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An address by the Minister of Transport, Mr. Lionel Chevrier, delivered at Queen's University, Kingston, Ontario, February 15, 1954.

Mr. Chairman, ladies and gentlemen, I consider it a great honour to be here tonight to deliver the concluding lecture in this series sponsored by Queen's University. ....

Previous speakers in this series have been Professor Knox, who has given the geography and the economic significance of the St. Lawrence, and Dr. Mackintosh, who has presented the St. Lawrence in Canadian history. I have been asked to speak on the St. Lawrence seaway and power project, and what its significance will be for the future of the country and particularly eastern Ontario.

Projects to improve the natural waterway of the St. Lawrence River and the Great Lakes have been before the public for over a hundred years. They have been the subject of negotiations between Canada and the United States since before the turn of this century. Early in the negotiations the current project became one for the development of power as well as navigation in the upper part of the St. Lawrence, where it marks the boundary between the two countries. The negotiations produced first the St. Lawrence Deep Waterway Treaty, signed in 1932, then the Great Lakes-St. Lawrence Basin Agreement, signed in 1941. Both proved abortive. The 1932 treaty was rejected by the United States Senate. The 1941 agreement was before Congress for eleven years without securing approval, whereupon late in 1952 Canada rejected it in favour of a new plan for an all-Canadian seaway. I will elaborate in a few moments on this new plan, which contemplates the key power works being constructed by Ontario and New York.

It is not too much to say that the broad water highway of the St. Lawrence has shaped the whole economic development of Canada, as you will appreciate from the two preceding lectures. Let me just remind you of the historic competition between the St. Lawrence and other routes to the American West. Let me mention also four highlights in 19th Century canal building:

1. The Erie Canal, completed in 1825 and later improved, from the Niagara to the Hudson Rivers.

2. The 9-foot St. Lawrence and Welland Canals from Montreal to Lake Erie, completed in 1850 by the two Canadas.

3. The deepening of the above to 14 feet after Confederation, completed by 1904.

4. Three U.S. and one Canadian canal at Sault Ste. Marie.

Here then we see Canada promoting the St. Lawrence route in the face of U.S. competition, not to say opposition. But by the 1890's the opposition began to give way to some sympathy in the United States, as demands grew from the inland population of both countries for a cheaper connection with the outside world, without regard to the political border. Thus was ushered in a more harmonious attitude of joint U.S.-Canadian interest in the St. Lawrence, involving the concept of a deep waterway with uniform standards from the lakehead to Montreal.

The boundary line separating Canada and the United States follows the 45° latitude until it strikes the St. Lawrence River and from thence follows the middle of the stream until it strikes the foot of Lake Ontario. Because the long Sault Rapids are in international waters, it became necessary in dealing with them to seek the concurrence of both countries. Since 1895 Canada and the United States have co-operated in a series of investigations. They have covered both the engineering and economic aspects. No other project of comparable size had had the benefit of such careful scrutiny and such complete engineering data. Every report has favoured the development of deep draft navigation in the St. Lawrence River, and from an early date all have recommended a power development in the International Rapids Section as an integral part of the project.

Reports are one thing, action another. The last fifty-odd years have been marked by much talk but no new works in the St. Lawrence, and by less talk but continued development in the Upper Lakes. The result is to provide approximately 25 feet in downbound channels and 21 feet upbound from Duluth and Fort William to Prescott, whereas between Prescott and Montreal there are only the old 14-foot canals.

The continued improvements for navigation above Lake Erie came largely in response to the demands of the iron ore trade. Last year the five locks still in service at Sault Ste. Marie passed a total of some 130 million tons, over 100 million of it iron ore. These works opened a cheap water route to bring iron ore from the great deposits near Lake Superior to the coal of Pennsylvania and Ohio. They were thus the key on the one hand to the development of the Mesabi and other iron ranges, and on the other hand to the concentration of steel production around Lake Erie and at the head of Lake Michigan. Interestingly enough, the new works proposed for the St. Lawrence have a comparable significance for iron ore from Labrador and for an adequate supply of ores for the same steel mills.

