Budapestre vonatkozó ujságcikkek

Szerző: .....

Cím: Electrification Programme Road and air Transport

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"19"

(Köt. v. füz.) (Oldal)

Osztályozás

Tárgy 621.32

Hely

Idő "19"

Személy

No. 4.—HUNGARY (*continued* *)

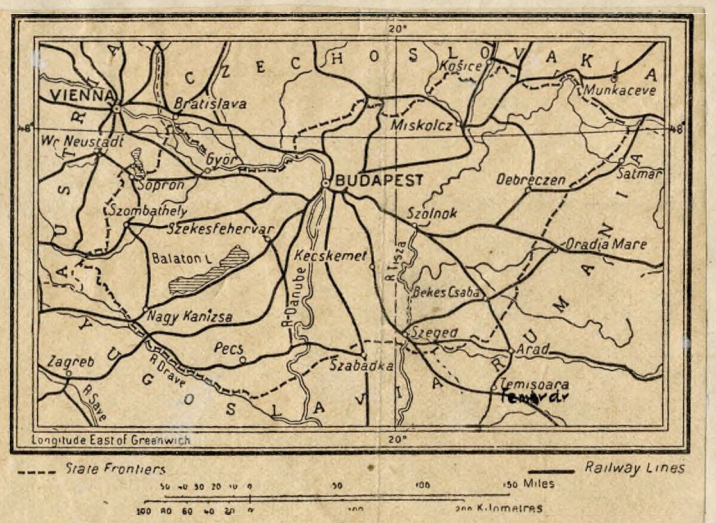
Electrification Programme—Road and Air Transport.

By PERCY F. MARTIN, F.R.G.S., "Modern Transport" Special Correspondent.

IT is upon the electrification of the State Railways that Hungary will have to depend for its future transport success. Long before the war it was decided to electrify certain of the Hungarian lines, preliminary plans and estimates having been drawn up as far back as 1902. Magyar engineers had been employed with considerable success on Italian three-phase railways, so that they brought valuable experience to bear upon their own native enterprise. The present programme of electrification comprises an extent of 1,385 kms., all located in the plains with gradients not exceeding 8 in 1,000. Close upon a dozen lines have been selected as suitable for electrification, these being as follows:—

	Kiloms
Budapest-Bruck	219.3
Budapest-Szabadka	167.0
Budapest-Ujdombovar ...	159.1
Szolnok-Nagyvarad	146.0
Szajal-Arad	142.6
Cegled-Szeged	118.0
Hatvan-Miskole	115.4
Budapest-Szolnok ...	100.7
Rakos-Szolnok	92.
Budapest-Hatvan	68.5
Hatvan-Salgotarjan	56.2
	1385.0 kil.

According to this and other information supplied by Herr L. von Verebely, director of the Hungarian Railway Electrification Bureau, with the new system once installed and working normally, the annual consumption would be 33 watt hours per ton-kilometre. In 1913 the total traffic was nearly 9,000,000 ton km., so that, taking this as a basis, 292.7 million units would be required. Three-phase energy will be generated at 50 cycles and supplied to the State network, which would provide current for the railways and motive power for commercial enterprise and private users, with the anticipated load factor, the consumption based on locomotive coal will be 1.3 kilos per k.w-hour, and the coal saving is estimated at 60 per cent. These estimates may undergo some variation following upon the experiment to be tried upon a short line now being equipped. Herr von Verebely points out that, for reasons of economy, the fuel-operated stations with large units will supply energy only as three-phase current at 50 cycles, and he does not expect that the traction load will prove undesirable on the general network. In order to utilise the 50-cycles supply for the railways without conversion either into direct current or a form suitable for one-phase commutator motors, there remained only the 50-cycle, three-phase system, or the 50-cycle split-phase system, as used on the Norfolk and Western Railroad of the United States. As the former needed double overhead construction and entailed a low power factor, Von Kando had developed a new split-phase converter for use with gearless locomotives to permit of the combination of a single-phase overhead conductor with three-phase, 50-cycle induction motors. Before any decision is arrived at regarding the adoption of this system, experiments will be conducted over a track equipped with one-phase at 50-cycle and 15,000 volts, the locomotive and transformer station being supplied by the Ganz Company, of Budapest.



