

NEW WORLD

Cleaning up the Great Lakes

by our Washington Correspondent

PRESIDENT NIXON returned from his trip to Canada last week after signing a joint US-Canada agreement to clean up the Great Lakes, and ran headlong into criticism from environmentalists. The treaty, which is the fruit of two years of negotiations, sets standards for the Great Lake waters that are more stringent than those at present prescribed by the Great Lake states, and a rough timescale for meeting them, but it contains no commitment from the United States to remove or limit phosphates in detergents.

Nevertheless, few people have denied the importance of the treaty, which marks the most extensive international agreement on environmental matters yet concluded. Essentially what the treaty does is to pinpoint five objectives for the Great Lake waters—freedom from substances that enter the waters as a result of human activities and settle to form sludge deposits, freedom from floating debris such as oil and scum, freedom from coloration or odour, freedom from materials that are toxic to man or aquatic life and freedom from nutrients that enter the water as a result of human activities in quantities that create “nuisance growths” of aquatic weeds and algae.

Called the Agreement on Great Lakes Water Quality, the treaty updates the International Boundary Waters Treaty signed between the United States and Canada in 1909, and puts more power behind the International Joint Commission—a body consisting of three members each from Canada and the United States which is charged with monitoring the progress of the two nations towards meeting the objectives of the treaty. The commission, which did most of the background work for the treaty, has been given the task of submitting annual reports on progress, and it has also been assigned the responsibility for determining what action is necessary to curb or prevent pollution of Lakes Superior and Huron, which are at present relatively clean.

Specifically, the treaty calls for a reduction in coliform count to 1,000 per litre, a dissolved oxygen level of 6.0 mg per litre in the upper waters of the lakes, total dissolved solids in Lake Ontario and Lake Erie of less than 200 mg per litre, pH in the range 6.7 to 8.5 and radioactivity kept to “the lowest practicable levels”. All the water quality standards should be met at all points in the lake waters, except

for localized mixing areas around sewage outfalls. At present, most of the lakes except for Lake Erie can meet the standards in open waters, but they are now violated in inshore areas.

The treaty has come in for criticism not for its objectives but for the means by which they should be achieved, and for the vagueness of much of the phrasing in the requirements. The treaty calls, for example, for programmes designed to meet the objectives to be “either completed or in process of implementation by December 31, 1975”. That leaves plenty of room for delay, and with the past record of deterioration in water quality, there is a suspicion that the waters are likely to get worse before they will get better.

The treaty also does not commit either government to spending levels, although officials of the Environmental Protection Agency have suggested that it will cost the United States up to \$3,000 million to install the necessary treatment facilities to meet the standards over the next four years. The total will be split between federal and local governments on the one hand and industry on the other, in the rough proportion of \$2,000 million to \$1,000 million, which for the federal government, at least, represents no increase from the present level of about \$400 million a year for treatment facilities in the Great Lakes area.

The treaty has come in for the most criticism in its approach to limiting the levels of phosphates in the lakes. Apart from prescribing the broad objective of reducing phosphates to the level at which they do not produce “nuisance growths” of algae, the agreement commits each nation to the construction of waste treatment facilities to remove phosphorus from municipal wastes, and to the regulations to force industrial

firms to remove phosphorus from their wastes to be discharged into the Great Lakes and their connecting waters. What is missing from the agreement is the commitment to remove phosphates from detergents—the source at present of some 60 per cent of the phosphorus in municipal effluents.

Although few would voice opposition to the plans for constructing treatment facilities for removal of phosphates from sewage, several environmentalists have argued that the condition of Lakes Erie and Ontario is such that more immediate measures are necessary. Since detergents now contribute the major share of phosphates entering the lakes, the argument is that their phosphate content should be limited. Indeed, that is exactly what the Environmental Protection Agency itself was arguing a year ago, and the Canadian government has already set a limit of 5 per cent for the end of this year. But the Administration's policy reversal on phosphate detergents last summer, when Surgeon-General Jesse Steinfeld suggested that housewives should buy phosphate detergents in preference to non-phosphate compositions, set back the movement towards limiting detergent phosphate levels, and the Administration is now putting its money into removal of phosphates from sewage.

The agreement sets out a timetable which would reduce phosphorus input to Lake Erie to half of its present amount, but this would still result in 16,000 tons of phosphate entering the lake in 1976. The agreement itself points out that “available evidence suggests that reductions in phosphorus loadings to achieve a net discharge to Lake Erie in the range 8,000 to 11,000 tons per year may be required to bring about mesotrophic conditions in this lake”.

HIGH ENERGY PHYSICS

PPA Goes Under

THE Princeton Particle Accelerator, which has been living from hand to mouth since the Atomic Energy Commission withdrew financial support for the machine last year, has finally been forced to shut down. The last straw came recently when the National Cancer Institute turned down a grant application which would have provided the accelerator with funds to conduct

cancer research and therapy using heavy ions, and the accelerator was left without operating funds and without any prospect of getting funds in the near future.

Built at a cost of \$40 million, the Princeton Particle Accelerator, which used to be known as the Princeton-Pennsylvania Accelerator, lost support from the Atomic Energy Commission when the AEC's high energy physics budget was being squeezed to accommodate the National Accelerator Laboratory. Since June last year, when