

1977

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD
VICTORIA, AUSTRALIA

TENDER SCHEDULE FOR

100 ELECTRIC TRAMS

CONTRACT N^o 3000

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD

Melbourne, Australia

MANUFACTURE, SUPPLY AND DELIVERY

OF

100 ELECTRIC TRAMS

CONTRACT NO. 3000

TABLE OF CONTENTS

| | Page No. |
|---|----------|
| NOTES FOR TENDERERS | 1 |
| SCHEDULE "A" – CONDITIONS OF TENDERING | 3 |
| SCHEDULE "B" – CONDITIONS OF CONTRACT | 5 |
| SCHEDULE "C" – SPECIFICATION: | 17 |
| | |
| <u>1 – NATURE OF CONTRACT</u> | |
| 1-01 Contract | 17 |
| 1-02 Acceptance | 17 |
| 1-03 Joint manufacturing co-operation | 17 |
| 1-04 First tram | 18 |
| 1-05 Tender alternatives | 18 |
| 1-06 Country of origin | 19 |
| 1-07 Place of delivery | 19 |
| 1-08 Date of delivery | 19 |
| 1-09 Condition on delivery | 19 |
| 1-10 Identification of trams | 19 |
| 1-11 Information to be supplied by Tenderers | 19 |
| 1-12 Information to be supplied by Contractor | 19 |
| 1-13 Items to be approved by the Board | 20 |
| 1-14 Items for approval after signing of contract | 20 |
| | |
| <u>2 – BACKGROUND INFORMATION</u> | |
| 2-01 GEOGRAPHICAL | 21 |
| 2-02 CLIMATE | 21 |
| (a) Temperatures | 21 |
| (b) Rainfall | 22 |
| (c) Humidity | 22 |
| (d) Cloud and sunshine | 23 |
| (e) Wind | 23 |
| (f) Hail and snow | 23 |
| | |
| 2-03 MELBOURNE'S STREET TRANSPORT SYSTEM | |
| (a) General | 24 |
| (b) Tram routes | 24 |
| (c) Terrain | 25 |
| (d) Track design | 25 |
| (e) Electrical system | 25 |
| (f) Automatic points shifters | 26 |
| (g) Existing rolling stock | 27 |
| (i) Green trams | 27 |
| (ii) Z-class trams | 28 |
| (h) Cleaning procedures | 29 |
| (i) Depot parking procedures | 29 |
| (j) General comments | 29 |

Tender to close 19th Nov 1999

3. DESIGN PARAMETERS AND STANDARDS.

3-01 GENERAL

| | |
|--|----|
| (a) Type of tram | 31 |
| (b) Essential characteristics | 31 |
| (c) Essential details | 32 |
| (d) Design features related to weather & environment | 32 |
| (e) Reliability | 33 |
| (f) Maintainability | 33 |
| (g) Accessibility | 34 |
| (h) Modular design | 35 |
| (i) Test points | 35 |
| (j) Interchangeability | 35 |
| (k) System safety | 35 |

3-02 DIMENSIONS

| | |
|---------------------------------|----|
| (a) Clearance limits | 37 |
| (b) Typical arrangement | 37 |
| (c) Truck centres | 37 |

3-03 MASS AND LOADING

| | |
|-------------------------------|----|
| (a) Mass | 37 |
| (b) Passenger loading | 38 |
| (c) Dynamic loading | 38 |
| (d) Standing load | 38 |
| (e) Overload | 38 |
| (f) Maximum axle load | 38 |
| (g) Mass schedule | 38 |
| (h) Weighing | 38 |

3-04 OPERATING PERFORMANCE

| | |
|-----------------------------------|----|
| (a) General | 38 |
| (b) Maximum speed | 39 |
| (c) Acceleration | 39 |
| (d) Braking (service) | 39 |
| (e) Braking (emergency) | 39 |
| (f) Braking response time | 39 |
| (g) Jerk | 40 |
| (h) Current demand | 40 |

