

EXHIBIT #2
(Item 9)

Question 6: Statement of Research Project

(a) A description of the nature of the research project being conducted.

The purpose of the “Boston Harbor Vessel Management System” demonstration project is to demonstrate a capability to improve the management of vessels as they transit the waters of Boston Harbor. The enhanced vessel traffic management concept involves providing accurate and continuous vessel position information to a central management facility, and situation information to individual vessels. With high-quality vessel position information, central managers will more efficiently use harbor facilities and expedite the transit of vessels. Vessels with hazardous cargoes will be monitored meticulously as they move through the harbor. 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 piers. The demonstration project will use prototype and off-the-shelf equipment and operate from one shore facility and from as many as 15 vessels within the waters of Boston Harbor.

(b) A showing that the communications facilities requested are necessary for the research project involved

The method proposed is to use vessel position information determined with Global Positioning System (GPS) signals, and corrected locally (i.e., differential GPS), to establish vessel positions with an accuracy of one or two meters. One goal of the project is to emulate the planned international Automatic Identifications System (AIS) that will use VHF frequencies for communication between vessels and land sites. When the accurate position is determined, each vessel periodically will transmit that position for display with position information from other participating vessels in the harbor. The periodicity of data transmissions will be at a rate of 50 vessel reports every 10 seconds. At frequent intervals the central facility will transmit all position information to all vessels. Since vessel positions will be identified uniquely, each vessel will sort automatically through received data to determine and display an “own-vessel” situation. 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.

(c) A showing that existing communications facilities are inadequate.

Existing communication links in Boston Harbor are used fully to manage the day-to-day business of the harbor. Any signal coverage gaps in the existing communication system will not be acceptable in the proposed system where continuous data are needed from all vessels.