

15th February,

60.

CHIEF ENGINEER

CHAIRMAN

NICHOLSON STREET, COBURG.

SINGLE TRACK LIGHTING

doc. 96277

Reference: Notes prepared by Distribution Engineer dated 18th September, 1959.

Note 3 of the above reads:

"Instead, a scheme of track illumination is to be designed whereby sections of track (some 300 feet each) would be progressively switched on in advance of a southbound tram and switched off when the tram had cleared the section - such switching to be done by the tram itself via overhead contactor."

Further details of this proposal have now been prepared. Salient points are:

1. The proposed lighting scheme is based on that type now used to illuminate track reconstruction works. In brief, such works are illuminated by suspending 18 inch reflectors (500 watt, 230 volt lamps) over the track and connecting groups of three lamps in series across the 600 volt d.c. traction supply. The failure of any one lamp in each bank of three open circuits the remaining two lamps and so, to avoid blacking out any one section of track, the lamps are coupled alternately, i.e. each second lamp in a row of six is connected and the two groups of three then separately fused and switched.

This system of track lighting has proved both reliable and effective; these qualities, it is considered, more than off-setting its lack of aesthetic charm.

2. Adaption of the above principle to the illumination of the single track in Nicholson Street, Coburg, requires lighting fittings of the above mentioned type to be mounted at a height of approximately 22 feet over the track. Proposed spacing is 40 feet - this spacing, mounting height and wattage giving an initial level of track illumination of the order 100 lumens per linear foot of track. This level of illumination is possibly greater than that laid down by the Australian Standard Street Lighting Code for a thoroughfare with the probable vehicular and pedestrian traffic carried by Nicholson Street, but it is considered that, if a system of lighting is to be installed for the sole purpose of contributing towards the reduction of head-on collisions, then it should be more than merely adequate. In any case, any reduction in cost solely because of increased lamp spacing would be slight.

3. It is proposed that the complete length of single track (and suitable lengths of entering and leaving double track) be so equipped and that the lighting fittings be divided into some five or six groups, each covering approximately 350 - 400 feet of track. Lighting in each section of track will be controlled by contactors located in the trolley wire at the northern end of that section of track lighting which each controls. These contactors will be directional in function, i.e. a southbound tram will initiate the control circuit sequence necessary to switch on lights (in one section) ahead of the tram and switch off lights over that section traversed; but northbound trams will not operate the lights.

4. However, if thought desirable, the lights can be arranged to operate for all trams traversing the single track and its approaches.

5. A time switch will also be incorporated in the control circuits such that lights will be operative only during predetermined hours (probably light-up time to 1.00 a.m.).

6. The lighting system will be so arranged that, should there be a failure in the Coburg City Council's electric supply system, all lights will be switched on and remain on until the supply system is restored.

7. Obviously, a failure in the Board's 600 volt d.c. supply to this route will result in the lights being inoperative until d.c. power is restored.

8. The estimated capital cost of such a lighting system is £2,500.

Annual maintenance costs are estimated to be:

Lamp replacements	...	£50	per annum
Energy consumption	...	<u>£100</u>	" "
<u>Total</u>		<u>£150</u>	per annum

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