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SUBMISSIONS TO THE OIL SANDS PANEL ON PHASE II PROPOSED OPTIONS FOR STRATEGIES AND ACTIONS FOR OIL SANDS DEVELOPMENT IN ALBERTA

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I. Introduction

The Environmental Law Centre (“ELC”) is a charitable organization, incorporated in 1982, to provide Albertans with an objective source of information on environmental law and natural resources law. The ELC provides services in legal education, assistance, research and law reform to achieve its mission to ensure that laws, policies and legal processes protect the environment.

The ELC has been involved in providing assistance to the public and submissions to government on energy and water related issues since 1982. We provided written and oral submissions to the Oil Sands Panel (the “Panel”) on a vision and principles for oil sands development in September 2006.¹ Accordingly, we have prepared submissions to assist the Panel in choosing strategies and actions to guide the long-term development of the oil sands.

This submission will focus on water issues involved in the oil sands and the related vision, strategies and actions (primarily found in Vision 3, Strategies 6).² The ELC will also be making submissions to the Panel in Edmonton, Peace River and Calgary on strategies and actions relating to sound environmental practices and greenhouse gas emissions, reclamation, and the role of government and “directly affected” status.

For ease of reference, we have appended a chart which summarizes our positions on the strategies and actions outlined in this submission. As instructed by the Multi-Stakeholder Committee (the “MSC”), this chart summarizes which actions we agree with, what we do not agree with, and any gaps, additions or alternatives we have proposed.

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II. Appropriate Actions under Vision 3, Strategy 6: Manage oil sands development and growth within the capacity of individual watersheds

Determining the capacity of a watershed to accommodate industrial activity is essential to ensure sustainable resource availability for future generations and to ensure present and future environmental and societal health. Actions under Strategy 6 must provide the information and management guidance to current and future oil sands development that will be necessary to sustain essential watershed functions. These watershed functions include maintaining hydrological and flow regimes to maintain or restore the ecological integrity of an area and ensure water quality is not adversely impacted. The proposed actions are measured against the maintenance of watershed and ecological integrity of the region.

Buffer zones

The ELC supports the creation of buffer zones around the Athabasca River and its main tributaries (Action 6.1). Buffer zones around water bodies are important for erosion minimizations, aquatic ecosystem health, and providing a filtering function for runoff.³ Further, the variety of potential accidental releases from oil sands facilities (tailings ponds) require that a significant buffer around the Athabasca River be in place. A buffer is one step towards minimizing the risk of the river being compromised by pollution events.⁴ Establishing a buffer along the Athabasca River and its tributaries is an important precautionary measure that will ensure long-term river stability and assist in minimizing point and non-point source impacts associated with oil sands development.

Working towards a comprehensive in-stream flow needs (IFN) determination

The ELC supports those actions aimed at continued establishment and implementation of IFNs as tools for protection of the aquatic environment (including Actions 6.5, 6.6 and 6.7). There has been minimal success to date in identifying and protecting water quality and quantity to ensure aquatic ecosystem health and sustainability. Assessing the IFN of the Athabasca River and its tributaries is essential to ensuring intergenerational equity and river health in the short and long-term. The Government of Alberta has recommended actions along this line in *Investing in our Future: Responding to the Rapid Growth of Oil Sands Development* (referred to as the “Radke report”), where it states “every effort should be made to complete, publish and enforce water management schemes that will protect the ecological integrity of the aquatic ecosystem of the lower Athabasca River, to be implemented on a phased-basis beginning no later than July 1, 2007.”⁵

Actions around IFN determinations have been ongoing in the oil sands area, resulting in the *Water Management Framework: Instream Flow Needs and Water Management System for Specific Reaches of the Lower Athabasca River* (the “Athabasca Water Policy”). However, this document acknowledges that further work needs to be done, stating “a more restrictive withdrawal regime may be required to achieve protection of the River in Phase 2 with greater water withdrawals.”⁶ Further, while the *Athabasca Water Policy* represents some progress being made in determining the IFN (under Action 6.7) the water management policy proposed in the document is inadequate, allowing for continued diversions and degradation of fish habitat in highly sensitive flow times. As a short-term, interim approach this policy may be acceptable if the alternative is to allow unhindered

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withdrawals to occur even at minimum flows. Policy clarity is required for how the IFN will impact future licenced diversions and how licences will be held to account for maintaining ecological function in the river system. Further, the scientific analysis involved in arriving at the IFN must be open to public scrutiny.

As of March 15, 2007 the flow rate of the Athabasca River below Fort McMurray was nearing the 10th flow percentile, well below the historic median discharge rate.⁷ Failure to properly and transparently assess the in-stream flow requirements for aquatic ecosystem health will result in degradation of the riparian and river health, compromising current and future generations ability to live and work in the watershed.

