Presentation to the Select Committee on Hydraulic Fracturing

September 26, 2013
9:00 am
Presentation Overview

- Environment Yukon’s role in the oil and gas process
- Environmental legislation and processes
- Draft Water Strategy
- Water Workshop
- Environmental risks and benefits
- Environmental Challenges
- Yukon Reality
- Path to Readiness
- Other Information and Contacts
Regulatory Framework – Oil and Gas Process

Rights Disposition Process
- Request for Postings
- Request for Postings Review
- Call for Bids
- Permits

Licensing and Approvals Processes
- Operations Review
- YESAA Process
- Permitting
- Water Licensing
- Inspections
- Monitoring
- Land Use & Air Emissions Permit
- Well Operation Approval, Land Use and Air Emissions Permit

Operations
- Abandonment

Baseline Data and Planning

Pre-Project Reviews
Legislation:

- Waters Act
- Environment Act
- Wildlife Act
- Parks and Land Certainty Act
- Dempster Highway Area Development Regulations

Processes:

- Enforcement of water licences
- Corporate lead for Yukon Water Board interventions
- Departmental input into YESAA
- Implementation of the Yukon Water Strategy
Draft Water Strategy

- Purpose
- Participants
- Priority areas/actions
- What we heard
- Next Step
Water Workshop Summary

Purpose and Goals
The purpose of the workshop was for Yukon regulators and water managers to better understand how Yukon’s surrounding jurisdictions manage and monitor surface and groundwater as it relates to oil and gas development.

The main goals of the workshop were to identify:
1. The key hydrological and hydrogeological considerations related to potential oil and gas development based on experience from other jurisdictions;
2. The key baseline data required to manage water in areas where oil and gas exploitation is taking place (i.e., Eagle Plains, Larder Lake); and to determine potential data collection projects;
3. Recommendations for managing and regulating water based on current and anticipated petroleum development scenarios.

These goals align with several of the standing identified in the Draft Yukon Water Strategy, specifically promoting the sustainable use of water, improving the generation and use of water information, assessing and improving water management programs and planning for water needs now and in the future.

Synopsis
The Water Workshop was held June 25 and 26, 2013.

- Day 1: provided a broad group of water managers, regulators and technical staff from YG (Environment, Energy, Mines and Resources, Executive Council Office, Health and Social Services) and YESAB, as well as special water guests from our surrounding jurisdictions (BC, AB, NWT and Alaska). The day began with “setting the Yukon context” and featured presentations about the Yukon hydrological basin, regulatory regime and potential development scenarios. This was followed by presentations from our surrounding jurisdictions about how surface and groundwater are managed and monitored for oil and gas development. Participants were asked to compare the similarities and differences between Yukon and the other jurisdictions as well as provide ideas/suggestions for improvements in Yukon.

- Day 2: a small and focused group, including all of the presenters from other jurisdictions, met to discuss key water-related considerations for Yukon and make recommendations for managing and monitoring water in the Eagle Plains basin (addressing goal 3). Discussions were held in three breakout groups that focused on regulations, surface water and groundwater considerations.

A list of the participants can be found in Appendix A. The agenda can be found in Appendix B. Copies of the presentations are provided in Appendix C. The notes below summarize the discussion as it relates to the workshop goals.
# Environmental Risks and Benefits

<table>
<thead>
<tr>
<th>Risks</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>• Water quality and consumption</td>
<td>• Reduce greenhouse gas emissions</td>
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<tr>
<td>• Air pollution and emissions/fugitive emissions</td>
<td>• Local energy source</td>
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<tr>
<td>• Fish and wildlife</td>
<td>• New partnerships</td>
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<tr>
<td>• Soil</td>
<td>• Expand environmental knowledge</td>
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<tr>
<td>• Permafrost</td>
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<td>• Induced earthquakes</td>
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## Management Challenges

<table>
<thead>
<tr>
<th>Water</th>
<th>Air/Soil Pollution</th>
<th>Fish and Wildlife</th>
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<tr>
<td>• Protection of water quality</td>
<td>• Protection of air quality</td>
<td>• Impacts from intense activity</td>
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<tr>
<td>• Management of large volumes of waste water</td>
<td>• Management of greenhouse gas emissions</td>
<td>• Removal, fragmentation and/or disruption of habitat</td>
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<td>• Protection of water resources</td>
<td>• Clean-up standards for soils</td>
<td>• Cumulative impacts</td>
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<td>• Water scarcity</td>
<td>• Monitoring</td>
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• New water monitoring sites added in August 2013:
  • McParlon Creek
  • Dalglish Creek
  • Glacier Creek

• To be added this fiscal:
  • Eagle River
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<th>In a Northern Climate</th>
<th>As a Small Organization</th>
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<tr>
<td>• Cold, short summer season and remote locations</td>
<td>• Limited experience</td>
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<tr>
<td>• Permafrost impacts</td>
<td>• Limited capacity</td>
</tr>
<tr>
<td>• Lack of infrastructure</td>
<td>• Necessary regulatory tools</td>
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Path to Readiness

• Develop capacity
• Establish tools for:
  • Base line information
  • Waste water management
  • Northern complexities
  • Fugitive emissions
• Review and revise our policies
Other Contacts and Information

• Suggested Contacts:
  • National Energy Board
  • Environment Canada
  • BC Oil and Gas Commission
  • Alberta Energy Regulator

• Information and Reference Materials
• Questions?