What is the proposed Great Lakes-St. Lawrence Seaway?

It is a 1200 mile channel 27 feet in depth extending from Montreal to the head of the Great Lakes. Since Montreal is 1000 miles from the sea, this would allow large lake and ocean vessels to sail over 2,200 miles of inland waterways to the heart of the continent.

Coupled with the waterway is the large-scale development of power at two sites at least, and possibly three. The first is the International Rapids Section of the St. Lawrence River, where it is proposed to develop 2,200,000 horsepower, divided equally between United States and Canada. The second is in the Soulanges Section, where

Beauharnois and other installations already approximate 1,500,000 horsepower, and ultimate expansion to 2,000,000 horsepower can be accomplished readily. The third site is the Lachine Section, where a projected 1,200,000 horsepower might be installed.

The St. Lawrence Seaway should be distinguished from the St. Lawrence Ship Channel. The projected Seaway extends above Montreal. The Ship Channel extends from Montreal down to a point 30 miles below Quebec. This channel was deepened by the Federal Government for the purpose of providing safe navigation for ocean-going vessels from deep water to Montreal. It has a depth of 35 feet and it will provide the ocean link for the St. Lawrence Seaway.

The St. Lawrence Seaway should also be distinguished from the Great Lakes - St. Lawrence Basin. This is a vast drainage system covering an area of 678,000 square miles, 493,000 of which are in Canada and 185,000 in United States. It includes Lakes Superior, Michigan, Huron, St. Clair, Erie and Ontario and the St. Lawrence River, together with all the tributory rivers and streams, the most important of which are the Ottawa, St. Maurice and Saguenay Rivers.

What does the Great Lakes - St. Lawrence Basin consist of?

It consists of five steps which are its chief assets, because they contain over 10 million horsepower of electrical energy, all of it close to large and growing markets, most of it undeveloped, and chief liabilities, because large vessels must be able to pass them if cheap transportation is to be extended from one end of the Seaway to the other. The five steps are:

1. St. Mary's Falls lying between Lake Superior and Lake Huron, where there is a drop of 21 feet;

2. The St. Clair-Detroit passage joining Lake Huron and Lake Erie, where there is a drop of 8 feet;

3. Niagara River, emptying from Lake Erie into Lake Ontario, with a drop of 326 feet;

4. The upper St. Lawrence River from Lake Ontario to Montreal, with a drop of 225 feet;

5. Montreal to the sea, a drop of 20 feet.

These five steps will, it is estimated develop over 10 million horsepower, divided as follows:

At Niagara	5,400,000 hp.
In the International Rapids Section.....	2,200,000 hp.
In the Beauharnois or Soulanges Section...	2,000,000 hp.
In the Lachine Section	1,200,000 hp.

All of this power is Canadian with the exception of 2,700,000 hp. at Niagara and 1,100,000 hp. in the International Rapids Section.

There is no need to labour the economic significance of this white power in an area of Canada where no coal or black power is found.

To what extent have these potentialities been developed?

From a power point of view 100,000 horsepower have been developed at the Sault, 1,800,000 at Niagara, 93,000 at Massena, New York, and about 1,500,000 in the Soulanges Section. Therefore, out of a total potential of 10,800,000 horsepower, barely 3,500,000 have been developed, or about one-third.

For navigation, the first three steps are passed by deep draft canals at Sault Ste. Marie and Niagara and other channel improvements, allowing 25-foot navigation from the head of the Great Lakes to Prescott. The fleet of lake vessels using these facilities is said to provide the cheapest transportation in the world, the largest of them carrying over 20,000 tons.

From Montreal to the open Gulf, the fifth step, the federal government has provided the St. Lawrence Ship Channel. It has been sufficient to make Montreal one of the busiest ocean ports of the world.

But at the fourth step in the 115 miles between Montreal and Prescott there remains the 14-foot bottleneck that keeps the ocean vessels on one side, the lake vessels on the other. The largest vessels that can pass the small locks of the present canals can carry less than 3,000 tons. These canals have served Canada well in their time, but their time is now past. They are obsolete, judged by present day standards of traffic and method of construction and operation.

