

Backgrounder – Extracted from Federal Court of Canada Affidavit of Simon Dyer, Pembina Institute

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The Imperial Kearl Oil Sands Mine

The Kearl Project is a proposed surface oil sands mine and processing facility north of Fort McMurray in Alberta. The Kearl Project is designed to produce more than 300,000 barrels per day of bitumen for a period of 50 years. Oil production is expected by 2010 and full capacity by 2018. The proposed Kearl Project will cover roughly 20,000 hectares (200 square kilometres) of land in northeast Alberta. For comparison, the Canadian Encyclopedia states that the West Edmonton Mall covers 49 hectares. This means that the landscape “footprint” of the Kearl Project will be approximately 400 times greater than that of the West Edmonton Mall.

Assessment of Environmental Impacts

On July 13, 2006, the federal Minister of Environment and the Chair of the Alberta Energy and Utilities Board signed the *Agreement to Establish a Joint Panel for the Kearl Oil Sands Project*.

In November of 2006, the Panel held hearings, at which the Oil Sands Environmental Coalition (OSEC) appeared and made submissions. The Pembina Institute, as a member of OSEC, participated in and gave evidence at the hearings. On February 27, 2007, the Joint Panel published its report and recommendations concerning the Kearl Project, entitled *Imperial Oil Resources Ventures Limited: Application for an Oil Sands Mine and Bitumen Process Facility (Kearl Oil Sands Project) in the Fort McMurray Area* (the “Report”). This is available for download at www.ercb.ca (under 2007 Decisions).

In the Report, the Panel concluded with regard to its responsibilities under the Canadian Environmental Assessment Act that the 20,000 hectare Kearl Project is not likely to cause significant adverse environmental effects, provided that the Panel’s proposed mitigation measures and recommendations are implemented. In the Panel’s view, the most critical issues raised by participants “were related to the cumulative environmental and socioeconomic impacts of the project within the overall context of Alberta’s mineable oil sands.” (Report, page vii.) The Panel noted that “[w]ith each additional oil sands project, the growing demands and the absence of sustainable long-term solutions weigh more heavily in the determination of the public interest.” (Report, page 10.) The Panel also noted that:

“... the major concerns and issues related to this proposal have mostly to do with the pace of development of the mineable oil sands and the capacity of the regional environment to accept these developments without creating such impacts that the developments could be considered to be no longer in the public interest.” (Report, page 4.)

Failures in the environmental assessment process

Although the Kearl Panel does not explicitly say so at any point in their Report, there is no question that – without successful mitigation – the Kearl Project will have serious harmful effects on the environment. It is unavoidable that a 20,000 hectare strip mine and associated facilities operating over a 50 year period will have some serious environmental effects, unless technically and economically feasible measures can be identified that will mitigate those effects. The following is a selection of the serious environmental effects of the Kearl Project:

- (a) Effects on species, including endangered species and migratory birds, that rely on the terrestrial and aquatic ecosystems affected by the Kearl Project;
- (b) Greenhouse gas emissions from the Kearl Project, which contribute to climate change. The Kearl Project will be responsible for average emissions of 3.7 million tonnes of carbon dioxide equivalent per year¹ (equivalent to the annual greenhouse gas emissions of 800,000 passenger vehicles in Canada)
- (c) Landscape disturbance and the legacy of toxic mine tailings.

Lack of Limits and the Cumulative Environmental Management Association

The Panel relied strongly on the Cumulative Environmental Management Association (CEMA) to address several of the environmental and cumulative effects of the Kearl Project. In 1999, the Government of Alberta initiated the Regional Sustainable Development Strategy for the Athabasca Oil Sands Region (the Athabasca Oil Sands Region is defined by the outline of the regional municipality of Wood Buffalo – it covers Fort McMurray and the surrounding area). A key component of this strategy was to identify the environmental limits and frameworks that would protect air quality, fresh water, boreal forests and wildlife. These thresholds were supposed to guide decisions about how much oil sands development the environment could withstand before irreversible damage would occur.

In the Athabasca region, the task of recommending environmental thresholds and management frameworks to protect the environment was delegated to CEMA in 2000.

CEMA is a “multi-stakeholder”, consensus-based process. CEMA does not have any power to implement management frameworks or to give the force of law to environmental thresholds it recommends. If and when its various working groups come to a consensus, these consensus decisions are passed on CEMA and then to government departments, who then make the final decision about whether and how to implement environmental thresholds and management frameworks. Many of the proposed management frameworks have not come to the point of consensus discussions.

¹ Imperial Oil’s Environmental Impact Assessment, Table 2.71.