ELC Recommended Action (#1) regarding IFN: Review and develop legislative and policy tools regarding in-stream flow needs to outline how they will be determined and implemented as a tool for protection of the aquatic environment.

IFN timeliness and adaptive management

The ELC supports limiting further water withdrawals until the IFNs are set (Action 6.6). The ELC also supports putting timelines of two years to arrive at relevant IFNs (Action 6.5). Arriving at the IFNs for the Athabasca and other oil sands related rivers in a timely manner is very important, as continued delays in arriving at the IFNs simply add to the likelihood of irreparable harm befalling the watershed. Precaution and the risk of irreparable harm to the aquatic ecosystem also warrant prohibiting water withdrawals in the absence of science based protective mechanisms being established.

Alberta Environment should, at least temporarily, cease accepting licence applications as the *Water Act* prioritization and allocation system has minimal flexibility to allow for water management responses where the aquatic environment has been degraded. While current legislation provides some tools to address impacts to the aquatic environment⁸, a legacy of priority licences for significant amounts of water makes adaptive management difficult. Continued granting of licences (even with conditions) therefore represents a significant threat to the long-term integrity of the river.

Establishing baselines for aquatic ecosystem protection

The ELC is supportive of actions that are focused on arriving at baseline standards for protection of watersheds. Due to the lack of clarity in Action 6.2 the ELC cannot support this Action as currently framed. Baseline information about watersheds and aquatic ecosystems has not been obtained in a timely manner through current policy mechanisms, such as the Cumulative Effects Management Association process. Insofar as the current actions are not arriving at results, other actions must be pursued.

The wording of Action 6.2 appears to leave open the option of having no level of protection for the river and watershed. It is the ELC's position that environmental and aquatic health must be sustained and protected if the other principles enumerated in Phase I are to be achieved. In particular, the social and economic benefits accruing to current and future generations from oil sand development will be curtailed if the ecological integrity of the area is undermined. A more appropriate approach to determining baseline protection

for aquatic ecosystem protection is using scientifically based mechanisms such as the IFN for a given waterbody (as outlined above).

Recognize and address inter-jurisdictional impacts

The ELC agrees that inter-jurisdictional agreements regarding water quality and quantity should be pursued in an expedited manner (Action 6.3). The Athabasca and the greater Mackenzie watershed encompass several political jurisdictions. This implicates a strong federal government role to be played in oil sands development (along with cross border impacts and international impacts from pollution, trade and greenhouse gas emissions). To this end, provincial and territorial governments and the federal government should ensure that water quality and quantity agreements currently being negotiated between neighboring provinces/territories are completed in a timely fashion. Timely resolution to these agreements however should not occur at the expense of procedural and substantive outcomes. The water quality and quantity impacts of oil sands development on surrounding jurisdictions are significant. If final agreements cannot be reached in a timely fashion, interim agreements should be sought. Any interim agreement must have a sunset provision when its contents must be reviewed and replaced by a permanent agreement.

Watershed management planning in oil sands

The ELC supports the pursuit of watershed management planning in the oil sands area (Action 6.4). Prior to planning occurring however there is a need to ensure fairness and equity in the planning process, something that has yet to be broadly established in watershed management planning processes in Alberta. Further, there must be isolation and clear delineation of environmental impacts separate and apart from any balancing process that is proposed in the watershed management planning process. Failure to clearly separate environmental and social impacts of decisions from the economic considerations obfuscates the tradeoffs that are being made and is generally a method of maintaining the *status quo* under the rubric of a balancing process.

Any balancing process must be accompanied by sufficient transparency to allow the public to understand how disparate outcomes are balanced and compared. Further, balancing requires analysis and discussion of how economic and environmental considerations are to be reconciled when environmental features are rarely attributed monetary values.

Recommended Action (#2) regarding watershed management plans: Review and amend legislative and policy tools to ensure watershed management plans in the oil sands are legally feasible and enforceable.

Water demand side management versus maintaining supply through storage

Supply side management of water resources has significant resource expenditures and environmental impacts associated with it. Storage through diversions and dams should therefore only be evaluated after a full plan and policy for demand side management of water consumption is produced. Demand side management minimizes the need for extremely costly capital projects and can result in efficiencies that are not realized through the supply side management system. The ELC therefore gives qualified support to Action 6.8; this support being contingent upon aggressively pursuing plans and policies that focus on the oil sands demand for water, and managing on that basis.

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ELC Recommended Action (#3) regarding demand side management: Develop policies and plans for promotion of demand side management prior to relying on supply side (storage) water management.