What New Works are Proposed?

Most of the new works would be at this fourth step that I have just mentioned, the St. Lawrence River from Prescott to Montreal. This part of the river falls naturally into five divisions -- the Thousand Islands, International Rapids, Lake St. Francis, Soulanges, and Lachine Sections -- and major works are necessary in three of the five.

The first is the International Rapids Section. It is here that the most extensive and costly work is required. The main features are as follows:

(1) an upper control dam near Iroquois,

(2) a main dam and powerhouses near Cornwall,

(3) side canals past each of the two dams,

(4) dykes where necessary to retain the pool level,

(5) channel enlargement to reduce current velocities in some stretches,

(6) relocation of affected railroad lines and highways,

(7) rehabilitation of Iroquois, Morrisburg, and other communities.

Each of the two dams will be a concrete gravity structure and each will be about 2,500 feet long. The control dam will have a maximum height of about 118 feet above the foundation, the main dam about 145 feet. The main dam will extend from

the United States mainland to the head of Barnhart Island. The closure will be completed by powerhouses extending 3,500 feet from the foot of the island to the Canadian mainland, and by flanking dykes.

The new canals are to be 27 feet deep, with locks conforming to the general dimensions of those in the Welland Ship Canal. The canal past the control dam is to have one lock with a small drop of 5 feet or less. At the main dam the drop will be about 85 feet, and two locks are planned in this canal.

The second of the three sections is Soulanges. Here the basic power development already exists at Beauharnois and the power canal incorporates a 27-foot navigation channel. Little more is required than the provision of a short side canal with two twin locks in flight to pass vessels from the power canal to Lake St. Louis.

Thirdly, in the Lachine section, the minimum development will be for navigation alone. This would involve considerable channel enlargement and a ten-mile canal with two locks. But a large-scale power development is possible in this section too. Discussions have been opened with the Government of Quebec, out of which may come an agreement for a combined power and navigation development.

That covers the three sections of the St. Lawrence River where major works are required. Comparatively minor channel work is required in the two remaining sections, the Thousand Islands and Lake St. Francis, in order to achieve seaway standards for navigation.

Passing on to the Great Lakes and their connecting channels, the Welland Ship Canal is 27 feet deep for about 17 miles of its 28 mile length; it only remains to deepen the remaining parts to 27 feet. Then, above Lake Erie, the achievement of seaway standards would require considerable dredging in the St. Clair-Detroit passage into Lake Huron and in the St. Mary's River between Lake Huron and Lake Superior.

The All-Canadian Seaway

From the Canadian point of view it will be clear that the International Rapids Section of the St. Lawrence is the key to the whole 2,000 mile waterway. Below Cornwall the river is wholly within Canada and the necessary works will be Canada's responsibility in any event. Above Prescott and into the Great Lakes, Canada can deepen the Welland Canal but need do little else. But in the international part of the river we must have active participation from some entity in the United States, at least with respect to the power development.

The 1941 agreement (and also the 1932 treaty, for that matter) had provided that the two federal governments build all the works in the International Rapids Section, power as well as navigation; on completion the power facilities were to be disposed of to an appropriate agency in each country. When this agreement had failed to secure Congressional approval after ten years, Canada proposed in 1951 that Ontario and New York or some other entity in the United States be allowed to build the power works, and Canada undertook on

that basis to provide all the seaway canals from Montreal to Lake Erie. This would include building the side canals in the international section, which previously had been planned for the U.S. side of the river, and would include deepening the Welland Canal to 27 feet.

The Present Position

Progress towards a start on the seaway may be highlighted as follows. Parliament provided in December 1951, for the creation of the creation of the St. Lawrence Seaway Authority, a crown company, to be responsible for the construction and operation of the Canadian canals. That same month an agreement with the Government of Ontario was approved concerning the international power development. On October 29, 1952, the International Joint Commission approved the construction of the key power works. And on July 15, 1953 the Federal Power Commission approved the granting of a license to the Power Authority of the State of New York to develop the United States share of the St. Lawrence power.