3-05 DRIVER'S CONTROLS

| | |
|---|----|
| (a) Lockable consoles | 40 |
| (b) Captive key | 40 |
| (c) Safety interlock | 40 |
| (d) Electrically interlocked consoles | 40 |
| (e) Console layout | 40 |
| (f) Preparation to drive tram | 40 |

3-06 TRACTION CONTROL

| | |
|--|----|
| (a) General | 41 |
| (b) Driver's controls | 41 |
| (c) Acceleration | 41 |
| (d) Braking | 42 |
| (e) Emergency braking | 42 |
| (f) Safety pedal | 43 |
| (g) Prevention of wheel skid | 43 |
| (h) Contactor control | 43 |
| (i) Chopper control | 44 |
| (j) Electromagnetic interference (chopper) | 45 |

3-07 DOOR CONTROL

| | |
|-------------------------------------|----|
| (a) General | 45 |
| (b) Operation of doors | 46 |
| (c) Right hand doors | 46 |
| (d) Over-ride | 46 |
| (e) Door warning light | 46 |
| (f) Speed sensing interlock | 46 |
| (g) Exit door operation | 46 |
| (h) Stop signal interlock | 46 |
| (i) Pressure sensitive mats | 47 |
| (j) Sensitive edges | 47 |
| (k) Memory | 47 |
| (l) External key operation | 47 |

3-08 MATERIALS AND MANUFACTURING TECHNIQUES

| | |
|---|----|
| (a) Welding | 48 |
| (b) Fibreglass reinforced polyester | 49 |
| (c) Elastomers | 49 |
| (d) Lubricants | 50 |

3-09 NOISE

| | |
|---|----|
| (a) General | 50 |
| (b) Ducts | 50 |
| (c) Fan noise | 50 |
| (d) Measuring instrument | 50 |
| (e) Test conditions | 50 |
| (f) Maximum acceptable interior noise – tram stationary | 51 |
| (g) Maximum acceptable interior noise – tram moving | 51 |
| (h) Internal sound level | 51 |
| (i) Maximum acceptable exterior noise – tram moving | 51 |
| (j) Gear noise | 52 |
| (k) Squeal on curves | 52 |

3-10 STANDARDS

| | |
|-----------------------------------|----|
| (a) General | 52 |
| (b) Latest issue | 52 |
| (c) Systeme International | 52 |
| (d) Screw threads | 52 |

4. BODY

4-01 GENERAL DESIGN

| | |
|---|----|
| (a) Construction | 53 |
| (b) Compliance with specification | 53 |
| (c) Life expectancy | 53 |
| (d) Low floor | 53 |
| (e) Buffing resistance | 53 |
| (f) Camber | 53 |
| (g) Lifting | 53 |
| (h) Body – truck attachment | 53 |
| (i) Smooth external panels | 53 |
| (j) Absence of vibration | 53 |
| (k) Clearances | 53 |
| (l) Compatibility – body to truck | 54 |
| (m) Maximum mass and distribution | 54 |
| (n) Keys | 54 |
| (o) Body drawings | 54 |

4-12 INTERIOR ACCESSORIES

| | |
|--|----|
| (a) Stanchions and rails | 73 |
| (b) Stanchions and rail fittings | 73 |
| (c) Bellcords and brackets | 73 |
| (d) Tapping plates | 74 |
| (e) Strap hanger handles | 74 |
| (f) Bulkheads | 74 |
| (g) Louvre blinds | 74 |
| (h) Cover strips and mouldings | 75 |

4-13 DRIVER'S COMPARTMENT

| | |
|--|----|
| (a) General | 75 |
| (b) Bulkhead | 75 |
| (c) Access | 75 |
| (d) Protection | 76 |
| (e) Visibility and reflections | 76 |
| (f) Controls | 76 |
| (g) Control console | 76 |
| (h) Seat | 76 |
| (i) Interior lining | 77 |
| (j) Floor covering | 77 |
| (k) Ventilation | 77 |
| (l) Windscreen demister | 77 |
| (m) Windscreen wipers | 77 |
| (n) Windscreen washers | 77 |
| (o) Interior mirrors | 78 |
| (p) Exterior mirrors | 78 |
| (q) Sun shield | 78 |
| (r) Ceiling light | 79 |
| (s) Microphone | 79 |
| (t) Points bar storage | 79 |
| (u) Destination selector | 79 |
| (v) Destination equipment access | 79 |
| (w) Run number holder | 79 |
| (x) Next stop light | 79 |
| (y) Mock-up | 79 |

