REPORT (b)

FIRST REPORT OF THE EXPERT PANEL ON TRAMWAY MUSEUM SAFETY STANDARDS TO THE CHAIRMAN AND MEMBERS OF THE COUNCIL OF TRAMWAY MUSEUMS OF AUSTRALASIA

INTRODUCTION

The Panel was established in June, 1976 to investigate and recommend a Code of Safety for Tramway Museums in Australasia.

Members of the Panel are: D. Rawlings (Chairman), R. McKeever, P. Stock, with N. Gipps as a corresponding member, specialising in electrical matters and First Aid. The Terms of Reference were published in Memorandum No. 7 of September, 1976 along with a request for submissions. Written submissions were received from AETM, BTMS, STRPS, TMVS and WTM.

This is the first report of the Panel and apart from the electrical safety standards, does not detail specific safety standards for the sub-sections listed under Terms of Reference No. 3, as the low number of submissions made it difficult to propose a recommendation representative of all member museums. It is hoped that this report will form the basis for the 1977 Conference delegates to discuss this complex matter in greater detail.

Included is a copy of a report by Noel Gipps, titled 'First Aid to the Injured', and the Panel recommends that this report be used as the first step toward achieving a minimum standard in the field of First Aid in our Museums.

EXTENT OF LEGISLATIVE SAFETY STANDARDS COVERING THE OPERATION OF TRAMWAY MUSEUMS

By and large there are no specific legislative safety standards covering the operation of tramway museums, but in New Zealand as well as Australia there are local government regulations covering health, buildings, fire safety, parks, roads, works, sanitation, and garbage. One council, Brisbane, also controls public (street) transport, water and electricity reticulation. In most other cases, however, government departments control public transport, water and sewerage, electricity supply land, road transport, main roads, and planning and environment.

All of these departments could have a direct or indirect control on our type of activity. Apart from these controls, there are various Acts of Parliament and accompanying Regulations, such as Lifts and Scaffolding, Machinery safety, S.A.A. Wiring Rules and other statutory regulations, all of which demand adherence.

The Acts, Regulations and By-Laws are published by the relevant authorities and it is in each museum's interest to abide by them. Just as importantly, the COTMA image must be considered also, as the non-compliance with the rules by one museum may detrimentally effect another's chance of recognition acceptance.

NECESSITY OF ESTABLISHING MINIMUM MUSEUM SAFETY STANDARDS

Although each museum has, as a part of its constitution, various rules and regulations pertaining to the safety of its members and the visiting public the degree of these standards vary considerably and the panel believes that for the following reasons, a Code of Minimum Safety Standards be established.

1. Tramway Museums are unique in concept and operation and as such are not adequately covered by existing legislative requirements.

2. Even though our Museums are run by volunteers it is still necessary to have safety rules and regulations for the control of members. By using a minimum, but common, set of safety standards it may be easier to exercise controls by using the example of other Museums. An extension of this 'common' set of safety standards theme could be applied in the case of visiting members from other museums using the same standards. This could range from taking part in site works to being able to take the controls of cars.

3. The necessity of having acceptable standards that are recognised by insurance firms. BTMS added the comment that there may be the possibility of lower premiums for those museums adhering to them.

SPECIFIC SAFETY STANDARDS

As mentioned in the introduction, specific safety standards have not been detailed, but as a basis for discussion at the Conference several items are noted.

(a) Tramcar Operation Conditions

i) regular electrical, mechanical and brake tests should be carried out

ii) track and overhead wiring should be kept at a high standard

iii) signs advising visitors of by-laws, dangerous situations and loading points should be displayed

iv) each car to be operated should be tested prior to carrying passengers

v) track and overhead wiring should be checked each day before services commence

vi) all signals, both perway and tramcar, should be checked frequently

vii) sand supply and lifeguards should be checked regularly

viii) fire extinguishers should be carried on all vehicles and the traffic staff trained in their use

ix) all traffic staff should be qualified and be authorised by the appropriate body

x) traffic staff to be constantly made aware that visitor safety is paramount.

