

St. Lawrence Seaway Authority Act

constituents as to why we gave the seaway authority this power to borrow an additional \$190 million.

Mr. Olson: Mr. Chairman, the members of this group also wish to support granting additional borrowing power to the seaway authority in order to expand the potential economic activity of the country. It would appear that the required \$190 million to provide the capital cost of twinning the Welland locks is to take care of the area along the seaway that is most congested at the present time. The question that immediately arises is, how long will it be before parliament is asked for additional funds to twin some of the other locks? The figures the minister has just given indicate that the tonnage going through the seaway is increasing even more rapidly than the tonnage going through the Welland canal. Therefore if the congestion at the Welland canal has now reached the point where additional installations are required to take care of the situation, when this work is completed an even greater tonnage will be carried by the other seaway locks. I would therefore be interested to know whether the department has made any studies as to how long it will be before parliament will be asked for authority to borrow additional money for some of the other locks along the seaway. Furthermore, have there been any negotiations with the state of New York and the United States government to twin some of the locks along the St. Lawrence seaway?

I have one other question, Mr. Chairman, with regard to the \$10 million required for the settlement of some claims respecting the Victoria bridge. I am not satisfied that at this point we have had a sufficient explanation as to why this extra amount of money is being requested by the seaway, when apparently they had not previously assumed this responsibility.

Mr. McMillan: Mr. Chairman, I am very much in favour of this resolution which will provide for the twinning of the single locks on the Welland canal. This twinning will provide for a greater dispatch of shipping on the great lakes, and as such will help the economy of Canada. The Welland canal overcomes the difference in level between lakes Erie and Ontario. The difference in the water level of these two lakes is 326½ feet, and this is overcome by seven locks which each have a lift of about 46½ feet. The canal is 27½ miles long, and the locks are numbered from the lake Ontario end.

In the first 6½ miles there are three locks. These compensate for the rise in the ground level from lake Ontario to the base of the Niagara escarpment. Unlike previous canals,

which took somewhat circuitous routes up the Niagara escarpment, the present Welland ship canal climbs the Niagara escarpment directly, at right angles. In the next mile from the foot of the escarpment the climb is 186 feet through locks 4, 5, 6 and 7. Above lock 7 which is about lake Erie level there is a straight sailing stretch for 20 miles to lock 8 at Port Colborne. When the canal was built it was necessary to twin locks 4, 5 and 6 because of the steepness of the incline at this site. Because of this very rapid rise these locks had to be built end to end. There is no level sailing stretch between them, as there is between other locks.

If these locks had not been twinned at that time boats going down the canal would be required to wait until a boat coming up the canal had been locked through these three locks, and vice versa. That is the reason they were twinned at that time. There is very little rise at lock 8 at Port Colborne. Lock 8 has two purposes; it controls the water level in the canal, and it also compensates for the variation in the water levels in lake Erie. We know that lake Erie, like all other lakes, has a cyclical high level in some years; every four or five years it comes around to a high level. We know also that a strong west wind blowing down lake Erie will cause the water level to rise by four to six feet at the entrance to the canal. Therefore it is necessary to have a lock at the lake Erie end of the canal in order to lift boats from a controlled level into lake Erie. I think it is very necessary to twin these single locks because there is a bottleneck at most of them at the present time. Number 7 lock has the worse bottleneck, but at the present time they all suffer from this congestion.

The estimated cost of twinning these locks is \$180 million. This figure was given by the minister a few minutes ago. The Welland canal was first conceived by local residents in 1818. They started to build it in November, I think, of 1823 and it was finished in 1829 at a cost of something under £500,000. In 1842 the government of Upper Canada took over the Welland canal from the shareholders and at that time they decreased the number of locks from 40 to 27. This was afterwards called the second Welland canal. A third Welland canal was completed in 1887 at a cost of \$13 million. The present canal was completed in 1931 and cost about \$130 million. The committee can therefore see that the twinning of these five locks, 1, 2, 3, 7 and 8, will cost more than all previous Welland canals, including the present canal which has 11 locks of similar size, and over 27 miles of sailing levels.

It is very interesting to read the description of the sod turning ceremony for the first Welland canal. William Hamilton Merritt, a