

State Electricity Commission of Victoria  
ELECTRICITY SUPPLY DEPARTMENT  
BALLARAT BRANCH

To MANAGER, BALLARAT BRANCH  
From BRANCH TRAMWAYS SUPT.

PROVINCIAL TRAMWAYS - EXTENDED PERIOD OF OPERATION:

Reference enquiry from Engineer & Manager dated 24th February, 1948.

Rolling Stock:

- (a) Would the present rolling stock meet the requirements of this City?
- (b) If the answer to (a) is in the negative, please give details of estimated requirements, indicating improvements considered desirable.

The present rolling stock comprises 25 trams (21 single truck type of 6'6" - 7'6" - 9'0" wheelbase, and four maximum traction bogie trams. To meet present day requirements as to routes and services, this number is considered to be numerically sufficient. Although maintenance costs will inevitably tend to rise as the age of the vehicles increases, a further term of 15 years should be quite practicable. The principal requirements would be the re-machining of the motor case armature and suspension bearing housings, the provision of at least three more spare armatures for the W.H.225 motors, to meet requirements of re-winding and present inadequate spares, and the replacement of all tram axles, which it is noted are now approaching half a million miles of service in this Branch alone. There are two odd type trams, which it is suggested should be replaced by the more suitable maximum traction bogie type. These comprise No. 23, (purchased ex Adelaide, a two-man open-end type, which would be a costly conversion to our combination type. Also, this is the only tram equipped with W.H.204 33 h.p. motors. Use of this tram is principally confined to summer only.), and No. 29, also a two-man open-end type, but a straight sill body with very high steps. This body could not be converted to combination type. It is equipped with G.E.201 65 h.p. motors, and if replaced, these motors could be transferred to the scrubber tram, thus eliminating the sole remaining G.E.67 motor equipment. The G.E.201 motors are standard equipment on the bogie type trams.

- (c) Are there any routes it is considered should be substituted by trackless trolleys or motor buses?

There are no tramway routes in this city in which the substitution of trolley buses or motor buses is considered desirable by the Commission. It is still considered desirable that the Mt. Pleasant route be deviated through Peel Street, and thus make practicable the extension from the terminus at Cobden Street to Morton Street.

- (d) What building alterations and/or additions would be required?

The renovations carried out on the tram depot building some years ago were satisfactory, and structurally this should be good for a further period of fifteen years. The additional rolling stock acquired of recent years is, however, beyond the capacity of the depot building, and an extension to provide storage space for at least two trams is recommended. At the present moment, a revision of the truck removal and overhaul section is under consideration,

*Mr. Brown*

State Electricity Commission of Victoria  
ELECTRICITY SUPPLY DEPARTMENT  
BALLARAT BRANCH


IMPORTANT NOTICE TO MOTORMEN

THE DEPOT FOREMAN HAS REPORTED THAT DAMAGE IS BEING CAUSED TO DRIVERS CENTRE WINDOWS ON SEVERAL TRAMS.

THE DAMAGE IS APPARENTLY DUE TO MOTORMEN STRIKING MATCHES ON THE GLASS, WITH THE RESULT THAT A PERMANENT SCAR IS LEFT.

AS THE DAMAGE IS CONFINED TO THE CENTRE GLASS ON EACH TRAM INSPECTED, IT CAN BE ASSUMED THAT A MOTORMAN OR MOTORMEN ARE RESPONSIBLE.

YOU ARE ASKED TO DESIST IN THIS IRRESPONSIBLE PRACTICE



L. J. DENMEAD,  
Branch Tramways Supt.

Information and instructions hand of a new method of handling work which will reduce muscular strains "Kinetic" method.

Before explaining this method, I feel that all persons engaged in handling, especially heavy materials involved in the running of large collections, should have some idea of the muscles involved.

The muscles form the fleshy part of the body. They possess the special property of contracting or shortening themselves and so produce bodily movements by moving the bones at the joints. Understanding this, we should make the largest and strongest do the heaviest work.

The largest muscles are the...

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THE RIGHTS AND WRONGS OF LIFTING AND HANDLING

FOLLOW THESE HINTS - AND AVOID BACKSTRAIN

This is the first of a series of four articles written by Mr. Neal Boshell, Group Maintenance Engineer, J. & A. Brown of Abermain Seaham Collieries Ltd., for the Coalfield Magazine "The Coal Miner." The articles are all related to methods of lifting and materials handling and if workmen can be educated to carry out these correct lifting and handling methods, it will be a major step towards avoiding muscular strains.