New York is not yet in a position to act under its license, however, as the licensing procedure allows appeal by opponents to the courts. The first appeal, to the Court of Appeal for the District of Columbia, was dismissed on January 29, last month, by a unanimous decision. Opponents now have 90 days to appeal to the U.S. Supreme Court. They are expected to appeal and to do so as late as possible, in order to delay proceedings. This action holds up the whole project, the navigation side as well as the power, for the canal plans assume the existence of the power works. We do hope the final court decision will be known in time to permit construction to start this coming summer.

The Canadian Government has already undertaken and is prepared to build the seaway as soon as the last legal obstacle is overcome. If that were not so the project would not be where it is today. We would still be waiting for Congress to make up its mind on a joint agreement, with the outcome as doubtful as ever. But now the progress of the Canadian plan seems to be bringing a change of heart in Congress. The Senate has approved a measure which would have the U.S. build the two canals in the International Rapids Section. The information we have is that the House of Representatives may follow the same course. Such action would re-open the question of United States participation in the Seaway, a question to be settled by negotiation. For Canada is committed by an exchange of notes, as part of the negotiations which have advanced the project to its present position, to consider any firm proposal from the United States that would not upset the present power arrangements and would not unduly delay completion of the seaway.

What will the Project Cost?

Mr. Robert Saunders, Chairman of Ontario Hydro, has indicated recently that the Commission's share of the international power cost will be $300,000,000. Apparently, therefore Ontario and New York expect the power development will cost a total of $600,000,000. My own department estimates that all-Canadian navigation facilities from Montreal to Lake Erie would cost in the neighbourhood of $300,000,000.

These sums represent very considerable expenditures, to be sure. However, the facilities would not be provided as a gift to anyone; they would be self-liquidating. Hydro users would pay the capital, interest, operating and maintenance costs relating to power, and tolls levied on shipping would recover the similar navigation costs. In other words the expense would be borne by the beneficiaries.

Again, large as the expenditures would be, they would be well within Canada's resources. On the hydro side, Canada has built its Shipshaw, its Beauharnois and other projects, and is expanding its Niagara and building its Kitimat. On the navigation side, Canada has already spent over $300,000,000 in providing the Ship Channel below Montreal, the 14-foot canals into Lake Ontario, the Welland Ship Canal and a lock at Sault Ste. Marie. Most of these expenditures date back to years when a dollar meant a great deal more than it does now, and when Canada was much poorer in material resources. The work and material that went into the Welland Canal alone would cost a great deal more than $300,000,000 today.

Why is the project necessary from a power standpoint?

The international power development will provide low-cost energy that is in immediate demand on both sides of the border. The United States share would go to New York and perhaps neighbouring states. The market there is growing rapidly each year, more than sixty per cent of it supplied by steam plants while the cheaper St. Lawrence power runs merrily to waste. But I wish to deal particularly with Ontario.

As a result of the rapid post-war expansion of industry, as well as rising domestic consumption, Ontario has been fa ced with recurrent power shortages or threats of shortages. The Hydro Commission still is pushing its expansion programme, with the emphasis now on Niagara, where installations of 1,200,000 horsepower are to be made. This new power will come in over the next three years, but is not expected to do much more than meet the growing demand in that period.

Meanwhile two large steam plants have been built at Toronto and Windsor which will ultimately develop nearly 900,000 horsepower. The ideal would be to use them only at times of peak load, but already they are being used for basic load. What this means will be clear when I remind you that Ontario owes its present industrial status to low-cost hydro power, and when I tell you that the delivered cost of steam power is more than twice as great.

The St. Lawrence is the only undeveloped site of any significance available to Ontario and within reach of the major areas of power consumption. Moreover, the Ontario installation of 1,100,000 horsepower there would have an unusually high load factor -- that is, most of the power would be available every hour of every day of the year. Without it, resort must soon be had to still more steam generation. The province cannot afford to be without this large block of low-cost power.

