director, Stewardship
Alberta Ministry of Energy Unconventional Gas Unit	Doug Bowes, Director
	Peter Weclaw, Manager
Alberta Ministry of Environment Groundwater Policy Branch	Ross Nairne, Head
	Robert George, Water Policy Advisor
Alberta Sustainable Resource Development	Jeff Reynolds, Executive Director, Land Management Branch
Energy Resources Conservation Board (ERCB)	Bob Willard
	Cal Hill
Saskatchewan Ministry of Energy and Resources	Ed Dancsok, Assistant Deputy Minister, Petroleum and Natural Gas Division
	Todd Han, Director, Petroleum Development
<b>External</b>	
Canadian Association of Petroleum Producers (CAPP)	Richard Dunn
	Lara Conrad

Stakeholder	Participants
	Christa Seaman

## 6.0 Issues and Constraints

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Issues and constraints that could impact project success include:

- Misinformation in the public media and communities facing shale gas development pressure;
- Lack of cross-provincial coordination of water use and energy policies and regulations;
- Emerging number of other potentially competing cross-provincial activities affecting shale gas development (e.g. Canadian Council of Ministers of the Environment (CCME) - Yellowknife, New West Partnership (NWP), Energy & Mines Ministers-Kananaskis) and the need for a coordinating plan;
- Lack of established government and coordinated communication strategies for water use for shale gas development issues within provincial governments and in the New West Partnership; and
- Lack of complete information in the context of a rapidly evolving industry.

## 7.0 Project Work Plan Overview

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It is anticipated this project will take 18 months. See attached Work Plan for details:

## 8.0 Critical Success Factors

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Critical success factors essential for achieving successful life cycle program implementation include:

1. Communication;
2. Stakeholder participation;
3. Coordination and collaboration amongst stakeholders;
4. Reduction in duplication;
5. Management support; and
6. Identification and assignment of dedicated resources.

## 9.0 Risk Assessment

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The following is a high level overview of risks that may be incurred by industry/government. Greater depth risk analysis will be needed and developed as work on Best Practices/Guidelines proceeds.

- The public is exposed to a mixed package of information and may not be able to come to an informed decision;
  - Environmental Non-Government organizations (ENGOS) are supporting a ill-informed campaign on hydraulic fracturing and water related issues in British Columbia and in other jurisdictions and this is expected to grow as shale gas development expands into Alberta and Saskatchewan;
  - The New West Partnership lacks a cohesive inter-governmental and inter-agency strategy to address growing public concern in the rapid expansion of shale gas development;
  - Positioning and policy development in other jurisdictions may affect individual province's competitive position and the ability of the three provinces to develop independent, effective and protective regulatory practices; and
  - The development of tight oil plays at the same time and in similar areas to shale gas development may produce confusion as to potentially overlapping regulatory requirements, best practices and separate water use issues.
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## New West Partnership Industry Guidelines/Best Practices for Water Use/Fracturing Workplan

Issue	Anticipated Deliverable	Timelines
Establishment of New West Partnership team	Participants to include regulatory bodies and CAPP Share point site has been established and access for all identified members	June
Issue Identification	Identification of issues that arise from fracturing and specifically water usage in BC/Alta/Sask	July
Development of Project Charter and Work Plan	Work plan to be sent to Deputies for sign off	July (to be completed by July 30)
Draft operational principles	Identification of common issues and principles BC/Alta/Sask and CAPP operate under	August/September
Workshop	Purpose of the workshop is to: <ul style="list-style-type: none"> <li>• Principles</li> <li>• Regulations</li> <li>• Demand/Supply Models</li> <li>• Strategies/Best Practices presently being used</li> </ul>	August 16
Communication Plan	Development of communication plan/strategy that deals with multi-stakeholders – communities, First Nations, ENGOs, etc. over time	Underway to be completed by August 16 workshop
Acts /Regulations/Practices	Identification of BC/Alta/Sask regulation/legislation/practices that affect water use for fracturing of shale gas wells	August/September
Hydraulic Fracture	Announcement regarding Hydraulic Fracturing Disclosure and Registry	September 6 – 7 2011 BC Oil and Gas Conference Fort Nelson, BC
Comparison and gaps	Identification of differences and gaps in industry practices and regulatory water management requirements in the three provinces	September/October
Jurisdictional review of US policies	To determine best practices and status compared to US jurisdictions	October
Review best practices that could work for a western	The focus is to begin with fundamental principles and strategies to address common issues of water usage by hydraulic fracturing	Fall/winter 2011/2012

<b>Issue</b>	<b>Anticipated Deliverable</b>	<b>Timelines</b>
province perspective	<p>Review of industry best practices will include variations in practices in different jurisdictions and development areas</p> <p>Existing variations in industry water management and variations in water supply needs and water recycling opportunities will be considered</p> <p>Water policy areas that may be considered for further development of Guidelines/Best Practices:</p> <ul style="list-style-type: none"> <li>•Depth of fracturing</li> <li>• Chemical usage and reporting</li> <li>•Use of alternative saline water</li> <li>•Recycling technology</li> <li>•Flow back</li> <li>•Use of fresh surface water and non-saline groundwater</li> <li>•Ground water</li> <li>•Water demand</li> <li>•Storage</li> <li>•Disposal</li> </ul>	
<b>Update</b>	Mid progress report	April 2012
<b>Final Report and recommendations to the Ministers</b>		February 2013

Note: This project may be completed prior to the 18 month period identified by New West Partnership.