Joint Purchase Of EMUs By Four Swiss Operators

On 13 March 2013 Stadler announced that it had won an international tender contract for 17 new trains. These came as the result of a joint submission of bids by four operators: Transports de la région Morges-Bière-Cossonay (MBC), Transports Vallée de Joux Yverdon-les-Bains Ste-Croix SA (TRAVYS), Compagnie du Chemin de Fer Montreux Oberland Bernois (MOB) and Transports publics fribourgeois (TPF). The trains are to be built at Bussnang and the first is scheduled for delivery in early 2015, with deliveries to run until June 2016. The whole contract is worth around 150 million CHF incl. VAT.

The invitation for bids was issued on 24 August 2012. The four companies, which operate local services on metre gauge lines in Vaud, Fribourg and Berne cantons, decided that since they had all reached the same point in their train replacement cycles, they could present interested manufacturers with a list of specifications which could be incorporated in a fundamental design of train that met all their needs.

This collaboration proved very interesting in terms of exchanging experiences. It improved the efficiency of the technical approach to ordering a batch of trains, and achieved significant economies of scale, working out in total at 20 million CHF less than if each operator had ordered individually. Scale economies in terms of train maintenance and servicing are also possible in the future. In addition to this contract, the agreement incorporates options amounting to 80 million CHF. For these, Stadler intends to sign separate contracts at a later date with each operator. As is regularly the case, the manufacturer intends to use local sub-contractors.

The new EMUs will be two- and three-car trains, all of metre gauge. Four two-car, 900 V DC, Class ABe 8/8 EMUs, rated at 2,680 kW and with a top service speed of 100 km/h, are going to MOB to replace four Class 4000 locomotives dating from 1968, as part of the project to modernise services between Montreux and Interlaken.

Three two- and one three-car 15 kV 16.7 Hz EMUs are destined for MBC to replace ageing EMUs dating from 1981 and to enable the service between Bière and Morges to be stepped up to half-hourly from December 2015. The two-car trains are to be lengthened by the incorporation of Class B 2065 - 2067 intermediate cars, which were delivered in 2010. The result will be ***Class Be 8/12 three-car trains, rated at 2,600 kW and with a top service speed of 100 km/h. The accompanying image shows one of these trains, with Vufflens castle in the background.***

TRAVYS has ordered three new three-car 15 kV 16.7 Hz EMUs. Two will replace stock nearing the end of its service life and the third will enable provision of a half-hourly service between Sainte-Croix and Yverdon-les-Bains. All three will be designated Class Be 8/12, and will be of the same design as those for MBC. They will be rated at 2,600 kW, and will have a top service speed of 100 km/h.

TPF has ordered six three-car 900 V DC Class ABe 4/12 EMUs. These are to replace four ageing EMUs, and will assist in the development of suburban services in the Fribourg district. These trains will be rated at 1,340 kW, and will have a top service speed of 100 km/h. In 2011 the four operators carried 38 million passengers and generated a combined turnover of 220 million CHF. They employ a total of 1,350 staff.

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New EMUs For Fwb

On 27 March 2013 the 17 km, 1,000 mm gauge Frauenfeld - Wil Bahn (fwb) received its first new train. In June 2011 the company ordered five new three-car articulated EMUs from Stadler, to replace its seven Class Be 4/4 electric cars and four driving cars, acquired between 1984 and 1992. The Be 4/4 cars are fitted with 40 second class seats, and are now among the very few 100 % high floor passenger vehicles still in regular service in Switzerland. They also feature DC chopper drives. With the exception of two electric cars, to be retained in reserve, they are now to be withdrawn and sold. ***The left-hand photo shows Be 4/4-114 contrasting with the new ABe 4/8-01 at Wil depot on 27 March 2013.***

Photo: Jürg D. Lüthard

The new Stadler-built EMUs are 45.5 m long, 2.65 m wide, and are 60 % low-floor. They are fitted with 12 first and 110 second class seats. ***More and more operators of local train services in Switzerland are opting for new trains with a certain amount of first class accommodation - that of the Class Be 4/4 EMU's is shown in the smaller photo.*** Space is provided for up to 133 standees, at a density of four per m². There are three pairs of entrance doors, 1,350 mm wide, and with a threshold height of 385 mm above rail top. The entrance vestibules are designed for the transport of wheelchairs and bikes. The high floor sections of the passenger accommodation are situated over the bogies, and vary in height above rail top between 950 (above trailer bogies) and 1,010 mm (above motor bogies). The passenger accommodation is air conditioned, and equipped for WiFi reception. Flat screens provide passengers with travel information.

Photo: Stadler

The 1,200 V DC EMUs have an maximum rating of 1,400 kW. The maximum acceleration rate is 1.2 m/s², and top service speed 100 km/h. The traction equipment includes a water-cooled IGBT converter and a duplicated driveline, enabling redundancy. The bogies are all equipped with air suspension. Multiple operation is not planned for the time being. However, in theory the design of the trains would make it easy, once couplings are provided, But in practice, because of the short station platforms on the line, it would not be possible to operate the fwb units in multiple. The bodyshells are built of extruded aluminium profiles, with the cab end sections being fitted with crash impact absorbing elements. There is also a camera fitted between the headlights, the footage from this intended for use in accident analyses to investigate occurrences during the final seconds before a collision.

The overall investment of about 28.5 million EUR included the fleet of new trains, built at Stadler's Bussnang works, and infrastructure modifications to accommodate them - for instance at stations and in Wil depot. Here roof-level inspection catwalks were provided, the drainage system was extended, and the train washer was modified. It is intended to put the Class ABe 4/8s into regular commercial service from August to December 2013.

The Frauenfeld - Wil Bahn was inaugurated on 1 September 1887. Nowadays it carries around 1.3 million passengers annually, and passenger numbers are on the increase, too. A 2 % increase was recorded in 2012 in comparison with 2011. The traffic control centre for the line is that belonging to the Appenzeller Bahnen in St. Gallen.

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