4-14 CONDUCTOR'S EQUIPMENT

| | |
|--------------------------|----|
| (a) General | 80 |
| (b) Location | 80 |
| (c) Construction | 80 |
| (d) Attachment | 80 |
| (e) Bulkhead | 80 |
| (f) Power supply | 80 |
| (g) Mass | 80 |

4-15 SANDING EQUIPMENT

| | |
|---|----|
| (a) General | 80 |
| (b) Capacity of boxes | 80 |
| (c) Shape and design of boxes | 81 |
| (d) Location of boxes | 81 |
| (e) Venting | 81 |
| (f) Rain proof external hatches | 81 |
| (g) Sand valves | 81 |
| (h) Sand specification | 81 |
| (i) Anti-clogging design | 82 |
| (j) Piping | 82 |
| (k) Sander control | 82 |
| (l) Approval | 82 |

4-16 CORROSION PREVENTION AND PAINTING

| | |
|-------------------------------------|----|
| (a) Corrosion prevention | 83 |
| (b) Timber treatment | 83 |
| (c) Battery box | 83 |
| (d) Exterior painting | 83 |
| (e) Interior painting | 84 |
| (f) Underbody painting | 84 |
| (g) Paint systems | 84 |
| (h) Testing paint thickness | 84 |

4-17 GRAPHICS

| | |
|-------------------------------------|----|
| (a) General | 84 |
| (b) Delivery of information | 84 |
| (c) Required information | 84 |
| (d) Tram numerals | 84 |

5. TRUCKS

| | |
|---------------------------------------|----|
| 5-01 GENERAL DESIGN | 85 |
| 5-02 CLEARANCE | 85 |
| 5-03 INTERCHANGEABILITY | 85 |
| 5-04 MAINTENANCE | 86 |
| 5-05 WHEEL GRINDING AT DEPOTS | 86 |

5-06 TRUCK FRAME

| | |
|--|----|
| (a) Material | 86 |
| (b) Rigidity | 86 |
| (c) Design with respect to welding | 86 |
| (d) Corrosion prevention | 86 |
| (e) Attachment to body | 87 |
| (f) Re-railing | 87 |
| (g) Safety wheel guards | 87 |
| (h) Mudguards | 87 |

5-07 SUSPENSION

| | |
|-------------------------------|----|
| (a) Type of spring | 87 |
| (b) Natural frequency | 87 |
| (c) Stops | 88 |
| (d) Equalizers | 88 |
| (e) Air suspension | 88 |
| (f) Shock absorbers | 88 |

5-08 BEARINGS

88

5-09 WHEELS

| | |
|---------------------------------|----|
| (a) Dimensions | 89 |
| (b) Type of wheel | 89 |
| (c) Tire | 89 |
| (d) Tire replacement | 89 |
| (e) Resilient elements | 89 |
| (f) Current shunts | 90 |
| (g) Wheel mounting | 90 |
| (h) Tolerances | 90 |
| (i) Steel specification | 90 |
| (j) Identification | 90 |

