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WHAT SYSTEM FOR THE SIMPLON?

PART TWO

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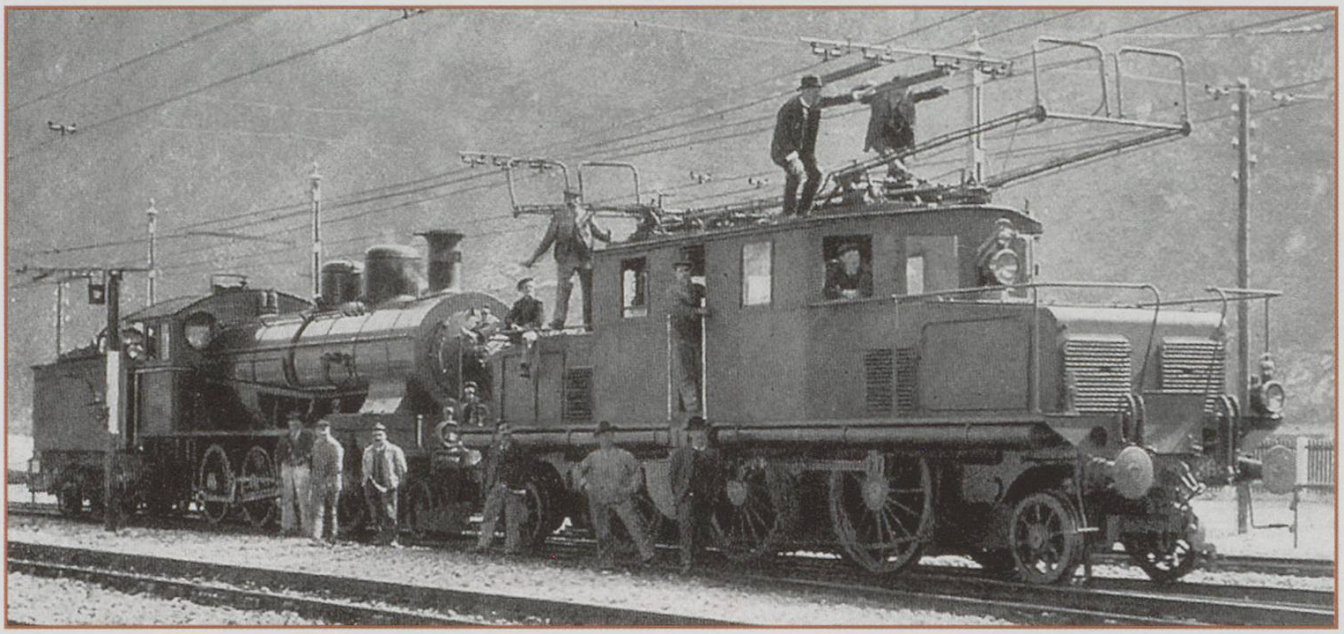
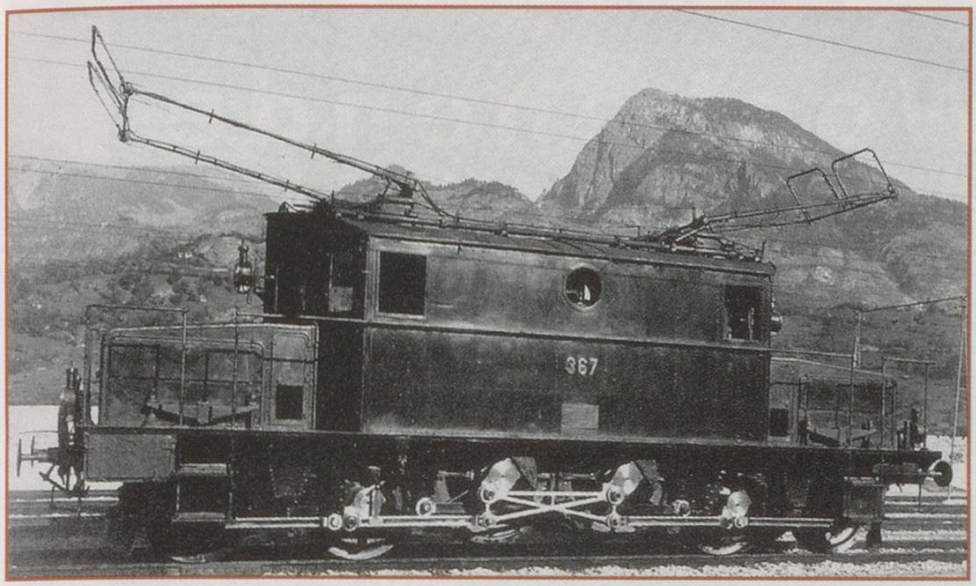