How often do we hear: "It was just an accident!" as the explanation of an injury which a little foresight and the correct method of handling materials could have prevented?

To fall over a bolt which should not have been left lying around is no accident, but the result of carelessness.

What about strained backs, ruptured groins and such conditions? Are these accidents in the true sense of the word?

Far from it - muscle strains and ruptures are just as preventable as the injury which occurs as a result of a bolt being carelessly dropped on the floor.

Information and instructions are now coming to hand of a new method of handling materials and performing work which will reduce muscular strain and is known as the "Kinetic" method.

Before explaining this method, I feel that all persons engaged in handling, especially heavy materials involved in the running of large collieries, should have some idea of the muscles involved.

The muscles form the fleshy part of the body. They possess the special property of contracting or shortening themselves and so produce bodily movements by moving the bones at the joints. Understanding this, we should make the largest and strongest do the heaviest work.

The largest muscles and strongest muscles in the body form the thigh, together with the longest bone, the femur, so why don't we use this strongest portion of the body instead of the weaker muscles supporting the vertebral column - the backbone or spine as the layman knows it?

With a proper understanding of the muscles and their uses, it can readily be seen how back strains are caused, together with slipped discs. Ruptured groins occur because better use is not made of the powerful Trapezius and Deltoid muscles of the shoulder and neck region.

The eleven large muscles that form the thigh do not run vertically, but form a special pattern to give greater control and strength and can be likened to a rope where the strength is obtained by rolling the strands around each other.

Most workmen engaged in handling materials acquire some degree of skill in lifting and handling, and on this basis may claim that time is the best teacher.

Unfortunately the accident records of companies show that many experienced workers suffer back injuries which are both painful and of long duration. Strains and sprains to backs form a large proportion of compensation claims.

When dealing with lifting and handling, we recognise three methods:

- (a) Primitive.
- (b) Mechanical.
- (c) Kinetic.

The kinetic conception of movement fundamentally recognises that muscular effort is the most fatiguing type of body action and is therefore the most common source of industrial fatigue.

This approach started to develop when it became appreciated that the principles of mechanics operate in the human body just as they do in man-made machines.

One essential difference in the human body, however, is that its reactions to the forces acting upon it are variable.

A pressure applied to an ordinary machine will produce a result which can be previously calculated with accuracy, but in the human body, reactions to mechanical forces depend upon the condition of the tissue and on emotional and other factors.

Nevertheless, a reasonable appreciation of the mechanical, muscular and nervous factors which influence body movements makes possible a higher standard of skilful movement than would otherwise be possible - skilful in the sense that movements are performed efficiently with the least possible expenditure of energy.

PRIMITIVE METHOD:



## STATE ELECTRICITY COMMISSION OF VICTORIA

WORKS SUPERINTENDENT

ELECTRICITY SUPPLY DEPARTMENT

To WORKS PERSONNELDate 6th March, 1958.

Subject -

IMPORTANT NOTICE TO CAR CLEANERS ALSO SHED ASSISTANTS:CLEANING OF TRAMCAR WINDOWSCopies  
for:-  
Depot Frm.  
W.S.

Before cleaning commences all windows will be shut in a normal manner from the inside of the tramcar.

The external closing of windows by means of point hooks or similar tools, for obvious reasons, is strictly prohibited.

Works Superintendent.

SILENT HOURS.

SHEDMAN.

On Saturday afternoons and on Sundays the street gates are to be closed and the Motormen's Room door locked. Access will be given to the room for Traffic employees when commencing or ceasing duty only.

SHED  
ASSISTANT  
AFTERNOON  
SHIFT.

The street gates are to be closed after the departure of depot day staff. They will be opened only during such periods as are necessary for trams returning from service - for example 7.45 p.m. to 8.15 p.m. for middle runs (normal) and 11.0 p.m. to 12.15 p.m. for night service trams.

The Motormen's room door to be locked and to be opened only for periods of traffic employees ceasing duty.

SHED  
ASSISTANT  
NIGHT SHIFT.

After conclusion of service and departure of traffic personnel the street gates are to be closed and securely locked. The motormen's room to be inspected and any outfit box found to be placed in the chute. (Report the number of the box upon Report Sheet).

The chute doors to be inspected and any box found loose in the entrance to be properly inserted into the chamber. (Report the number of any box handled on the Report Sheet).

Switch off all room and flood lights and see that the motormen's room door is securely locked for the night. From time to time inspection should be made during the night of the outside buildings and yard and for this purpose the under verandah light outside the motormen's room should be left alight.

UNAUTHORISED PERSONS ON PREMISES.