| | | |
|---|---|-----|
| 5-10 | AXLES | |
| | (a) Design and manufacture | 90 |
| | (b) Identification | 90 |
| | (c) Odometer drive | 90 |
| | (d) Assembly | 90 |
| 5-11 | GEARS | |
| | (a) General | 91 |
| | (b) Lubrication | 91 |
| | (c) Gear assembly | 91 |
| | (d) Type tests | 91 |
| 5-12 | DRIVE COUPLING | 91 |
| 5-13 | FASTENINGS | 91 |
| 5-14 | BRAKES | |
| | (a) General | 91 |
| | (b) Electrodynamical brake | 92 |
| | (c) Mechanical brake | 92 |
| | (d) Track brake | 92 |
| 5-15 | ILLUSTRATIONS OF TRUCKS | 93 |
| 6. ELECTRICAL AND ASSOCIATED EQUIPMENT | | |
| 6-01 | GENERAL DESIGN | 95 |
| 6-02 | CURRENT COLLECTION | |
| | (a) General | 95 |
| | (b) Trolley poles and bases | 95 |
| | (c) Trolley pole hook and bar | 95 |
| | (d) Trolley rope reel and catcher | 95 |
| | (e) Trolley rope | 95 |
| | (f) Pantographs | 95 |
| | (g) Lightning protection | 96 |
| 6-03 | TRACTION MOTORS | |
| | (a) General | 96 |
| | (b) Mounting | 96 |
| | (c) Armatures | 96 |
| | (d) Commutation | 97 |
| | (e) Brush holders | 97 |
| | (f) Brushes | 97 |
| | (g) Fields and interpole coils | 97 |
| | (h) Bearings | 98 |
| | (i) Insulation | 98 |
| | (j) Ventilation | 98 |
| | (k) Output | 98 |
| | (l) Standardization | 98 |
| | (m) Motor cut-out switch | 98 |
| | (n) Motor leads | 98 |
| 6-04 | CONTROL EQUIPMENT | |
| | (a) General | 98 |
| | (b) Location | 99 |
| | (c) Main isolating switch | 100 |
| | (d) Main circuit breaker | 100 |
| | (e) Contactors | 100 |

| | | |
|------|---|-----|
| 6-04 | CONTROL EQUIPMENT (CONT'd.) | |
| | (f) Relays | 101 |
| | (g) Solid state control equipment | 101 |
| | (h) Driver's control console | 101 |
| | (i) Controller | 103 |
| | (j) Control resistors | 104 |
| | (k) Switches | 104 |
| | (l) Fuses | 105 |
| | (m) Circuit breakers | 105 |
| | (n) Switching transients | 106 |
| | (o) Arc suppression | 106 |
| 6-05 | AUXILIARY SUPPLY | |
| | (a) General | 106 |
| | (b) Storage battery | 106 |
| | (c) Primary power conversion | 106 |
| | (i) motor alternator | 107 |
| | (ii) static inverter | 108 |
| | (d) Automatic battery charging | 108 |
| 6-06 | ELECTRICAL CONDUCTORS | |
| | (a) Insulation | 108 |
| | (b) Conductor sizes | 108 |
| | (c) Circuit protection | 108 |
| | (d) Conductor terminations | 109 |
| | (e) Location and protection of cables | 109 |
| | (f) Cable identification | 110 |
| | (g) Standards | 110 |
| 6-07 | EARTHING | |
| | (a) General | 110 |
| | (b) Low voltage earthing | 110 |
| | (c) 600 volt earthing | 110 |
| | (d) Bonds | 110 |
| | (e) Lightning protection | 111 |
| 6-08 | LIGHTING | |
| | (a) Saloon lighting | 111 |
| | (b) Polarity reversal of fluorescent lights | 111 |
| | (c) Headlights | 111 |
| | (d) Tail and stop lights | 111 |
| | (e) Emergency lights | 112 |
| | (f) Turn indicators | 112 |
| | (g) Exterior light fittings | 112 |
| | (h) Driver's lights | 112 |
| | (i) Step lights | 112 |
| | (j) Destination lights | 112 |
| | (k) Side destination lights | 113 |
| | (l) Route number lights | 113 |
| | (m) Inspection lamp outlets | 113 |
| | (n) Stop signal light | 113 |
| | (o) Approval of lighting installations | 113 |
| 6-09 | DESTINATION AND ROUTE NUMBER SIGNS | |
| | (a) General | 113 |
| | (b) Equipment | 113 |
| | (c) Platforms | 113 |

6-09 DESTINATION AND ROUTE NUMBER SIGNS (CONT'd.)

| | |
|---|-----|
| (d) Glazing | 114 |
| (e) Wiring ducts | 114 |
| (f) Lighting | 114 |
| (g) Interior cover for side destination | 114 |
| (h) Moisture and dust sealing | 114 |

