

New South Wales Government Railways

(411)



DIESEL ELECTRIC SHUNTING LOCOMOTIVE

An order has been placed with the British Thomson-Houston Co. Ltd. in England for ten Bo-Bo diesel electric shunting locomotives of 1,000 h.p. each.

The complete design and layout of the locomotives has been achieved by collaboration between B.T.H. and the Metropolitan-Cammell Carriage and Wagon Co. Ltd., in whose Midland works at Birmingham the mechanical parts have been manufactured and the locomotives assembled and tested. The diesel engines have been designed and manufactured by Davey, Paxman and Co. Ltd., and the electrical equipment by B.T.H.

These locomotives will be used for shunting and hauling heavy freight trains and, having been designed to operate at speeds up to 57 mph., may also be used for passenger services.

Power is provided by two 500 h.p., type R.P.H.L., normally aspirated diesel engines running at 1,250 r.p.m. The cylinders are arranged in Vee formation with six cylinders of 7" bore x 73/4" stroke in each bank. The main generator is specially designed for duties associated with diesel-electric traction work and is of robust construction. It is a single bearing machine having a self-aligning roller bearing at the commutator end; the other end of the armature is solidly coupled to the engine crankshaft. The fabricated steel magnet frame combines maximum strength with light weight and it carries supports on which are mounted the auxiliary generator and overhung exciter. These machines are driven by Vee-belts from a pulley mounted on an extension of the main generator shaft.

The whole of each power unit is housed under a 'bonnett', the sides comprising hinged doors designed to lift off when required, leaving the skeleton structure only, and thus giving maximum access for maintenance. A large section of the roof is removable to enable a complete engine-generator set to be lifted out and alternatively a local portion immediately above the engine cylinders can be removed for overhauling the engine in position.

Air for ventilation of the main generators is drawn through Visco filters mounted vertically in the 'bonnet' side, whilst the engine air intakes draw air through the roof and then through Visco air filters mounted in a horizontal position.