NEW APPROACH CHOSEN FOR PERMANENT LONG BRIDGE REPAIRS
MORE FAIL-SAFE SYSTEM WILL NOT USE UNDERWATER CABLES FOR POWER

The Interstate Bridge Authority (IBA) that manages the Sarah Mildred Long Bridge over the Piscataqua River between Portsmouth, New Hampshire and Kittery, Maine has approved a permanent fix for the lift bridge that should greatly reduce the likelihood of future electrical failures.

The Long Bridge experienced an electrical failure on October 28 and was closed for several weeks until temporary repairs could be completed. Those temporary repairs included utilizing spare but undersized electrical cables provided by the Maine DOT to replace a submarine cable that carried DC current for the lift motors from the New Hampshire side to the Maine side of the bridge. The lift bridge reopened to vehicular traffic and normal operations on December 15.

After reviewing several possible options for permanent repairs, including ordering a replacement submarine cable, the NHDOT, in cooperation with the Maine DOT and the IBA, recommended a new approach with several built-in redundancies to greatly reduce the future risk of lengthy power outages at the Long Bridge. The preferred option includes replacing the existing DC motors that lift the bridge span with 100 horsepower AC motors. In addition, backup 100 hp motors will also be installed. These backup motors would allow continued operation of the bridge at full speed even if one of the motors or drives fails.

Power for the motors on the north tower will be provided from the Maine side of the river, thus eliminating the need for submarine cable(s) across the channel. An electrical building housing motor drives, a motor control center, and a standby generator will be constructed beneath the approach spans on the Maine side of the river. The generator, along with a generator already in place on the New Hampshire side of the river, would allow continued operation of the bridge in the event of a power failure. Fiber optic cables will be installed aerially to provide a control link between the two motors in the towers.

Design work is underway for the estimated $1.5 million project, which will be mostly paid for by the IBA. Construction is expected to begin after a three-month design phase, with anticipated completion by the end of October 2007.

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