The Commission has directed that until further notice no visitors will be permitted to the Commission's works.

Although visitors may be refused admittance, unauthorised persons may gain access to the external precincts of the Power House or tramway sheds. The co-operation of all personnel is sought in assisting the Commission in the prevention of such trespass.

Any unauthorised persons who are observed within the Commission's yards or enclosures should be approached and their business ascertained. Persons with bona fide business should be directed to the office or a senior officer.

Any suspicious circumstances should be brought under the notice of the Manager without delay.

T. A. VARR.

STATE ELECTRICITY COMMISSION OF VICTORIA  
ELECTRICITY SUPPLY DEPARTMENT

WORKS SUPERINTENDENT

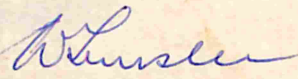
To DEPOT FOREMAN.....

Date 22nd August, 1966.....

TRAMWAYS ROLLING STOCK - STORES

Copies for: All Tramways Rolling Stock - Stores items currently  
W/S, stocked in Mid-Western Branch Store-have been charged out to  
Eng. Foreman. Account BA320.

Stocking and replenishment of items will continue as previously, and issues will be made to yellow stores requisitions, but as "no charge" requisitions, deleting an allocation number.

  
.....  
Works Superintendent.



DEPARTMENTAL

STATE ELECTRICITY COMMISSION OF VICTORIA  
ELECTRICITY SUPPLY DEPARTMENT

WORKS SUPERINTENDENT:.....

Date 25th October, 1965.....

To WORKS FOREMAN:.....

*D. IRVIN.*

LOAN AND HIRE OF COMMISSION EQUIPMENT:

The Engineer and Manager has set out the Departmental policy on the above, which limits considerably the ability to grant the loan or hire of Commission property. It strictly debars hire or loan to Commission personnel except when they fall into well defined categories which normally will not apply in this Branch.

Will you please take note of, and advise all personnel under your control, that requests for loan or hire of Commission property will be refused in future.

*W.K. Lusken*  
.....  
Works Superintendent

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STATE ELECTRICITY COMMISSION OF VICTORIA  
ELECTRICITY SUPPLY DEPARTMENT

W/S

65/4948

WORKS MANAGER

To MANAGER, BALLARAT BRANCHDate 21st June, 1965.TRAMCAR MAINTENANCE

As you will recall, on my last visit to your branch, I expressed concern regarding the compressed air receivers mounted in each of our tramcars. These receivers are all very old and do not conform to the Victorian Mines Department regulations in two important aspects. They do not have inspection openings and, in many instances, the shell thickness is less than the allowable minimum.

In accordance with a resolution passed at the 1951 Tramway Maintenance Conference, you are at present hydraulically pressure testing to twice normal working pressure, each air receiver at intervals of not greater than three years. This contrasts with the yearly inspection carried out by Mechanical Branch inspectors on all other air receivers operated by the Electricity Supply Department.

On my last visit to Bendigo, I brought back a surplus air receiver and had its end removed so that a thorough internal inspection could be made. It proved to be in very good condition with little corrosion in either the shell or the ends. This is reassuring, particularly as it is most unlikely that the receiver was less than 40 years old.

I have referred this matter to the Engineer and Manager and he has agreed that, as from the date of this letter, our testing procedure should be amended as follows:-

Each tramcar air receiver shall be hydraulically pressure tested to twice its normal working pressure at intervals of 12 months with a tolerance of 6 months.

This means that the maximum possible period between any two consecutive tests on any one receiver will be 18 months.

The above procedure is to hold until June, 1967, when, if the trams are still running, the situation will be again reviewed.

*R. A. Mudge*

WORKS MANAGER

DEPARTMENTAL

WKT/PAS.

STATE ELECTRICITY COMMISSION OF VICTORIA  
ELECTRICITY SUPPLY DEPARTMENT

WORKS SUPERINTENDENT:.....

To - DEPOT FOREMAN.

Date 13th July, 1964.....

Issued  
to:-

REQUISITIONS - REPLACEMENT OF TOOLS AND PROTECTIVE  
CLOTHING:

Depot F'man.  
Eng. F'man.  
Bldg.Mtce.F'man.  
Track F'man.  
Transp.Mtce.F'man.

Copy  
for:-

S/K;

Procedure now set down for the Storekeeper is that any requisition presented for the replacement of an issued tool is required to be endorsed by the Section Head if the tool being replaced cannot be handed in with the requisition. The existing procedure for authorising issue of protective clothing to Works Section personnel will remain unchanged.

  
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Works Superintendent.