

to construct, because the dams which are the essential feature of the development in that river constitute a profitable investment in themselves. At a previous point in this pamphlet it has been mentioned that Mr. John Kennedy, C. E., of Montreal, than whom none can speak with greater knowledge and authority on this point, is on record as stating that power companies could take the St. Lawrence and give us a free development from Montreal to Lake Ontario. The development in the St. Lawrence is, therefore, not merely the natural and necessary complement of a deep waterway throughout the Lakes, but an attractive commercial proposition besides; and once it is constructed, it is idle to talk of competing routes on any canal now built or projected in the State of New York. The route to Liverpool from the Upper Lakes via the Erie Canal and the port of New York is 524 miles longer than via the Welland-St. Lawrence and Montreal; and by reason of this shorter distance and many other great advantages, a through ocean waterway from the head of the Lakes to Montreal outclasses any present or possible route via New York to Europe.

Hon. George Graham, late Minister of Railways and Canals, replying to a deputation that waited on him, stated that he had no fear whatever of any diversion of freight by the Oswego or any other route from the St. Lawrence to New York. He had had the matter investigated and his engineers had reported to him that twelve feet was the maximum of any practical canal connecting the St. Lawrence with the Mohawk or Hudson rivers.

THE CANAL PROBLEM IN THE STATE OF NEW YORK.

The U. S. Government reports show that the different routes possible for canals from Lake Ontario to the Hudson River in the State of New York, have been made the subject of careful investigation by that country. The reports are adverse. They declare that the expenditure necessary in order to achieve any advantages over the 12 foot Erie Canal, now near completion, is too great, and in other respects, the difficulties presented are serious.

For the route from Lake Erie to Lake Ontario via Oswego and the Mohawk Valley to the Hudson River, the U. S. Deep Waterways Report 1900, (Part 1, page 271) estimates the cost of a 21 foot canal development at \$206,358,000 and for a 30 foot canal, \$317,284,000. The increase in prices for such work since 1900, when the estimate was made, would place the cost of the latter on a practical equality with that of the Panama Canal. The annual cost of maintenance, \$2,883,158, would also be excessive. The report states, (1, page 60) that this route is complicated with more difficult conditions than any other open to consideration. There would be a rise (page 243) of 134 feet, and a scarcity of water, at the summit. An adequate supply (page 66, 67) for a ship canal of large capacity can only be obtained by constructing a down grade feeder from Lake Erie to the summit level, or by impounding the surplus water of the streams of the central part of the State of New York in reservoirs and delivering it as needed through a feeder connecting the reservoirs with the summit level of the canal.

By reason of this scarcity of water on the Mohawk route, and the necessity for economy in its use, the report (page 131) expresses a preference for locks for single ships, requiring a smaller supply of water than larger locks. There is however, no suggestion here, as in the Georgian Bay Project, to pump water into the locks from the lower level,