Brown Boveri 364 or 365 under test. PHOTOS: Tony Rowbotham

The new line started at Brig, where a new station had been built, and passed through the tunnel to Iselle, where there was a fairly minor station. The demarcation between the Swiss and Italian ownership was just at the mouth of the tunnel before the station was reached. From Iselle there was roughly 19 km of rather tortuous track including a spiral tunnel before the rather more important town of Domodossola was reached. From Domodossola the single main line (opened about a year earlier) ran southwards to Milan. Domodossola is also the Italian terminus of the Centovalli line that runs through to Locarno in Switzerland. Iselle is now perhaps famous for being the southern terminus of the car carrying trains that the SBB run from Brig throughout the year.

The tunnel was formally opened on the 19th May, 1906. The electric system was not quite ready, so for about two months steam traction had to be used, despite the problems mentioned earlier. An old photograph exists showing King Vittorio Emanuele III of Italy at Domodossola anxiously awaiting the official train to arrive. Surely Swiss trains were never late, even then? Having travelled through the tunnel, the King met Swiss President Forrer at Brig, where they had lunch. They both then travelled back to Domodossola and had supper together.

Because of the extremely impractical short time scales they were given Brown Boveri, not surprisingly, had problems with the production of the locomotives and were not able to provide them in time for the opening. However, the Valtellina line came to the rescue and kindly rented out three of their locomotives, numbers 361 to 363. Electric services were thus able to start two months after the official opening. Later in the year Brown Boveri delivered their first



TOP: Locomotive 367

two locomotives, followed the next year by two more. After testing, these locomotives were accepted, payment was made and they were put into use. The widely spaced pick-ups to cover the crossovers in the double overhead wiring can clearly be seen in a photograph taken at the time of No 367. The original trio were then handed back to the Valtellina line. In 1914 a single much more powerful locomotive was delivered, No 371. This was organised partly on the false assumption that the 3-phase system would be extended from Iselle down to Domodossola, involving a difference in height of nearly 360m, and resulting in a maximum gradient of 1 in 40.

On the Swiss side the 3-phase system was gradually extended back along the Rhone Valley, finally reaching Sion in 1919. This meant that a further two locomotives were needed, numbered 368 and 369, making a total of seven Swiss 3-phase locomotives in all.

In Italy the 3-phase system became the standard system for many years and many hundred of kilometres were installed. Locomotives in many classes were built right up to the late 1920s. Some classes, such as the E552s (again designed by Kálmán Kandó) were hardly elegant machines and had the 'designed by a committee' look, as seen in another photograph of the time. However, the section through the tunnel remained isolated and was never extended to connect up with any of the other Italian 3-phase lines. In 1922 the second bore of the tunnel was brought into use, and the line down to Domodossola was doubled to match.

After studies that were delayed by the first world war, the Swiss decided to standardise on the single phase 15,000 V low frequency system (also taken up at various dates in Austria, Germany, Denmark and Sweden as their standards) and in January 1927 the section from Sion to Brig was converted. This was followed in March 1930 by the stretch through the tunnel, followed two months later by extending the 15,000V electrification at last through to Domodossola. Regretfully, none of the then redundant Swiss 3-phase locomotives were preserved.

In Italy experiments started in 1928 with a new 3000V d.c. system, which ultimately became the new Italian Standard. The line from Domodossola southwards was finally electrified in April 1947, so until the advent of dual voltage locomotives, Domodossola had to cope with the problem of the Swiss and Italian systems, one a.c. and one d.c., meeting and having to change locomotives as appropriate.

BOTTOM: Locomotive E552s