Collaborative Water Management Planning:
The key to successful energy development

Christine Morris & Tanya Byrne
What is ‘Collaborative Water Management?’

Who
• Industry
• Regulatory Bodies
• Public
• First Nations

When
• Oil and Gas Projects Requiring Water Resources
• Focus on Hydraulic Fracturing

Where
• Focus on Central Alberta
• Focus on North Eastern British Columbia
• Rural and Developed Areas

Why
• Large Projects and Play Developments Requiring Large Volumes of Source Water
• Fresh Water Sources are in the Media Spot Light
Opportunities for Collaboration

Water Supply, Monitoring & Security

Watercourse Infrastructure and Diversion

Water Containment & Distribution

Water Treatment

Wastewater Treatment

Waste Management

Water Life Cycle
Water Use & Importance

Urban and Rural Consumption
Agriculture
Oil and Gas Industry
First Nations
Water Sourcing: Challenges & Opportunities

- Regulatory & Legal
- Environment
- Social
- Economic
Why Collaborative Water Management?

- Will become a regulatory requirement
- Better management of cumulative effects
- Reduced environmental footprint
- Cost savings
- Enhance social licence to operate
Why Not Collaborative Water Management?

- Competitive advantage
- Liability concerns (owner/operator)
- Water licences cannot have multiple owners
Overview of Regulations
BC Diversion Licencing Requirements

Surface Water – term licence or temporary approval, water quality & in-stream flow considerations

Groundwater – no requirement to licence,

Saline – no requirement to licence
AB Diversion Licencing Requirements

Surface Water – term or temporary licences

Groundwater – term or temporary licences

Saline – no requirement to licence
Pending Regulatory Changes (BC)

Changes expected in the near future and their implications on water licencing in BC.

• Water Act
Pending Regulatory Changes (AB)

Changes expected in the near future and their implications on water licencing in AB.
Play Based Developments

• **Play Based Plans**
  – Optimization of infrastructure placement
  – Info sharing
  – One-window approach for stakeholder communication

• **Play Based Water Management Plans**
  – Single operator vs. multiple operators
  – Conjunctive use strategy
  – Flexible management of water to meet needs
Water Sourcing Alternative Assessments

• Evaluated based on:
  – Technical
  – Social
  – Environmental
  – Economic

• Demonstrate plan for reducing reliance on fresh water

• Prove saline sources are not economically, socially, environmentally, and/or technically viable
Cumulative Effects Assessment

- Air
- Water
- Land
- Biodiversity
- Noise
Key Opportunities for Collaboration

- Data sharing (modelling, monitoring, cumulative effects assessments)
- Shared sourcing & storage infrastructure
- Shared conveyance & treatment infrastructure
- Water cooperatives, shared licences, conjunctive use strategies
Engaging in Adaptive Management

- Aids in mitigating uncertainty in un-gauged basins
- Need to establish triggers & limits for all aspects of a play/development
- On-going refinement of triggers & limits
Collaborative Water Management: Execution Strategy

- Infrastructure sharing agreements
- Water cooperatives
- Centralized online play-based data repository
- Working with regulators to simplify regulatory procedures surrounding collaboration
- Licence transfers
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