Why is the project necessary from a navigation standpoint?

With respect to navigation, the main objective is to remove the present bottleneck in the St. Lawrence River.

Removing the bottleneck would save many millions of dollars a year in the cost of moving shipments that today pass its small canals or follow alternative routes to market. This alone would be sufficient reason to construct the Seaway. Now it also promises to be the key that will unlock the future for the iron ore fields of Quebec and Labrador, opening large new markets for these ores in the Great Lakes area. By the same token it will give the interior steel mills the best new source of ore at the lowest cost, a matter of serious concern at the moment.

Iron ore

It is this significance of the Seaway for the iron ore development in Labrador that is receiving most attention today. In spite of a welter of confusing testimony, the essential facts will be quite clear to anyone who takes the trouble to winnow the wheat from the chaff.

The most obvious benefit, from a Canadian point of view, is that the Seaway will open a much larger market for ore from Labrador than could otherwise be reached. As you know, this mining development is going ahead now, with the initial goal of shipping 10,000,000 tons a year. But with the Seaway, and after paying any likely level of tolls, the ore could compete in virtually the whole Great Lakes market, otherwise largely out of economic reach. The mining interests see an immediate sale for at least 20,000,000 tons a year, just double the present goal, and a growing market thereafter.

But there is another side to this coin too. That is the problem of ore supplies now facing the steel mills within reach of the Great Lakes, which account for 75 or 80 per cent of steel production in the United States. For many years the backbone of this production has been the high-grade iron ores of the Mesabi and other ranges near Lake Superior. Production of these ores can no longer keep up with mounting demand, and the mills are seeking additional sources of supply.

Seaway or no Seaway, those mills are going to get the necessary ore, make no mistake about that. But at a price. That is the point -- at a price.

The additional supplies may come partly from more costly workings of high-grade ore, partly from more costly development of taconite and other low-grade iron formations, and partly from imports brought further inland with greater transportation charges. To put the same thing another way, the necessary supply will be forthcoming from these various sources only if the steel mills offer a higher delivered price for ore. At the moment no one can say precisely how much higher, but the indications are that the increase may be a couple of dollars a ton or more within a comparatively few years. Ore shipments from Lake Superior last year were something over 100,000,000 short tons. The ore requirements of the consuming mills will be at least 120,000,000 tons and probably more in the very near future. So you see that what is in prospect is an increase of something like

$250,000,000 a year in the cost of raw material for the steel mills, and an even greater increase in the price of the final steel products.

This prospect would be completely changed by the Seaway. If it existed today, it would enable Labrador ore to compete at present ore prices in virtually all of the Great Lakes districts. The ore occurs as outcroppings or with very light overburden over vast areas, and production could be expanded at low cost to meet any likely level of annual demand.

In these circumstances, that figure of $250,000,000 a year is just one of the costs of not completing the Seaway. It is a cost that would have to be met by the ultimate consumers of iron and steel, that is to say by all citizens in both our countries. In just a few years it would outweigh the whole cost of the St. Lawrence project -- power works, navigation facilities, everything.

Other Benefits

Another Seaway benefit would be the savings in the costs of transporting grain, coal and other commodities that now are carried in large and economic lake vessels for only part of their journey. As it is they must trans-ship either to more costly little "canallers" or to rail. Thus the saving would be great enough if it were just a matter of allowing cargoes to move in large vessels throughout the Seaway without trans-shipment. It promises to be all the greater because upbound vessels with ore and other cargoes will find it of advantage to carry grain and other downbound cargoes, making for a greater economy in the use of vessels. It is estimated that this saving will amount to at least $30,000,000 a year, again after paying any likely level of tolls.

What will the project mean to eastern Ontario?