6-10 HEATING AND VENTILATING SYSTEM.

| | |
|---|-----|
| (a) General | 114 |
| (b) Source of heat | 115 |
| (c) Heater fan units | 115 |
| (d) Driver's heater-demister | 116 |
| (e) Conductor's heaters | 117 |
| (f) Ceiling fan system | 117 |
| (g) Ceiling vent | 117 |
| (h) Driver's offside vent | 118 |
| (i) Canopy vent | 118 |
| (j) Access for maintenance | 118 |
| (k) Multi-position test switch | 118 |
| (l) Approval | 118 |
| (m) Static system demonstration | 118 |

6-11 PUBLIC ADDRESS SYSTEM.

| | |
|----------------------------------|-----|
| (a) General | 118 |
| (b) Supply | 119 |
| (c) Types of microphones | 119 |
| (d) Installation | 119 |
| (e) Location of speakers | 119 |
| (f) Amplifier | 119 |
| (g) Performance | 119 |
| (h) Microphone cable | 119 |
| (i) Approval | 120 |

6-12 HYDRAULIC BRAKE SYSTEM

| | |
|---------------------------------------|-----|
| (a) General | 120 |
| (b) Pressure gauge | 120 |
| (c) Manual operation | 120 |
| (d) Pressure regulation | 120 |
| (e) Maintenance | 120 |
| (f) Removal of pump from tram | 121 |
| (g) Accessibility of pump | 121 |
| (h) Noise | 121 |
| (i) Hydraulic brake unit | 121 |
| (j) Hydraulic pipes | 121 |
| (k) Bleeding points | 121 |
| (l) Pipe fittings | 121 |
| (m) Hydraulic hoses | 121 |
| (n) Oil cooler | 121 |

6-13 PNEUMATIC EQUIPMENT

| | |
|---|-----|
| (a) General | 121 |
| (b) Air compressor | 122 |
| (c) Maintenance of contactors & control | 122 |
| (d) Materials used in pneumatic equipment | 122 |
| (e) Pneumatic cylinders | 122 |
| (f) Control valves | 122 |
| (g) Filtration and lubrication | 122 |
| (h) Air reservoirs | 122 |

6-13 PNEUMATIC EQUIPMENT (CONT'd.)

| | |
|---|-----|
| (i) Pressure gauge | 122 |
| (j) Pipe, hose and tube | 122 |
| (k) Air pressure indication at driver's console | 122 |
| (l) Approval | 123 |

6-14 SIGNALS.

| | |
|---|-----|
| (a) General | 123 |
| (b) Stop signal | 123 |
| (c) Door operation signals | 123 |
| (d) Warning gong | 123 |
| (e) Starting chime | 123 |
| (f) Wheel spin and slip warning | 124 |
| (g) Disc brake warning | 124 |
| (h) Indicating speedometer | 124 |
| (i) Voltmeter | 124 |
| (j) Annunciator panel | 124 |
| (k) Odometer | 124 |

6-15 POINTS CHANGING EQUIPMENT

| | |
|--|-----|
| (a) Method of operation with trams of this Contract | 125 |
| (b) Equipment to be fitted to trams of this Contract | 125 |
| (c) Load shedding | 125 |
| (d) Automatic points changing switch | 125 |

7. TESTS

7-01 NATURE OF TESTS

| | |
|---|-----|
| (a) General | 127 |
| (b) Type tests | 127 |
| (c) Routine tests | 127 |
| (d) Investigation tests | 127 |
| (e) I.E.C. tests | 127 |
| (f) Standards | 127 |
| (g) Sound level tests | 127 |
| (h) Heating and ventilating system test | 127 |
| (i) Tram performance and ride tests | 128 |
| (j) Strain gauge testing | 128 |
| (k) Test track | 128 |

7-02 STRAIN GAUGE AND DEFLECTION TESTS

| | |
|---|-----|
| (a) Condition of tram body | 128 |
| (b) Witnessing of tests | 128 |
| (c) Plan of test | 128 |
| (d) Test loads | 128 |
| (e) Load generation | 129 |
| (f) Load distribution and support | 129 |
| (g) Deflections | 129 |
| (h) Results | 129 |
| (i) Report | 129 |