(b) Trackwork Physical Condition

i) track should be laid in accordance with good practice at least equalling relevant state operator. Reference is made also to the paper presented at the 1976 Conference by Chris Steele entitled 'Track Construction'.

ii) frequent inspection and maintenance of the tracks should be undertaken with emphasis on:-

a) condition of the sleepers
b) condition of the spikes
c) tightness of fish-bolt nuts
d) track gauge and geometry
e) curve and point greasing
f) operation of point mechanisms
g) weed and grass growth
h) welded track joints
i) condition of check rails
j) drains and drainage
k) condition of bonds
l) general condition of rail especially on curves
m) condition of ballast.

(c) and (d)

Physical Condition of Power Source and its Distribution/ Electrical Installations - by N.H. Gipps, Electrical Superintendent, TMSV

- A special report

ELECTRICAL SAFETY

As each member group of COTMA not only have their own electrical officer responsible for such requirements as traction supply, overhead equipment, light and power supply to workshops, etc., etc., but a large and varied range of electrical equipment of both manufacture and age to fulfil such requirements, I believe it would indeed be presumptuous of me to endeavour to lay down a set of definite guidelines applicable to every operation, however, after some thirty years association with both the Metropolitan Tramways Board substations and the State Electricity Commission of Victoria, I believe I may have something to contribute to our electrical safety proposals, in the form of suggestions and ideas for discussion at the Conference.

ELECTRICAL SUPERVISOR DUTIES

Before proceeding further, perhaps we should look at the responsibilities of the above position to get some idea where the safety organisation should commence.

SUGGESTED AREAS FOR DISCUSSION

1. Light and Power Supply to Workshops and Yard

   (a) Sub boards
   (b) Circuit identification
   (c) Isolations and work on circuits

2. Overhead System

   (a) Sectionalising running line and car shed
   (b) Car shed protection and faults
   (c) Lightning arrestors
   (d) Isolations
   (e) Linesmen's equipment

3. 600 Volt Lineside Equipment

   (a) Welders, etc.

4. Substation

   (a) Switching and access, Log Book
   (b) Isolations

5. Training of Electrical Assistant to Electrical Supervisor

6. Rolling Stock

   (a) Defective cars (electrical)
   (b) Identification of defective or damaged cars, and work in progress.

Item No. 1(a), (b) and (c) - Sub Boards, Circuit Identification, Isolations and work on Sub Circuits

While most state authorities have their own light and power acts or legislation covering a similar area, safety precautions applying to 230 and 3 phase 415 volt sub-circuits are fairly standard throughout the Commonwealth.

Basically a sub board may supply a workshop complex, with separate switching and fusing of suitable capacity appropriate to the circuits or apparatus being supplied, the board itself fed by a sub-main from either the Substation or from the Supply Authority itself.

Such a board should be located where it is easily accessible, with both light and power circuits suitably numbered, and a reference giving circuit identification, with fuse or circuit breaker rating.

In industry, isolation of sub-circuits for work on same usually requires the complete removal of the fuse from the board altogether with a suitable tag attached to the fuse holder worded "MEN WORKING ON CIRCUIT" or "DANGER. CIRCUIT NOT TO BE RESTORED".

Loading on sub-boards and associated circuits should be kept under constant supervision to ascertain if additional supply is required, also excessive use of extension leads in workshop areas may be an indication that extra power outlets should be installed giving greater electrical efficiency, safety and reducing a familiar tripping hazard.

Item 2. Overhead System

(a) Sectionalising running shed and main line

While the supply requirements of overhead on both the running line and car barn are electrically similar, it is desirable to provide a separate point of isolation for car shed supply, with associated protection to sectionalise any fault condition, or alternatively provide a point of isolation to allow work to proceed in the area concerned independently. The section insulator and switchgear for this purpose should be located in the overhead structure so that the circuit in question cannot be accidently made alive by adjacent tramway operations.

(b) Car Shed Protection and Faults

Car barn supply and protection is usually subjected to more serious fault condition due to a number of unavoidable circumstances: e.g.

(1) Proximity to substation giving low circuit resistance and high fault current,

(2) Double pole short circuits between cars or between car and shed structure,

(3) Testing of 600 volt equipment and defective cars in workshop area

Generally, supply obtained direct from substation bus bar or from main line O.H. through a suitable circuit breaker with overload setting (hand reset). Car type breakers have been used for this purpose but are not recommended being unsuited to repeated fault operations, without the risk of explosion and frequently damage to substation plant. A solution to the problem would be to substitute a rewired car circuit breaker (contactor type) in series with a hand reset (or manual type) breaker, the latter placed between supply and the rewired car unit.