The combination of power and navigation development may be expected to stimulate industrial expansion in much of Ontario and Quebec. One must not look for miracles, however, and hence it is not suggested that the present very rapid growth is to be further accelerated. It is suggested rather that there will be encouragement for the continuance of that growth. Low-cost transportation and ample power reserves are two important factors in determining the location and expansion of industrial plant. They are not the only factors, of course, and their importance varies with the nature of the production process and the materials handled. They mean a great deal to an ore smelter or a paper mill, for example, but very little to a maker of shoes or shaving brushes. Nevertheless, in total impact they promise a great deal.

I believe that a good deal of this expansion will take place in eastern Ontario, which heretofore has lagged behind other parts of the province in the matter of industrialization. Much of the new power may come to be used in this area, say from Cornwall to Kingston, with low-cost water transportation available all along the waterfront. Another favourable factor is a discernible trend in a number of industries towards location in smaller communities. In such circumstances the upper St. Lawrence valley would be doubly attractive in that it is close to the two mass markets of Toronto and Montreal.

In predicting greater industrialization for eastern Ontario there are three points I wish to make. One is that much will depend on the initiative shown by the communities themselves in seeking new plants and encouraging plant expansion. A second is that the communities are entitled to ask that a substantial block of the new power be reserved for eastern Ontario, say 400,000 or 500,000 horsepower, rather than see most of it piped off to markets hundreds of miles away. The third is that the new power should be sold at cheaper rates in eastern Ontario than it is offered elsewhere in the province, to reflect the lesser transmission losses and the lower transmission costs.

The impact of the project on eastern Ontario during the construction period is not to be overlooked either. The basic power development may cost approximately $600,000,000, as I have indicated, and the Canadian part of this work will lie entirely in Ontario. In addition the navigation works in this section may cost $100,000,000 or so, and I have already emphasized the desire that these works be on the Canadian side of the river. I leave it to you to picture what these expenditures will mean directly and indirectly to the near-by communities.

What about the problems of rehabilitation in the flooded area?

Many of the communities must look first to their continued existence, before thinking about business during the construction period or about future growth. The new works will create a huge lake extending from Cornwall almost to Prescott. The area affected appreciably will be about 32 miles long with a width of one to four miles. The lake level will be at elevation 238 initially, and later at 242 if that proves feasible. Since the average elevation along Highway No. 2 is 220, it will be seen that everything in this area will be inundated to about 20 feet, more or less. Schools, churches, cemeteries, historic sites, communities will disappear.

Six municipalities will be seriously affected by the flooding. Two are incorporated villages: Iroquois, to be completely flooded out, and Morrisburg, where a large section must be abandoned. The other four municipalities are the townships of Osnabruck, Cornwall, Matilda, and Williamsburg, where the damage will include the flooding of several unincorporated communities.

The problem is three-fold:

(a) to preserve the scenic beauty of the area;
(b) to rehabilitate the communities affected;
(c) to compensate the individual property owner.

(a) The preservation of scenic beauty

The proposed development in the International Rapids Section will flood one of the most beautiful sections of the St. Lawrence. It will bring an end to the Long Sault Rapids and it will do away with one of the loveliest drives, extending along the north shore of the River St. Lawrence, that can be seen anywhere in Canada. Care must be taken that the power development will not merely bring an end to the beauty of the rapids involved, but that it will not bring into being an eyesore comparable to those which so many times result from such works. Hence it is necessary to give consideration to the need for the preservation of the scenic beauty of the whole St. Lawrence area in considering this section.

Perhaps the best and worst examples of what can be done in a power development are to be found in the vicinity of Ottawa. The Chaudiere Falls are made hideous by an inorderly and unplanned development without regard for the need of the preservation of the beauty of the Capital. On the other hand, the Gatineau is an example where the scenic beauty of the river was preserved. There the Company was interested in the development of cottage sites, and by planning and foresight was able to ensure the development of Chelsea Lake without its being spoiled by dead trees, ruined houses and other eyesores.

In the case of the St. Lawrence, there is need for foresight and planning with a view to ensuring that the new lake which will extend from Cornwall to Cardinal may be developed with new scenic values that will compensate for those destroyed.

