Queensferry Crossing – stay cables to be cleaned

All of the Queensferry Crossing's stay cables are to be cleaned over the next three months, in the latest phase of works to mitigate ice accretion.

The decision to clean all 288 stay cables on all three towers was made after laboratory tests at the Jules Verne Climatic Wind Tunnel in France showed that cleaning the cables demonstrated an improvement by increasing the time taken for wet snow to adhere to the high density polyethylene stay pipes encasing the cables.

Last year rope access technicians abseiled from the bridge's north tower to clean the cables by hand as part of a trial to test this theory. Since then, a machine has been successfully trialled that can be winched up the cables to jet-wash them remotely. These machines will be used to speed up the process this year.

BEAR Scotland have appointed VSL to carry out the works, using two cleaning machines in tandem. Work will commence at the south tower during the week of 8 August and progress towards the north over approximately 12 weeks.

Outwith peak times, the speed limit on the bridge will be reduced to 50mph to safeguard road users and the workforce while work takes place overhead.

Chris Tracey, BEAR Scotland South East Unit Bridges Manager,

said: “Since the Queensferry Crossing opened in 2017 there have been three occasions when it was necessary to close the bridge to traffic until the risk of falling ice had passed. The last time this happened was in January 2021.

“In March 2021 it was noted that considerable dirt and soiling had built up on the HDPE pipes that encase the cables, and it was suggested that this may be helping ice to accrete.

“The cables on the north tower were cleaned last year by rope access using cloths and a mild detergent solution, however this method was slow and very weather dependant.

“This year we will be using specially-developed winched cleaning shuttles using high pressure water to clean the cables, which were successfully trialled in November 2021. This will significantly shorten the time required to clean the cables and reduce the need for rope access.

“Last winter there were no ice accretion events severe enough to close the bridge, so it was not possible to measure the impact of cleaning on site, however laboratory tests have indicated that cleaning does have a beneficial effect. The ultimate test will be the next time an ice accretion event occurs on the bridge itself.”