7-03 WATER PROOFING TEST

| | |
|--------------------------------|-----|
| (a) General | 130 |
| (b) Purpose | 130 |
| (c) Simulations | 130 |
| (d) Type of jet | 130 |
| (e) Operating pressure | 130 |

| | | |
|-------|---|-----|
| 7-03 | WATER PROOFING TEST (CONT'd.) | |
| | (f) Specific areas requiring individual jetting | 130 |
| | (g) Test duration | 130 |
| | (h) Quality of water for test | 130 |
| | (i) Procedure | 131 |
| 7-04 | HIGH POTENTIAL TEST ON TRAM ROOF | |
| | (a) General | 131 |
| | (b) Method of testing | 131 |
| | (c) Test equipment | 131 |
| | (d) Alternative methods of testing | 131 |
| 7-05 | COLLISION TEST | |
| | (a) Specification | 132 |
| | (b) Conduct of test | 132 |
| | (c) Location of accelerometer | 132 |
| | (d) Selection of test tram | 132 |
| | (e) Test | 132 |
| | (f) Damage | 132 |
| 8. | <u>COMMISSIONING OF TRAMS</u> | |
| 8-01 | | |
| | (a) General | 133 |
| | (b) Test track | 133 |
| | (c) Time allowed | 133 |
| 9. | <u>NOMINATED ITEMS</u> | 133 |
| 10. | <u>SPARES, SPECIAL EQUIPMENT AND MOULDS</u> | 135 |
| 10-01 | SPARE PARTS | 135 |
| 10-02 | SPECIAL EQUIPMENT | |
| | (a) Test equipment | 135 |
| | (b) Training equipment | 135 |
| | (c) Maintenance equipment | 135 |
| | (d) Tools | 135 |
| 10.03 | MOULDS | 135 |
| 11. | <u>TRAINING</u> | |
| 11-01 | SERVICE MANUALS AND TRAINING TO BE PROVIDED BY CONTRACTOR | |
| | (a) Operating booklet | 137 |
| | (b) Maintenance manuals | 137 |
| | (c) Spare parts catalogues | 137 |
| | (d) Recommended spare parts list | 137 |
| | (e) Recommended maintenance facilities, tools and test equipment list | 137 |
| | (f) Training program manual | 138 |
| | (g) Quantities | 138 |
| | (h) Deliverable documents | 138 |
| 12. | <u>DRAWINGS</u> | |
| | (a) General | 139 |
| | (b) Numbering system | 139 |

| | | |
|-------|---|-----|
| 13. | <u>PHOTOGRAPHS AND FILMS</u> | |
| 13-01 | PHOTOGRAPHS | 139 |
| 13-02 | FILM OR 35 mm. SLIDES | 139 |
| 14. | <u>GUARANTEES BY CONTRACTOR</u> | 139 |
| 15. | <u>ADDENDUM FOR SINGLE-ENDED TRAM</u> | 141 |
| 16. | <u>SCHEDULES</u> | 151 |

| | |
|---|-------------------------------|
| <u>DRAWINGS</u> | |
| T.3000-1 | MELBOURNE'S TRAMWAY SYSTEM |
| T.3000-2 | GLENFERRIE ROAD ROUTE |
| T.3000-3 | GROOVED RAIL |
| T.3000-4 | T HEAD RAIL |
| T.3000-5 | CONCRETE TRACK CONSTRUCTION |
| T.3000-6 | MINIMUM RADIUS SERVICE CURVES |
| T.3000-7 | LOADING GAUGE |
| T.3000-8 | DOUBLE ENDED TRAM |
| T.3000-9 | DRIVER'S CONTROL PANEL |
| T.3000-10 | WHEEL PROFILE |
| T.3000-11 | SINGLE ENDED TRAM |
| SCHEDULE 'D' - SCHEDULE OF PRICES | |
| SCHEDULE 'E' - TENDER FORM | |
| SCHEDULE 'F' - FORM OF CONTRACT | |
| SCHEDULE 'G' - SCHEDULE OF INFORMATION TO BE PROVIDED BY TENDERER | |
| SCHEDULE 'H' - SCHEDULE OF MASS (Z CLASS TRAM ITEMS) | |
| ALPHABETICAL INDEX | |