Here I would point out that, in the Agreement signed on December 3, 1951, between the federal and Ontario governments concerning the St. Lawrence development, Article XV reads as follows:-

> "Ontario will establish a Commission to supervise the execution of such works as may be appropriate, consistently with the execution of the works, to safeguard and enhance the scenic beauty of and historic associations with the International Rapids Section."

Consideration should also be given to the preservation of the historic monuments and the historic associations of the area that will disappear for ever. To this section of Ontario are related some of the most historic episodes in the history of Canada -- the exploration of the west and the Indian wars of the French regime, the coming of the United Empire Loyalists, the War of 1812, and later the development of the Canadian canal system of which the proposed work is but the final stage.

The dominant feature of the river-front of Osnabruck and Cornwall Townships under their new conditions will be a string of islands far out in the new lake which will stretch for six miles from just east of the present Farran's Point almost to Moulinette. These islands will be of various sizes. Some will almost disappear at extreme high water stage, while some will stand 10 to 30 feet above high water level. Consideration might well be given to the construction of a road from the new Queen's Highway to these islands, linking them together by causeways. This would be an ideal spot for a park. A road might well be constructed joining the islands together and to the mainland at either end. The channels to be bridged would not be more than 4 or 5 in number and would be comparatively shallow. These islands are partially wooded now. In the course of 3 or 4 years they should become very desirable sites for summer cottages.

Between Morrisbury and Cornwall there are some 13 cemeteries that will be inundated. Two of these are west of Morrisburg. It is in these graveyards probably more than in any other spots that the historic associations of this area are enshrined. Where to transfer the graves and tombstones of those pioneers and others buried in these cemeteries that will be inundated would be another matter to be

determined. Whether this should be done in a central spot or in local cemeteries as close as may be to, and as nearly as possible like, the original location are matters for each community to give consideration to. It might well be that if a single memorial cemetery were decided upon it could be established on the most northerly of the Long Sault islands. This will be the finest island of the group, attaining elevation 290, or about 45 feet above ultimate high water level. As a site for a memorial cemetery it would be a beautiful spot, safe from the inroads of commercialism for all time.

One other historic spot should be preserved -- the Battlefield of Crysler's Farm. It will be five feet under water. Consideration might well be given to the establishment of a small island at the spot where the monument now stands. It would be close to the new highway and yet a safe distance away from the main navigational channel. The preservation of this epic incident in Canadian history warrants careful consideration of this suggestion.

There are, no doubt, other historic sites in the area the preservation of which by removal to new sites or by raising their existing sites must be considered individually.

(b) The rehabilitation of the communities

The first point to be considered here is that the communities so severely affected must be restored to the greatest extent possible with their present assets which are accessibility to the river, good highway facilities, and natural scenic attractiveness. These assets are what have made them pleasant places in which to live, both all year round and during the summer season. From the last they draw a considerable measure of prosperity.

The first question that arises here is the following: Does the community want to be rehabilitated on the new shore line? How many of its citizens want to take their compensation money and leave the community altogether? How many want the identity of the community preserved? This is a matter which must be settled by the citizens themselves. If a majority wish to move to the new shore line, this brings up interesting questions of town planning, location of industry, railways, highways and communications. Consideration must be given to the relocation and establishment of new schools where they would be required. The advantages or disadvantages of consolidated schools -- the questions of providing transportation to bring the children to school rather than local school sections -- would be a matter to be worked out with the assistance of the Department of Education.

The relocation of church buildings where congregations have been dispersed will in most cases require very sympathetic consideration, particularly with regard to independent congregations whose membership may scatter widely.

In other words, there must be prolonged negotiation between the people of the communities affected with the body or bodies responsible for these matters in order to ensure orderly action. These negotiations might have as their objective the establishment of a new town on a new townsite. This would be required to be laid out on a modern basis with all modern conveniences. I do not see why it would not be

possible to develop industrial sites all along the bank of the new shore line with a railway spur line joining the main line.