Electrically the contactor type breaker would serve as the overload protection being set to about 500 amps on a figure below the main substation setting, while the hand reset unit would be utilised as an isolating switch, capable of being opened manually in an emergency. It would be desirable to fit the hand breaker with some kind of locking device in the open position so that work parties would be safeguarded against accidental restoration of supply.

(c) Lightning Arrestors

Information from most manufacturers, i.e. G.E., Westinghouse and Ohio-Brass, recommend an average of 8 arrestors per mile, depending on frequency and severity of electrical storms in the area. Under Australasian conditions this standard may vary, for Museum conditions the following installation has been recommended as suitable for our use:

1. All terminal points,

2. Entrance to car barn,

3. at cables entering substation and

4. Passing loops or any point where cars may remain stationary for any length of time.

(d) Isolations

While some work on overhead equipment may be carried out under live conditions, there are occasions where complete isolation of a section may be required, Where such work is some distance from the point of isolation additional precautions may be necessary due to some of the following possibilities livening up the section under consideration:

1. Leakage across section insulators.

2. Inadvertant contact across insulation by moving trams,

3. Possibility of adjacent live mains falling across the overhead concerned, and

4. Inadvertant livening up of section from source of supply.

For improved safety of work party involved it is suggested:

1. Earth overhead to rail at site,

2. Install locking facilities on switchgear or circuit breakers in the 'open' condition, and

3. Identification on the apparatus in item 2 indicating 'isolation condition.'

(e) Linesmen's Equipment

Apart from safety aspects mentioned previously in this section, the following points for line work should be observed:

1. Linesmen's equipment bag, if used, should be attached to dry, non-conducting rope of suitable length and strength,

2. Platforms of O.H. waggons (road or rail) to be painted with special non-slip paint.

3. No metallic ladders of any description to be used and only wooden ladders without wire reinforcing and well coated with an approved insulating varnish to be used.

4. Approved safety helmets issued to all men involved in such work, together with suitable footwear (non-slip soles).

Item 3 - 600 volt Lineside Equipment

A number of Museums have acquired such items as portable welders, grinders, etc. In some cases the electrical condition of this often aged and worn equipment could render it dangerous (without thorough overhaul), particularly where 600 volt motors and their starting equipment is concerned. Where such apparatus is being used, particularly by those who use it infrequently, suitable warning signs should be attached, e.g. "DANGER 600 VOLTS", and "ATTACH EARTH LEAD TO RAIL FIRST".

Item 4 - Substation

(a) Switching and access to.

Access to substation building should be strictly limited to the Electrical Supervisor or those qualified. Signs such as "DANGER 600 VOLTS" and "UNAUTHORISED PERSONS KEEP OUT" should be installed.

The switching on of the D.C. should be carried out remotely from the substation itself or at least in a sealed and locked box outside the substation building.

The main D.C. breaker itself can be manually closed type or alternately a car contactor type breaker (as is being used by some museums) and perhaps incorporating automatic reclosure. Two types are generally used in practice:

1. 2 shot - auto reclose

   As most traction faults are of a transitory nature (bad driving, etc.) a slight time delay of, say six seconds is allowed following the initial opening, after which a reclosure is made. If after two operations no clearance is affected, the breaker remains open locking out and shutting down the rectifier.

2. Short Circuit Detector (M & M.T.B. type)

   In this installation after the initial opening a resistance is imposed across the open breaker; across the resistance in turn is placed a relay to measure the voltage drop associated with the fault (O.H. down or defective car). When, after clearance a reclosure is affected or alternatively 6 seconds elapses as in 1., lock out and shut down rectifier.

Generally type "2" equipment affords superior protection to the substation, plant, car equipment and the distribution system in particular.

(b) Log Book

In traction substations, in a central control room on a large system a log book is kept as a reference to system operations, the adoption of this system of recording is to be commended to our use for the following reasons:

1. Operating times and total number of hours run for rectifier or supply equipment,

2. Recording of automatic circuit breaker operations including reasons, i.e. substation plant fault, or system fault (O.H. and rolling stock faults).

3. Recording of system isolations and safety precautions.

In general the log book provides a check on operating conditions, through the electrical system, i.e. substation breaker openings due to poor driving standards or deterioration of car equipment.