Groundwater protection

The ELC supports completing an inventory of groundwater aquifers to establish their sustainable yield (Action 6.9). Gaps in information must be filled to ensure that groundwater quality and quantity is not undermined by continued diversions for oil sands and other uses. Climate impacts on groundwater supply make monitoring and inventories extremely important.⁹ Concerns over water supply continue as annual runoff and precipitation have been decreasing with resulting decreases in the flows of some rivers.¹⁰ SAGD projects continue to use significant amounts of fresh groundwater and historically the rate of water use has been much greater than original projected.¹¹ Land use and climatic impacts on groundwater will have continued impacts on water supply. Assessing sustainable yield with these variables considered must occur if various land and water uses are to be maintained.

Monitoring and enforcement

The ELC supports water quality and quantity monitoring in support of social, environmental and economic objectives. Water quality and quantity monitoring is essential to effective environmental management in the development of the oil sands and to address acute and cumulative impacts of development. The determination of what is an “appropriate” level for water quantity and quality must be determined based on the scientific needs of the watershed to sustain ecosystems and hydrological function in the long-term.

III. Vision 3, Strategy 2, Action 2.6: Use market instruments to drive improvements to water storage and consumption patterns

The ELC supports use of market instruments to improve water conservation and consumption patterns. While ascertaining a suitable metric for establishing water pricing will be complex the use of economic instruments should not be abandoned for this reason. The status quo of water valuation perpetuates the externalization of environmental impacts, thereby marginalizing the objectives of maintaining healthy ecosystems.¹²

IV. Vision 3, Strategy 7, Action 7.3: Establish an inter-connected network of protection areas within oil sands regions, including McClelland Lake Wetland Complex and Richardson’s Backcountry, to protect key wildlife habitats, to maintain a desired level of biodiversity, and to protect traditional land uses and species of value to Aboriginal communities.

The ELC supports establishing a network of protected areas within the oil sands region. Establishing a network of protected areas within the oil sands region is justified and necessary when considering the scope of impacts on the landscape.¹³ The effectiveness of reclamation efforts to date is in question indicating a heightened need to protect representative watershed function and diversity. This includes protecting wetlands and other important hydrological features of the landscape. Maintaining representative areas

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that reflect baseline hydrology and watershed features is not only important for the mitigation of degradation to the entire watershed it provides important comparative information about impacts and reclamation success in areas not protected.

The establishment of new protected areas need not be balanced as suggested in Action 7.5, as the “balance” is best attained, in the view of the ELC, by protecting fully the ecological characteristics of an area where other areas are subjected to degradation.¹⁴ While this protection may be subjected to a prioritization and identification process, balance is best obtained through recognition of the importance of preserving representative landscapes.

V. Vision 3, Strategy 7, Action 7.8: Undertake studies and ongoing monitoring to determine the impacts of development on fish and wildlife.

The ELC supports the studying and monitoring of oil sands development on wildlife (Action 7.8). More specifically oil sands impacts on water flow and water quality and related consequences for aquatic health must be studied. Monitoring and studying these impacts, and altering management of operations to address harm is required if wildlife and fisheries populations and diversity are to be sustained into the future.

¹ Jodie Hierlmeier & Dean Watt, *Submissions to the Oil Sands Panel On Developing A Framework For Oil Sands Development in Alberta* (Edmonton, Environmental Law Centre, 2006), online: Environmental Law Centre <<http://www.elc.ab.ca/ims/client/upload/Submissions%20to%20Oil%20Sands%20Panel%20-%20Sept%2026.pdf>>.

² Alberta Government, *Multistakeholder Committee Phase II Proposed Options for Strategies and Actions for Discussion/Feedback*, March 2007, online: Alberta Oil Sands Consultations <<http://www.oilsandsconsultations.gov.ab.ca/docs/MSO%20Proposed%20Options%20for%20Strategies%20and%20Actions%20March%207%202007.pdf>>

³ See Wenger, S. *A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation*, revised version, March 5, 1999, Institute of Ecology, University of Georgia.

⁴ This buffer will not only be important for operations but for long term reclamation impacts and the potential leaching from end-pit lakes.

⁵ Government of Alberta, *Investing in our Future: Responding to the Rapid Growth of Oil Sands Development*, Final Report, December 29, 2006. pp. 133-134 at recommendation 11(a), online: Government of Alberta <http://www.gov.ab.ca/home/documents/investing_in_our_future_section7.pdf> .

⁶ Alberta Environment/Fisheries and Oceans Canada, February 2007, at p. 6. Online: Alberta Environment <http://www3.gov.ab.ca/env/water/Management/Athabasca_RWMF/pubs/Athabasca_RWMF_Technical.pdf>.

⁷ Online: Alberta Environment <http://www3.gov.ab.ca/env/water/ws/data/hydro/figures/_RATHMCM.gif>.

