NEW CALEDONIA NICKEL PROJECT

A comprehensive plan for a project to produce 100 million pounds (45,360 metric tons) of refined nickel from previously unexploited lateritic nickel ores of the French-owned South Pacific island of New Caledonia, is delineated in the feasibility report presented last month in Paris by The International Nickel Company of Canada, Limited, to its French associates in Compagnie Française Industrielle et Minière du Pacifique (COFIMPAC). The report was presented by International Nickel in its capacity as technical adviser to COFIMPAC, and will provide the basis for a decision by the partners in the French company on proceeding with an initial COFIMPAC project.

The report describes a fully-integrated nickel mining and processing project requiring an investment by COFIMPAC of $481 million (U.S.) which, it concludes, is "technically and economically feasible". Of the total investment, $303 million (U.S.) represents the cost of the actual mining and processing facilities. The cost of infrastructure, including expenditures for the town, power plant, port, etc., is estimated at $99 million (U.S.) The balance represents financing costs, working capital and preproduction expenditures.

ADVANTAGES OF INCO METHOD

The report recommends the use of International Nickel's carbonyl process specially adapted for New Caledonia's laterite ores to produce carbonyl pellets, a pure form of primary nickel. The process is based on INCO's long experience with carbonyl technology and represents a major advance in processing laterite ores. The process offers the advantages of simplicity of design; ease of operation; low manpower and supply requirements; relatively mild operating conditions of temperature, pressure and corrosion; and production of a pure nickel product. Estimated manpower requirements for the project are 1,420, substantially lower than they would have been for other processes that were tested and considered.

The process was chosen as the result of preceding and concurrent investigations at INCO's J. Roy Gordon Research Laboratory near Toronto and at its research station complex at Port Colborne, Ontario, which involved the efforts of more than 200 technical personnel over the last two-and-a-half years. The work entailed laboratory and some pilot-plant investigations of many technically possible processes before the choice was narrowed to three chemical process alternatives. It was concluded from subsequent extensive pilot-plant testing of the three processes, including treatment on a semi-industrial scale of 8,000 tons of New Caledonian laterite ore, that INCO's carbonyl process was the best.

The report states that if the project is approved by the COFIMPAC partners this year, production would begin in late 1974 and be at full rate in 1975.

RESTRICTIONS ON MERCURY SALES

The Canada Department of Agriculture has notified firms manufacturing pesticides that restrictions will be placed next year on the sale of mercury.

In a memorandum to the trade, the pesticides unit of the CDA's Plant Products Division says it does not intend to register seed-treatment products containing mercury next year. Nor will it register other pesticides containing mercury if suitable alternatives are available.

The pesticides unit has control over the registration of all pesticides manufactures, sold and used in Canada.

EXCEPTIONS

There are several exceptions to the mercury restrictions, which apply if the use of the product will not result in mercury residues in food or feed, or cause significant adverse effects on bird and animal life when used according to the label directions under practical conditions; if continued registration is required to clear stocks in order to avoid difficult disposal problems; and if mercury products are found to be necessary to control plant disease on essential crops.

"No restrictions are contemplated for other uses of mercury, such as turf disease and apple-scab control, but these uses are being re-assessed," the trade memorandum says.

The restrictions follow discoveries that mercury can, under certain circumstances, accumulate in the food-chains of some seed-eating and predatory birds "with potentially deleterious effects on those species".

"Further, misuse in the disposal of unwanted treated seed has resulted in concern that grain destined for human food may occasionally be contaminated."

The extent of residues in the environment and in food or feed grain arising from the use of mercurial seed-dressing depends upon the care taken in transporting, handling, planting and disposing of treated seed.

"There are indications that improvements in practical handling of treated seed are necessary to reduce the hazard to birds in the affected food chains," the memorandum says. "Experience also demonstrates that some farm practices respecting treated seed have been incompatible with the care necessary to prevent the contamination of grain destined for human or animal food."

Mercurial compounds are recognized as effective and easy to apply seed-dressings, but there has been a tendency to use them when a real need for disease protection has not been determined.

"This practice results in casual and excessive use which, in the light of current information, is unwise since it increases the hazard of mercury poisoning without a compensating benefit."