

Such problems are by no means limited to the tar sands project. All the major development projects, with the exception of the "new cities" and steel plants of southern Ontario, are located north of the 60th parallel, in permafrost and Arctic climates. The projects require tremendous inputs of skilled labor, labor not currently available from Canada's nine million work force. Since 1971 a special Northern Training Program, run by pipeline companies and Federal and territorial governments, has been planning for the problems of getting skilled labor to the pipeline projects. So far only about 80 northern residents have been through the program, but Federal manpower programs set up over the last six years at a cost of over \$2 billion are designed to guarantee a maximum "availability" of trainees from elsewhere when needed. Rockefeller's current dilemma in forcing relocation of workers internationally may mean that the \$2 billion has been spent in vain.

CANADIAN DEVELOPMENT PROJECTS: A BRIEF RUNDOWN

Athabasca:

*Land area: over 19,000 square miles.

*Total estimated reserves of oil: 250 billion barrels (over 40 per cent of existing worldwide reserves). Less than 80 billion barrels recoverable at current technology.

*Early development plans included detonation of a nuclear device beneath the surface. Was most economically efficient means of extraction, but plan cancelled when Canada signed underground test ban.

*Only functioning plant, Great Canadian Oil Sands Ltd., only produces 65,000 barrels per day at net loss of \$90 million to date.

*Bill of materials includes: 18,000 tons structural steel, 1,050,000 lineal feet of pipe, seven million gallons of fuel not including material for necessary auxiliary projects such as pipeline to Edmonton and utility plants.

*Labor estimates include: 10,000 men across Canada directly employed by Syncrude during construction, 12,600 permanent "jobs" in Athabasca at completion, 12.7 million man-hours "in the field" during construction. This is for Syncrude alone, excluding the 40-odd other plants projected for tar sands development. (At present workers live in near-military conditions in trailer camps or barracks.)

12/29/74

IPS E5

Mackenzie Valley Pipeline:

*Total distance in excess of 2,300 miles from Alaskan north shore to below the 48th parallel.

*Cost estimates in excess of \$6 billion, so far \$50 million spent in preparatory studies alone.

*Bill of materials includes: 2.5 million tons of 48-inch steel pipe, \$220 million worth of heavy construction equipment, gas turbines capable of producing over two million horsepower, 20 portable work camps capable of housing and feeding 800 men each (designed to be transported either by all-terrain vehicles, helicopters, barges, or sleds!).

Polar Gas Project:

*Total length 3,200 miles to carry natural gas from the high Arctic to eastern Canada and the United States.

*Route includes installation of transmission pipe 600 feet below the Arctic Ocean for a distance of 150 miles. Area is ice-free only one month per year.

*Cost estimates now topping \$6 billion, likely to more than triple before construction begins.

James Bay:

*Only development project now fully underway.

*Total area: 135,000 square miles, more than twice the size of England.

*Original cost estimates of \$5.7 billion now up to \$14 billion.

*Management of project: Rockefeller's Bechtel Construction Co., which has "indexed" its management fees to the rising costs. Project "owned" by Provincial Hydro-Quebec electric authority, currently helping to meet its debts by hiking consumer electric rates.

*Labor force at present: 2,000 men working 18-hour days, seven days a week. At peak construction 12,000 to 15,000 workers expected.

CANADA