(c) Isolations and General Switching

All isolations governing supply to the line or sub mains should be programmed and recorded by the Electrical Officer responsible, or in his absence delegated to a competent person who would supervise the work in hand and be responsible for restoration of plant to service. Normal car shed supply can be externally switched to suit rolling stock and workshop requirements.

As in lineside switching, main substation switchgear should be capable of being mechanically locked in a safe condition during outages.

Item 5 - Training of Assistant to Electrical Supervisor

If possible it would be desirable at an early stage to appoint and train an assistant to the Electrical Supervisor where a person of suitable qualifications is available.

Such a person should be capable of attending to substation faults and other requirements of Museum Management relating to the electrical system.

Item 6 - Rolling Stock

(a) Defective Cars (Electrical)

Apart from public safety considerations, electrically defective cars, particularly where any doubt arises as to the nature of the fault, should be removed from service for workshop attention as soon as possible. Constant re-applying of fault conditions to supply may cause damage to substation plant resulting in a complete shut down of the system.

Under some circumstances surging in the Supply Authority's mains can cause complaints by other consumers, particularly where radio and TV equipment is concerned.

(b) Identification of damaged or defective cars and work in progress

Any car out of service due to damage or defect should be positively identified by appropriate warning signs attached externally to both ends. e.g. "DANGER CAR NOT TO BE MOVED" (M & M.T.B. practice).

Cars receiving workshop attention should also have positive identification indicating work in hand (some museums already have their own system). For extra safety complete electrical and pneumatic isolation may be desirable.

I am of the belief that for the sake of safety and uniformity a standard system of signs be adopted by COTMA for the above-mentioned purposes, particularly in view of the fact that interchange of workers during interstate visits, could become more general in the future.

Noel H. Gipps.
TMSV 1977

Additional items for 3(c) and 3(d) from submissions.

(c) regular inspection and maintenance of switchyard and substation equipment;
regular inspection and maintenance of steam boilers, safety valves and associated equipment;
regular inspection and maintenance of overhead system including poles, fittings, span wire, trolley wire and feeder wires;

(d) all wiring to be carried out in accordance with the SAA wiring rules, or equivalent.

(e) Pneumatic Installations

i) Installation and operation would be controlled by statutory authorities but general museum safety first regulations could include:

a) Do not use compressed air for any other purpose than that for which it is provided,

b) Never direct a stream of compressed air towards your body or the body of another person,

c) Do not use compressed air to cool yourself or to blow dust from the clothes or hair,

d) Never indulge in so-called 'practical jokes' with compressed air.

(f) Depot, Buildings and Site

Statutory controls govern most buildings whether open to the public or not, but basic museum safety standards could be:

i) Fire extinguishers should be located at strategic points and all members should have basic training and knowledge of same,

ii) All buildings should be 'non smoking', with the possible exception of members' meal room,

iii) All inflammable liquids should be stored properly,

iv) All machinery to be adequately guarded,

v) All pits to be adequately guarded,

vi) All cranes to be locked to prevent unauthorised operation,

vii) Lighting must be adequate; i.e. no shadows

viii) All aisles, access points to stores, rooms, etc., to be clearly defined,

ix) All hazards to carry warning signs.

x) Visitors' access to machine shops, etc., to be prevented, but any visitors found in prohibited areas should be diplomatically requested to leave.

(g) Sales and Exhibition Facilities

i) Visitor circulation areas to be signposted,

ii) Sufficient space to enable easy circulation,

iii) Heavy or unstable exhibits to be fixed so that they cannot tip over,

iv) Any displays using electricity to be properly fenced and sign-posted (i.e., operable bogie)

v) Restraints to keep children (and adults!) outside display areas,

vi) Fire extinguishers to be located in convenient locations,

vii) Use of synthetic materials (i.e. perspex) in lieu of glass for display cases, counters, etc.

viii) Workshops not to be open to public unless by prior arrangement. In this case a museum member must accompany visitors and the number in the groups should be kept low: 5 to 10.

ix) 'Temptations' (books, sweets) to be kept out of reach to reduce the incidence of shop lifting and associated action by members, which may be embarrassing for all concerned.