Map of the principal Hungarian railways.

Electric Locomotives.

The more important work in hand for the Hungarian State Railways is undoubtedly the construction of electric locomotives. These are being built to the following specification:—

Axle arrangement	O E O
Length over buffers	9640 mm.
Diameter of drivers	1070 mm.
Total adhesive weight	72 tons
Tractive effort at starting ...	20.000 kilos.
Speeds ...	25 ; 33 1/3 ; 50 ; 66 2/3 km. per hr
Hourly rating	2720 h.p.
Specific rating	37.8 h.p. per ton
Number of motors	2
Driving mechanism	Scotch yoke

* This series was commenced in the May 12 issue of MODERN TRANSPORT. The countries already dealt with are Italy, Czechoslovakia and Austria. The first portion of the present article appeared on August 18. - Ed. M.T.

The motors have forced ventilation. On both stator and rotor there are two independent three-phase windings with eighteen and six poles respectively. By cascade connection in each motor, or between the two motors, forty-eight, thirty-six, twenty-four, or eighteen poles are obtained, which give the four speeds mentioned. The speed controller is mechanically operated by the driver. The controller arm also actuates the spring of a watt-meter relay, which controls the liquid starting resistance. The converter, mounted above the motors, with its shaft parallel to the locomotive axis, is built like a turbo-generator. Its two-pole rotor, excited with direct current, runs at 3,000 r.p.m. The stator has two windings—a primary motor winding for one-phase at 15,000 volts, and a secondary generator winding for three-phase at 420 to 750 volts. The exciter is direct coupled, its own excitation being automatically regulated so that any desired primary power factor is maintained. Simultaneously the voltage supplied to the motors is varied in accordance with load, thereby attaining the highest corresponding efficiency.

Road Transport Development.

While railway transport naturally occupies chief place in the programme of the Hungarian Government, attention is also being given among private interests to motor transport and aerial services. In regard to the first, there has been a decided increase owing to the ever-advancing tariff rates on the Hungarian railways. Motor lorries for transport purposes are much in request, and all the larger towns have now instituted motor transport services. Of these, over sixty have sprung into existence for the purpose of forwarding goods, particularly foodstuffs, while passenger coaches are also running between many of the interior towns. The desertion of the railways in favour of motor transport is said to have been so great as to add to the losses of the former by further depreciating their meagre receipts. Owing to the competition of motor transport, the Hungarian State Railways had already reduced their foodstuffs tariffs by 30 per cent. (as from February 1 last); but they have now added 50 per cent., according to the June 25 increase. Undoubtedly heavy reductions will again have to be made if the railways hope to compete with motor transport.

Free Port at Budapest.

Naturally, Hungary, which, as has been seen, is so badly off for transport systems of an economical nature, means to make the most of its share of the splendid Danube. With this idea a new free port is to be built at Budapest. The Hungarian Government has given the contract to the Schneider-Creusôt firm, which, as a fact, has been operating some engineering works since June of last year. By the terms of the agreement entered into, while the port will be built by the French firm mentioned, it will be exploited entirely by a Hungarian company, in which, however, the Government and the French group will both be interested. One-fourth will be French-owned and the remainder Hungarian. The cost of the construction will be borne by the Government, and, as a preliminary, a capital of 100 million kronen has been decided upon. The new port will be a collecting-point for goods made or produced in the Succession States and surrounding territory, and a distributing point for foreign goods destined for the same area. It will be situated on the northern end of the Isle of Czepl.

(The concluding article of this series will deal with the famous "Chester Concession," which grants a virtual monopoly over transport in European Turkey.—ED., M.T.)