SCHEDULE "A"

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD

Melbourne, Victoria

MANUFACTURE, SUPPLY AND DELIVERY

OF

100 ELECTRIC TRAMS

CONTRACT NO. 3000

NOTES FOR TENDERERS

A. ISSUE OF SPECIFICATION

A copy of these Documents will be issued free to prospective Tenderers. Further copies will be made available at \$25 per copy.

B. CONDITIONS OF TENDERING AND OF CONTRACT

Before inserting prices, the Tenderer should read carefully the Conditions of Tendering and the General Conditions of Contract.

C. SALES TAX

When submitting tenders, Commonwealth of Australia Sales Tax should not be included in the prices tendered. Materials used on all operations of the Melbourne and Metropolitan Tramways Board are exempt from such tax. Certificates of exemption will be quoted on the official order issued by the Board to the Contractor.

D. SUBMISSION OF TENDER INFORMATION

Tender information shall be presented in the sequence indicated by clause numbering in Section III of Schedule "C" (Specification).

Attention is drawn to the necessity to provide all of the specific information requested in Schedule "G" – in the sequence shown in the Schedule.

E. TERMS OF PAYMENT

Clause 24 of Schedule "B" (Conditions of Contract) indicates the Board's proposed terms of payment.

F. SCHEDULE OF PRICES

Schedule "D" (Prices) calls for the supply of information on prices including costs of nominated items, spare parts and dates of delivery.

G. TEST TRACK FACILITIES

The Board will make available to the Contractor, free of charge, a test track at Preston Workshops to enable him to conduct pre-commissioning tests and adjustments. This is a level, open ballast track 180 metres long with an open pit at one end.

SCHEDULE "A"

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD

Melbourne, Victoria

MANUFACTURE, SUPPLY AND DELIVERY

OF

100 ELECTRIC TRAMS

CONTRACT NO. 3000

CONDITIONS OF TENDERING

1. Tenders are to be sealed and legibly endorsed "MANUFACTURE, SUPPLY AND DELIVERY OF 100 ELECTRIC TRAMS, CONTRACT No. 3000".
2. Tenders shall be addressed to the Secretary of the Melbourne and Metropolitan Tramways Board, 616 Little Collins Street, Melbourne. 3000, Victoria, Australia.
3. No tender shall be received after 2 p.m. on the closing date unless there are circumstances which in the opinion of the Board render it desirable to do so.
4. The Board shall not be bound to accept the lowest or any tender and shall have the right to accept any tender.
5. In the event of any successful Tenderer failing to take up his tender, lodge the required Security Deposit, complete the necessary Contract documents and proceed with the Contract within the time specified in the Contract or of any Tenderer withdrawing his tender after it shall have been opened, whether such tender shall have been accepted or not, all moneys deposited on account thereof or in connection therewith shall be forfeited to the Board.
6. In submitting a tender other than a tender by a Corporation, the full Christian name, surname and place of residence of the Tenderer must be inserted in the tender form or, when the tender is submitted by a firm, the name in full of each member of the firm must be so inserted. The omission of this information will render the tender liable to be declared informal and rejected.
7. Each Tenderer shall specify in his tender any goods, machinery or materials and the value thereof which he proposes to use as part of this Contract which are not manufactured or produced in the Commonwealth of Australia.
8. Tenderers shall supply all details requested in Schedule "D". The rates tendered must be clearly set out in the appropriate places in Schedule "D" and any other information asked for in this Schedule must be supplied by the Tenderer. All signatures and entries shall be made in ink. Any tender which does not comply with this condition may be considered informal and be rejected.

These are Conditions of Tendering marked "A" referred to in the annexed Contract with the Board.

WITNESS CONTRACTOR