(c) (i) 1962, two, 1963 through 1972, nil. (ii) 1962, 11; 1963, 9; 1964, 5; 1965, 14; 1966, 10; 1967, 9; 1968, 1; 1969, 0; 1970, 3; 1971, 0; 1972, 2 (still under appeal).

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NOTE: Calendar year shown is that in which conviction occurred.

ST. LAWRENCE SEAWAY SYSTEM IMPROVEMENTS

Question No. 2,547—**Mr. McCain:**

1. What major developments are planned for improvements and repairs to the St. Lawrence Seaway system over the next ten years?

2. (a) What is the Canadian share of the estimated cost of these future additions and developments (b) at what times is construction estimated to begin?

Hon. Jean Marchand (Minister of Transport): The St. Lawrence Seaway Authority advises as follows: 1. (i) The installation of a ship alignment and mooring system at Lock 7 of the Welland Canal. This is an installation of mechanical devices, designed to guide vessels into and out of a lock chamber and to provide an independent means of holding a vessel in a predetermined position during the lockage operation. (ii) A study programme which will indicate the technical feasibility, environmental acceptability and economic justification for extending the navigation season. (iii) The following three developments and improvements related to computerized traffic control in the Seaway: An integrated marine traffic information and control system, which is a computerized system to enhance marine safety, increase the efficiency of moving cargo through the Seaway and so extend the capacity and life of the present facilities. An automated vessel location and identification system. This is a sub-system of the traffic control system described above to automatically identify and track vessels to further enhance safety and scheduling by continuously monitoring vessel positions using the input of transponder signals from the ships into the computers. A Seaway information service. This system is a revenue-producing by-product of the above traffic control system whereby information concerning vessel movements will be available to industry upon subscription.

2. (a) (i) 100 per cent Canadian. (ii) The Canadian study program will be paid for entirely by Canada. In the same manner, U.S. study programs are paid entirely by the U.S. (iii) Integrated Marine Traffic Information and Control System, 86 per cent. Automatic Vessel Location and Identification System—cost sharing agreements not yet completed. Seaway Information System, 100 per cent. (b) (i) 1974. (ii) Study program to begin in 1974. (iii) Integrated Marine Traffic Information and Control System, 1973. Automatic Vessel Location and Identification System, 1974. Seaway Information System, 1973.

Order Paper Questions

ROUYN AIRPORT

Question No. 2,558—**Mr. Caouette (Témiscamingue):**

Has the Department of Transport completed any studies of the airport at Rouyn in view of (a) making repairs (b) lengthening the landing strip in order to facilitate the landing of DC-9 jetliners and, if so (i) on what date is the work scheduled to start (ii) what amount of money will be attributed to these alterations?

Hon. Jean Marchand (Minister of Transport): On June 6 a contract for an economic study was arranged with Mr. Jean-Pierre Brassard, Bureau of Management Consulting, Place Canada, Montreal. This Economic study includes not only the Rouyn Airport but also Val-d'Or Airport and the D.N.D. requirements for that location. This Economic study is forecast to be completed by September 20, 1973. The Ministry will not be making any decision on major improvements to the Rouyn Airport until this study is complete.

R-CLASS ICEBREAKERS IN CANADA'S ARCTIC ARCHIPELAGO

Question No. 2,563—**Mr. Forrestall:**

1. With reference to the answer to Question No. 2,229 (2), what specific usefulness in Canada's Arctic Archipelago will the proposed R-Class icebreakers, with a capability for continuous progress through only 3 foot ice have, in light of the fact that new ice normally attains a thickness of five to six feet in the first year, and grows to eight or nine feet in its second year of accumulation, in terms of length of operation, in areas of operation as defined by the Arctic Shipping Safety Control Zones (a) during the short summer shipping season (b) outside the short summer shipping season?

2. Does the government intend to employ any of the proposed R-Class icebreakers in Canada's Arctic Archipelago and, if so, at what approximate dates will such deployment be made?

Hon. Jean Marchand (Minister of Transport): 1. (a) Based on a short summer shipping season of July 23-October 25 for Hudson Strait, Hudson Bay and Lower Arctic and of August 1-October 15 for Lancaster Sound and the eastern High Arctic, the R-Class Icebreakers will be able to operate in these areas without restriction throughout the short summer shipping season in the Arctic. (b) The R-Class Icebreakers will be capable of effective operations, outside the short summer shipping season, in areas and for periods of operation as follows:

Zone	Extended Operations Season
3	July 25-August 1
4	July 20-July 23 and October 25-November 5
6	October 15-November 20
7	July 20-July 23 and October 25-December 15
8	July 20-July 23 and October 25-December 31
9	July 20-July 23 and October 25-January 20
10	July 15-July 23 and October 25-January 25