(h) Essential Public Facilities

i) "You are judged by your toilet facilities" - quote from a tourist coach operator.

ii) Have plenty of seating, preferably some under cover.

iii) Have adequate, convenient parking for cars, coaches,

iv) Have plenty of rubbish bins and see that they are emptied regularly,

v) If possible, have playground facilities, bar-b-ques and (hot) water available,

vi) Although refreshments are not necessarily an essential facility, the time is fast approaching when they will be. There are statutory regulations governing the sale of refreshments and now may be the time to consider them,

vii) Adequate public risk insurance must be carried: a possible minimum of $200,000 may be warranted.

(i) Emergency Facilities

i) It is essential to have an adequate First Aid kit and as many trained personnel as possible; Refer to attachment A.

ii) Preferable to have a telephone on site,

iii) Well maintained fire fighting equipment is necessary,

iv) A good fire alarm system should be installed,

v) A fire sprinkler system is essential especially if there isn't an on-site caretaker,

vi) Tramcar breakdown/rerailing equipment should be adequate and well maintained. If possible, a reasonable number of the(working) members should be versed in emergency procedures.

(j) Workshop Facilities

i) Workshop should be closed to the public and only qualified members should operate machinery,

ii) Must be kept clean and all rags, oils and solvents should be put away immediately after use,

iii) Welding or oxy-cutting operations should be carried out using proper protective clothing, gloves, goggles and shoes.

iv) Light and ventilation should be adequate,

v) Storage and spare parts, etc., should be orderly and easily accessible.

(k) Operating Staff Training

This matter is largely dependent upon local conditions. Several museums have to have their staff trained, tested or authorised by statutory bodies, whilst others do not. SPER has produced a Handbook for the training of Traffic staff, based closely on Department of Government Transport practice, with additional local instructions. (A copy will be available at the Conference to illustrate how 'do-it-yourself' training can be achieved while still being comprehensive).

An interesting point was raised in the BTMS submission and that was the possibility of issuing a licence which would be acceptable in some instances to other museums as proof that the holder has attained certain proficiencies in, say, the driving of certain classes of tramcar or motor vehicle; i.e. 2 motor car, direct control, self lapping brake. This could then enable the holder to request to be able to drive when visiting another museum - (an international licence?).

(1) Security of Historical Collections

i) Buildings containing historical items should have adequate burgular alarm, fire alarm and fire control facilities,

ii) Adequate precautions should be taken to safeguard all items on display - damage can be accidental or deliberate.

iii) All items of historical significance, including tramcars, photos, documents, uniforms, etc., should be catalogued consistent with good museum practice.

iv) If items are lent to other museums (not necessarily tramway museums) proper records should be kept to ensure the return of those items; special insurances should also be arranged.

v) All valuable items should be adequately insured against damage and theft.

TECHNIQUES FOR ENCOURAGING AND ENFORCING SAFETY STANDARDS

As our museums depend almost solely on their members to carry out their duties voluntarily, it will be difficult to enforce all safety standards. When statutory regulations over-ride museum regulations the task of enforcing is easier as it can be pointed out to the members that they have an obligation to obey such regulations: i.e., Wiring Rules, lifts and scaffoldings Act, etc.

Unsafe driving practice is probably one of the few examples where stiff penalties could be applied by Museum Management to keep a high standard of operations before the eyes of the Authorities.

The Panel believes that the adoption of Safety Standards by the managements of all COTMA museums will be an aid in itself to encourage members to accept the Standards and abide by them.

GENERAL COMMENTS

During initial investigations it became quite evident that there is a great deal of information dealing with general safety rules and regulations for industry and commerce. Booklets published by various government departments are freely available and although not totally fulfilling our needs could form the basis of a safety scheme.

Additionally, transport authorities have their own internal safety standards which, for the most part, are consistent with other statutory regulations, but as they are generally biased towards transport applications they could perhaps be more easily tailored to suit our needs.

Rules governing electricity supply and distribution are well covered as are steam boilers, building regulations, erection of scaffolding, etc. etc., and therefore it would appear that our main need for safety standards lies in the operation of our tramcars, the training of appropriate staff and the application of the standards.

The Panel realises that the implementation of a full safety programme is probably beyond most museums, as labour is scarce and it is not practical to have a permanent safety officer as there is a great possibility that he would become saddled with other, seemingly, more important jobs. Most safety programmes are designed for large organisations and industries but as this report went to press a paper entitled "Reducing Accidents in the Smaller Industries" was discovered. This paper, by Mr. J. Ellerton, Chief Safety Education Officer of the N.S.W. Department of Labour and Industry, and is aimed at industries where there are less than 50 employees, with 3 to 7 persons performing the supervisory or management function. This could well provide sufficient information around which a safety programme for our museums could be developed, and further investigations are under way.