⁸ See for instance through water management orders under section 97 (1)(i) of the *Water Act* where the diversion may result in a significant adverse effect to the aquatic environment and the ability to suspend licences under section 55(2) where there is a significant adverse effect to the aquatic environment that was not reasonably foreseeable. Arguably both such actions are unlikely due to pressures for continued operations and development of oil sands and therefore the utility of these legislative mechanisms is minimized.

⁹ See Phase II Beaver River Basin Landcover and Hydrology Study, Komex International June, 2005, online, Lakeland Industry & Community Association

<http://www.lica.ca/resources/Phase_II_Beaver_River_Basin_Landcover_Hydrology_Study_Komex.pdf>

¹⁰ See Beaver River study, slide 24, online, Lakeland Industry & Community Association <http://www.lica.ca/resources/Lakeland_WaterShed_Study_Presentation.pdf> .

¹¹ Pembina Institute Pembina, *Troubled Waters, Troubling Trends: Technology and Policy Options to Reduce Water Use in Oil and Oil Sands Development in Alberta* May 2006 _Report, by Mary Griffiths, Amy Taylor and Dan Woynilowicz , (Drayton Valley, Alberta: Pembina Institute, 2006) at pp. 59-60. Figures 2-18 and 2-19 illustrate how fresh groundwater has been increasing significantly since 1999 and how predicted use in 2004 has been significantly outstripped by actual use (prediction at 2001) respectively, online: Pembina Institute <http://www.pembina.org/pdf/publications/TroubledW_Full.pdf> .

¹² See Government of Alberta, *Oil Sands Consultation –Multi-stakeholder Committee Interim Report*, November 30, 2006 at page 7, online Oil Sands Consultation <http://www.oilsandsconsultations.gov.ab.ca/docs/Interim_Report.pdf> and Government of Alberta, *Water for Life: Alberta's Strategy for Sustainability* (Edmonton: Alberta Environment, 2003, Online: Alberta Environment <<http://www.waterforlife.gov.ab.ca>>.

¹³ Pembina institute and Canadian Parks and Wilderness Society, *Death by a Thousand Cuts: Impacts of in suite oil sands Development on Alberta's Boreal Forest*. Richard Schneider and Simon Dyer, August 2006.

¹⁴ As noted earlier the use of “balancing” has traditionally failed to adequately deal with maintaining environmental and social outcomes, in large part due to the inability to adequately compare these outcomes against economic outcomes.

Appendix I: Summary of Strategies and Actions for water and watershed related actions

Vision 3: Ensures Healthy Environment....		
Strategy 6. Manage oil sands development and growth within the capacity of individual watersheds		
Actions ELC agrees with	Actions ELC disagrees with	Gaps/alternatives/additions in actions
<p>6.1 Buffer zone for Athabasca River</p> <p>6.3 Expedite/complete interprovincial/territorial water quality and quantity agreements</p> <p>6.4 Develop a WMP, based on science, with appropriate balance of economic and environmental considerations</p> <p>6.5 Est. IFN for rivers that will ensure healthy aquatic ecosystems</p> <p>6.6 Prohibit further water withdrawals until ins-stream flow needs have been established</p> <p>6.7 Implement the Federal/Provincial interim in-stream flow needs framework</p> <p>6.8 Investigate establishment of common off stream water storage areas¹</p> <p>6.9 Complete mapping and inventory of groundwater aquifers in order to establish sustainable yield</p> <p>6.10 Undertake regular</p>	<p>6.2 Determine the extent of protection for rivers²</p>	<p>Review and develop legislative and policy tools regarding instream flow needs to outline how they will be determined and implemented as a tool for protection of the aquatic environment.</p> <p>Review and amend legislative and policy tools to ensure watershed management plans in the oil sands are legally feasible and enforceable.</p> <p>Develop policies and plans for promotion of demand side management prior to relying on supply side (storage) water management.</p>

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water quality and quantity monitoring throughout region to ensure appropriate levels are maintained.		
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Vision 3: Ensures Healthy Environment...		
Strategy 2. Use economic instruments to encourage sound environmental practices		
2.6 Use market instruments to drive improvements to water storage and consumption patterns		

Vision 3: Ensures Healthy Environment...		
Strategy 7: Minimize the impact of oil sands development on boreal forest and biodiversity		
7.3 Est. inter-connected network of protected areas (including McClelland Lake Wetland Complex).		
7.8 Undertake studies and monitoring to determine the impacts on fish and wildlife.		

¹ Water storage should only be considered once up stream demand management promotion through policy and planning is in place. See proposed Action 6.12

² The lack of clarity in this Action makes it unsupportable. The Action may be re-worked to “determine the baseline protection required to sustain aquatic and terrestrial ecosystem health and diversity”.