Over the past eight years, CEMA has been overwhelmed by the number of environmental issues it has been assigned to address and has proven unable to meet deadlines. For government, ensuring that this organization fulfills its objectives has been a lower priority than issuing new approvals. CEMA has largely failed to deliver the management frameworks that would ensure that the environment is protected or to define environmental thresholds for the region. An analysis by the Pembina Institute in 2005 demonstrated that CEMA has delivered on only about 25% of its mandate, despite 5 years of activity.

The Kearl Project was approved in spite of CEMA's continued failure to identify precautionary, science-based ecological thresholds for the Athabasca Oil Sands Region. This region is being subjected to significant transformation by industrial activity. In the absence of defined ecological thresholds a true assessment of the environmental impacts associated with proposed projects cannot occur, and a determination of the significance of a project's environmental and cumulative effects is impossible.

The Kearl Project Panel identified a number concerns about the capacity of CEMA to deliver on its mandate:

"The Joint Panel is deeply concerned by the inability to establish and maintain priority for critical items such as the Water Management Framework for the Athabasca River, the Muskeg River Watershed Integrated Management Plan, and the Regional Terrestrial and Wildlife Management Framework...."

"The Joint Panel is concerned about the capacity of CEMA to complete the management frameworks that have been assigned to it and notes that CEMA struggles to meet its deadlines" (Report, pages 4-5.)

The Panel also noted concerns from many of the hearing intervenors about the inadequacies of the CEMA process: "... the Joint Panel is troubled by the level of concern expressed by some of the interveners over the ability of CEMA to complete its work plan at all." (Report, page 93.)

The Joint Panel also noted Environment Canada's submissions that cumulative development in the oil sands region was potentially exceeding CEMA's capacity to effectively develop management frameworks:

"[Environment Canada] indicated that it was a full member of CEMA and continued to support the CEMA initiative. However, [Environment Canada] also stated that it remained concerned that the rate of industrial development in the Athabasca Oil Sands Area was potentially exceeding the capacity of CEMA to effectively develop management frameworks." (Report, page 100.)

The Joint Panel's reliance on CEMA to mitigate several of the Kearl Project's environmental effects troubling. CEMA is a multi-stakeholder committee with a track-record of failure, limited consensus as to its goals, and no power to implement its recommendations. CEMA is an uncertain process that may or may not result in non-binding recommendations about potential mitigation measures at some point in the future.

Various regional frameworks for managing the cumulative effects of oil sands development are not in place. Considerable uncertainty remains about what the relevant ecological thresholds are for the region, about whether those thresholds have already been exceeded, and about how the daunting impacts and legacy of the oil sands industry will be managed.

Phantom Mitigation

Aspects of the Imperial Kearn project where mitigation strategies were absent or inadequate and not appropriately addressed by the Joint Panel include:

Greenhouse Gases

Imperial Oil did not produce a greenhouse gas management plan specific to the Kearn Project.

Species at Risk

In its submissions to the Kearn Panel, Environment Canada noted several species listed under the federal *Species at Risk Act* that occurred within the vicinity of the proposed Kearn Project”. One species of special concern is the Yellow Rail, a bird dependent on wetland habitats at risk from oil sands mining. The Joint Panel did not conduct or review an assessment of the environmental and cumulative impacts of the Kearn Project on the Yellow Rail or on its habitat.

Reclamation

The primary form of mitigation proposed for terrestrial impacts in the oil sands is reclamation, yet oil sands reclamation performance has been poor to date. Despite 40 years of oil sands mining in the Fort McMurray region, not a single hectare of land has been certified as reclaimed by the Alberta Government. Reclamation certification guidelines are not complete, and there are many uncertainties about reclamation performance. The uncertainty around reclamation was identified in the Kearn Panel’s Report at page 50.

Tailings Management

Successful management of tailings is a critical challenge facing reclamation of the oil sands. The Joint Panel noted aspects of Imperial’s proposed mitigation had not been commercially demonstrated at this time:

“The Joint Panel is concerned, however, that the use of thickeners to produce CT [consolidated tailings] has not been commercially demonstrated by the industry at this time. The Joint Panel encourages Imperial Oil to demonstrate this technology in a pilot-scale project, either in cooperation with other operators or on the [Kearn] Project site itself, prior to start-up of CT production.” (Report, page 42.)

End Pit Lakes

The successful long-term integration of end-pit lakes into a sustainable reclaimed landscape in the oil sands region has never been demonstrated. While Imperial claims to be “confident” that modeling indicates pit lakes will provide the necessary treatment capability, this has not been operationally demonstrated, and requires significant research by CEMA and industry. The Alberta Government acknowledged that management frameworks were absent, and that work to provide assurance as to wetlands and end-pit lake performance was considered a “top priority” (Report, Page 81).