Stuart Black

Chief Executive HIE

09/06/23

Dear Sir,

Safety of the funicular at Cairn Gorm.

I am writing to you about my concerns for the safety of passengers and staff using the funicular railway on Cairn Gorm within the context that HIE has never revealed, following the COWI report, what the repair work was intended to achieve.

Following my series of posts on Parkswatch asking if the repairs to the funicular would work, I started researching the construction of the funicular railway and the concrete versus steel argument presented to the Public Audit Committee in 2009. This is something I will be commenting on publicly soon. I have learned that:

(a) The concrete “I” beams are too long and as a result are prone to cracking, which appears to help account for the metal braces included in the repairs, and,

(b) Because the “I” beams are not prestressed, current standards recommend the depth of a beam should be 8cm for every 1m in length. The depth of each “I” beam should therefore be a minimum of 144cm. In such circumstances I am advised that the best way to reinforce the “I” beams would be to use a Carbon Fibre Reinforced Polymer (CFRP) wrap! This has not been included in the repairs.

It has also been reported on Parkswatch, see link below, <https://parkswatchscotland.co.uk/2023/03/06/is-the-funicular-at-cairn-gorm-safe/> that an un-strengthened beam was seen to flex by about 5cm when an empty carriage was on it, while the opposite beam didn’t move.

While I know that posts on Parkswatch are read by both HIE and CM(S)L I am now emailing you directly about my safety concerns and the implications for the future.

(1) If a concrete "I" beam actually fails there could at the very least be injuries to passengers. If a beam totally collapses the rest of the beams above that point could also be dragged off their bearings.

(2) In the event of even a simple breakdown there is no escape walkway for passengers who could, and have been in the past, trapped for a considerable time, and,(3) If further fractures appear, the cost implications would be significant.

I have been trying to find out from the various bodies responsible for health and safety what information they have in specific regard to the safety of the whole structure without success. I would request therefore that you would confirm HIE is confident that the structure is safe to use and, if so, provide the information you have that supports this.

Yours sincerely,

Graham Garfoot