

EXHIBIT #1

Item 4: Is this authorization to be used for fulfilling the requirement of a government contract with an agency of the United States Government?

Government Agency

U.S. Department of Transportation, Research and Special Programs Administration, Volpe National Transportation Systems Center, Center for Navigation, DTS-52, Cambridge, MA 02142-1093
(Contract No.: DTRS57-99-P-80260)

Contact

Mr. Maurice J. Moroney, Director DTS-52, (617) 494-2026

Interagency Contract

Saint Lawrence Seaway Development Corporation Project Plan Agreement No. SL-901

Narrative Statement

The purpose of the “Great Lakes/Saint Lawrence Seaway Vessel Traffic Services System Project” is to demonstrate a capability to improve the management of vessels as they transit those waterways. The enhanced vessel traffic management concept involves providing accurate and continuous vessel position information to central management facilities, and situation information to individual vessels. With high-quality vessel position information, central managers will more efficiently use waterway facilities (e.g., locks) and expedite the transit of vessels through the system by better scheduling. Vessels with hazardous cargoes will be monitored continuously as they move. Pilots and Captains will have immediate and detailed information on nearby vessels regardless of the weather or visibility. Also, vessel Pilots will have very precise speed information of great value when approaching fixed objects such as locks and piers. The demonstration project will use prototype equipment and operate on the Seaway, Lake Ontario, and the Welland Canal.

When the accurate vessel position is determined by using differential Global Positioning System (GPS) receivers, each vessel periodically will transmit that position to a central management facility for display with position information from all other vessels in the system. The periodicity of data transmissions will be at a rate of 50 vessel reports every 10 seconds. Because of the rate of information transmission and the need for continuity of displayed situations, there must be no spatial gaps in communication system coverage. Signal availability must be to ground level throughout.