Project Approval, Environmental Assessment and Public Participation

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SUMMARY

Assessing the desirability of large scale resource development is an extremely complicated process. In the past, the presumption has been that economic criteria were decisive. Lately, however, we have accepted the idea that social and environmental factors will affect the design and procedures of development, and, in extreme cases, may even indicate the abandonment of a project. Public input and formal environmental and social impact assessment have been accepted in principle, and the challenge is to incorporate them within an orderly and expeditious governmental decision process.

This is a case study of such a process for Esso Resources Canada Limited's proposed heavy oil project at Cold Lake, Alberta, Canada.

A case study—Public participation in Esso Project of heavy oil sands exploitation, Cold Lake, Canada

DESCRIPTION AND BACKGROUND OF THE PROJECT

The Cold Lake region is one of the oil sands areas of Alberta. The lake itself is on the Alberta—Saskatchewan border, northeast of Edmonton, Alberta and northwest of Prince Albert, Saskatchewan. It is approximately 260 km south of Fort McMurray, the site of the Syncrude and Suncor (formerly Great Canadian Oil Sands) surface mining operations (Fig. 1).

In December 1976, Imperial Oil Limited proposed to the Government of Alberta a major facility for the in situ recovery of crude bitumen from the Clearwater formation of the Cold Lake heavy oil sands. A preliminary application for approval of the project was submitted to the Alberta Energy Resources Conservation Board (ERCB) in November 1977. The scheme proposed the recovery of 25,000 cubic metres per day (m³/d) or 160,000 barrels per day (bbls/d) of crude bitumen by alternately injecting vast quantities of unsaturated steam at greater than fracture pressures into wells and then reversing the process and pumping the heated bitumen/water emulsion from the ground. This cycle of some months' duration (1–2 months of injection, 3–6 months of production) could be repeated several times per well, and approximately 2,000 wells would be operating at once. Over the 25-year life of the project, about 8,000 wells would be used.

Once the crude bitumen is extracted, and dehydrated, it would be upgraded on site to produce 22,300 m³/d (140,000 bbls/d) of synthetic crude oil (Fig. 2).

The scale of the project is obviously vast. Approximately 28,000 m³ (175,000 bbls) would be recovered from each of the 8,000 wells, which would be spaced at about 1.6 ha (4 acres) per well. Thus, the project area would comprise 12,800 ha (32,000 acres). The project would cost over $11 billion, and would consume some 92,800 m³/d (584,000 bbls/d) of water, 6,800 m³/d (43,000 bbls/d) of fuel on a fuel oil equivalent basis, and

Much of the material in this case study comes from personal interviews, the transcripts of the Energy Resources Conservation Board’s public hearing (“Transcript”) on the application, and the ERCB report (“Report”) following this hearing. All people interviewed had an opportunity to comment on the draft of this study, but it should not be inferred that my conclusions are necessarily shared by any of them.

This article is a condensed version of a longer study done for the Canadian Institute of Resources Law. The complete text is available in the “Occasional Papers” series published by the Faculty of Environmental Design, The University of Calgary, under the title “Heating Up Cold Lake: Public Participation and Esso Resources Heavy Oil Project” (1981).

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In 1973 Professor Elder joined the Faculty of Environmental Design, University of Calgary, Alberta, Canada where he teaches legally related subjects. He has written widely in environmental law and policy, and public participation.

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Fig. 1. Site of Syncrude and Suncor, formerly Great Canadian Oil Sands, surface mining operations.

Fig. 2. Cold Lake project schematic.