Following on from this Conference it would be possible to produce a draft safety standard within six months and a basic safety programme within the following three months.

The Panel is prepared to continue its work on Safety Standards on the proviso that any requests for specific information concerning local regulations and conditions are supplied by member museums with a minimum of delay.

FIRST AID TO THE INJURED

When considering first aid as applied to Tramway Museums (particularly operating establishments) it must be taken into account that apart from those involved with day to day Museum activities, members of the public accompanied by children of various ages are also present both as passengers and visitors to the site.

In this report I am not so much considering site safety (a subject in itself) but the treatment of the patient after an incident has occurred, when until (if necessary) the arrival of medical aid, much unnecessary suffering and discomfort can be alleviated by common-sense, properly equipped first aid facilities and a person, or persons, trained in the various aspects of the treatment involved.

Perhaps I could do no better than to refer to the St. John Ambulance Brigade description of first aid as the emergency care of the injured and the sick where the first aider will:

(a) Preserve life,

(b) Promote recovery and

(c) Prevent the injury or illness from becoming worse.

In the case of any accident a First Aider should summon other trained personnel and bystanders to assist where required.

While minor accidents can be coped with by a well equippped first aid cabinet and the average person, incidents where a patient may have collapsed or may be immobilised require a different approach.

THE SCOPE OF FIRST AID

(a) Make a diagnosis of the case,

(b) Decide nature and extent of treatment required, and commence treatment promptly,

(c) Arrange for disposal of casualty

TREATMENT

(a) Commence treatment appropriate to case,

(b) Prevent conditions from being aggravated,

(c) Promote recovery by giving relief to pain and reassurance to the patient. (Improvise if necessary to achieve any of these objectives).

GENERAL FIRST AID

The cause of all accidents should be carefully investigated and recorded with the objective of preventing a recurrence by personnel training and effective safety practices.

1. General Requirements

(a) Well equippped First Aid Cabinet conveniently located near clean water supply and in a position affording some privacy for patients.

(b) Stretcher (folding type) and 2 blankets with covered accommodation for same.

(c) Light-weight First Aid Box for field work.

2. Training of Personnel

While some museum members may be qualified First Aiders, (St. John Ambulance Certificate) every attempt should be made, at least once a year, to encourage O.I.C.'s to attend a lecture on basic first aid, and resuscitation in particular. Local St. John Ambulance Brigade personnel are only too happy to assist both on the form of approved courses or periodical lectures, while in the case of large public gatherings the Brigade will send both personnel and equipment to cope with any emergency. It is suggested that we avail ourselves of these facilities.

3. Communication

The phone numbers of fire brigade, police, civil ambulance and local doctor should be prominently displayed for immediate use. Standard notices demonstrating resuscitation and cardiac massage should be displayed in all work areas, substations and near main switchboards.

SUGGESTED FIRST AID CABINET REQUIREMENTS

Quantity	Description
4	Triangular bandages
2	Packets 38 x 1000mm dressing adhesive with medicated pad
1	50 ml bottle Proflavine
1	30 ml bottle Sal Volatile
6	25 mm Roller gauze bandages
4	51 mm Roller gauze bandages
2	76 mm Roller gauze bandages
1	454 g Packet Cotton Wool
2	packets of Gauze
4	28 g packets of Lint (plain)
4	25 x 2290 mm rolls of plaster adhesive
1	Bottle of Asprin tablets
1	120 ml bottle Dettol
1	Tube Ung-Vita (Nicholas ? - 35.5 g)
1	Plastic tumbler
1	pair of surgical scissors - 125 mm
1	pair of Dressing Forceps
2	Kidney bowls - 210 mm
1	graduated medicine glass
2	120 ml bottles of Calamine Lotion
1	Current St. John Ambulance Brigade First Aid Book
2	boxes of Band Aids of various sizes

And other items as may be deemed necessary under the circumstances.

The Field First Aid Box should contain a selection of supplies appropriate to the application of the work.

Noel H. Gipps (Bronze Medallion)
St. John Ambulance Association
of Australia