In developing a plan for this area, complete co-ordination as among equals will have to be maintained between the Ontario Hydro, Canadian National Railway, the Ontario Department of Highways and the municipalities involved with respect to the position of stations, bridges, grade separated crossings, cloverleafs, docks, airfields, etc., so that the economics of the local communities will not be lost sight of in deciding matters of relative internal economy to the national transportation systems.

(c) Compensation to the individual property owner

To the individual this is by far the most important feature. He will want to know what he is entitled to. I am not an expert on this and can only give you the benefit of my experience arising out of the expropriation which takes place under the Department of Transport.

As a general rule the measure of compensation in cases of land expropriated for a public work is the value of the land to an owner in its actual condition at the time of the taking, with its existing advantages and the existing value of its prospective potentialities, but excluding any advantage due to the execution of the public work.

The principles of compensation in expropriation cases were reviewed in the case of Woods Manufacturing Company, Limited, versus The King, 1951, 2 D.L.R., page 465. This is a judgment of the Supreme Court of Canada. The case dealt with the expropriation of the property of the Woods Manufacturing Company situated in the City of Hull. This was a business property but the general principles to be applied in assessing compensation to the owner for property expropriated by the Crown were outlined by the Chief Justice.

In estimating the fair value of land expropriated the Court must estimate the price which the land will fetch if offered for sale in an imaginary market. That price is the amount which a prudent man in the position of the owners would be willing to pay for the land sooner than fail to obtain it.

"It does not follow, of course, that the owner whose land is compulsorily taken is entitled only to compensation measured by the scale of the selling price of the land in the open market. He is entitled to that in any event, but in his hands the land may be capable of being used for the purpose of some profitable business which he is carrying on or desires to carry on upon it and in such circumstances it may well be that the selling price of the land in the open market would be no adequate compensation to him for the loss of the opportunity to carry on that business there." In such a case here is the formula suggested: that the owner is entitled to that which a prudent person in his position would be willing to give for the land sooner than fail to obtain it.

In the Woods case referred to above the Supreme Court gave approval to the granting of an allowance for compulsory taking to be added to the value of the land and buildings expropriated. The allowance was fixed at 10 per cent but it

does not appear to be a matter of right. It is considered as a factor in the compensation and is awarded in proper cases.

How is the problem being attacked?

Under present arrangements this three-fold problem falls to the Province of Ontario and the Ontario Hydro Commission. I want to make it quite clear that anything I have said this evening is not submitted as a solution. It is submitted simply to draw your attention to the magnitude of the problem.

The communities concerned and Ontario Hydro are tackling the problem with vigor and foresight. Most of the communities have committees or organizations canvassing for facts, getting planning advice, a ssessing requirements and resources. The Hydro Commission has established an advisory committee with representatives from the various provincial departments concerned, and also from the C.N.R., and an authority on community and regional planning has been engaged. With mutual co-operation and understanding the final solution should be a credit to all concerned.

Conclusion

Let me conclude by summing up my remarks in a very few words. Water transportation has played a large part in the growth of Canada from its scattered colonial beginnings right up to the present. It provides a basic support for much of the Canadian economy today, and is particularly important in the bulk movement of grain, ore, coal, and forest products. Low-cost hydro power is the basis of successful Canadian production in many other industries serving domestic and world markets. With its wide significance in both these fields the St. Lawrence Seaway and Power Project is the greatest vehicle of resource development presently before us. Its completion is a matter of urgent necessity if Canada is to realize the full promise of the future. We in the government believe not merely that it can pay its own way, but that the benefits to this country will far outweigh its original cost.

More traffic now passes through the locks at Sault Ste. Marie in a season than passes in twelve months through the Panama and Suez Canals put together. The traffic foreseen for the new canals -- and for the Welland -- will also far outrank that on any of these famous canals. The building of the Panama Canal through the Isthmus of Panama, the construction of the Suez Canal linking the Mediterranean with the Red Sea, were logical projects. They were the inevitable and the right thing to do, and would have been justified even at several times their cost. On the proposal to construct the Deep Waterway in the St. Lawrence River to link the Great Lakes to the Atlantic Ocean, the verdict must be the same.

S/C