Emergency Management Australia

URBAN SEARCH AND RESCUE

Capability Guidelines for Structural Collapse Response











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URBAN SEARCH AND RESCUE CAPABILITY GUIDELINES FOR STRUCTURAL COLLAPSE RESPONSE

EMERGENCY MANAGEMENT AUSTRALIA

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THE AUSTRALIAN EMERGENCY MANUALS SERIES

The first publication in the original AEM Series of mainly skills reference manuals was produced in 1989. In August 1996, on advice from the National Emergency Management Principles and Practice Advisory Group, EMA agreed to expand the AEM Series to include a more comprehensive range of emergency management principles and practice reference publications.

The Australian Emergency Series has been developed to assist in the management and delivery of support services in a disaster context. It comprises principles, strategies and actions, compiled by practitioners with management and service delivery experience in a range of disaster events.

The series has been developed by a national consultative committee representing a range of State and Territory agencies involved in the delivery of support services and sponsored by Emergency Management Australia (EMA).

Parts I to III are provided as bound booklets to State and Territory emergency management organisations, students, community organisations, appropriate government departments for further dissemination to approved users including local government and over 70 countries around the world.

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		Publishing Status Feb 04
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Manual 3	Australian Emergency Management Glossary	A
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Key to status: A = Available; A/R = original version Available/under Review; D = under Development; P = Planned; R = under Review/Revision; U/R = Unavailable/under Review.

FOREWORD

This manual has been developed by the National Urban Search and Rescue Working Group, representatives of police, fire, State and Territory emergency services, ambulance services, and the New Zealand Ministry of Civil Defence and Emergency Management. The Working Group is sponsored by Emergency Management Australia.

The manual is issued in hard-copy and additionally is available for download from the Internet at www.ema.gov.au

As situations change and improved techniques are developed the manual will be amended and updated by the National Urban Search and Rescue Working Group.

Proposed changes should be forwarded to the Director General, Emergency Management Australia, at the address shown below, through the respective State/Territory Counter Disaster/ Emergency Management Authority.
The use of trade or brand names in this manual is not intended to be restrictive, preferential or promotional. Rather, trade names are used where descriptive clarity is required.

Enquiries should be sent to the Director General, Emergency Management Australia, PO Box 1020, Dickson, ACT 2602, Australia.

DEDICATION

This manual is dedicated to the memory of Air Vice-Marshal (Rtd) John Lessels, OBE, BCE, FIE Aust who was an active member of the National Urban Search and Rescue Steering Committee from its inception in September 1996 until his passing.

John Lessels represented the Institute of Engineers, Australia and provided valuable input to the USAR program from an engineer's perspective.

CONTENTS

CHAPTER 1

Introduction

AIM

1.01 The aim of this manual is to provide guidelines necessary for developing a complete and effective capability for response to major structural collapse incidents requiring Urban Search and Rescue (USAR) operations.

BACKGROUND

1.02 **DEFINITIONS**

A National workshop held at the Emergency Management Australia Institute, Mount Macedon in 1996 originally defined Urban Search and Rescue as: ***An integrated multi-agency response, which is beyond the capability of normal rescue arrangements to locate, provide initial medical care and remove entrapped persons from damaged structures and other environments in a safe and expeditious manner.*** This definition was reviewed by the National USAR Working Group in 2002 to: ***USAR is a specialised technical rescue capability for the location and rescue of entrapped people following a structural collapse.***

1.03 Although Australia has in recent times been subjected to several structural collapse incidents, they have been relatively minor on the world scale. Recent high-profile disasters around the world have highlighted the need for specialist skills and equipment for locating, providing initial medical care, and removing entrapped persons from collapsed structures.

1.04 It is only a matter of time before Australia is affected by a major structural collapse disaster considering that the majority of Australia's population and major cities are in earthquake-prone zones. Consideration must also be given to the threat of transport accidents, landslides, fires, floods, gas explosions and acts of terrorism.

1.05 In 1995, the National Emergency Management Committee (NEMC) considered a proposal that Australia should develop a multi-agency Urban Search and Rescue capability, similar to those in existence in the United States of America, the United Kingdom and many other countries. Subsequently a national workshop was convened in September 1996 to investigate the need for, and feasibility of, establishing a national, multi-agency USAR capability to complement existing rescue capabilities.

1.06 This workshop produced a number of recommendations that have been further developed by the then National Urban Search and Rescue Steering Committee. This committee was made up of multi-agency representatives from all Australian States and Territories and New Zealand.

1.07 **INTERNATIONAL GUIDELINES**

Overseas experience has shown that the magnitude of a USAR incident can quickly overwhelm the resources of a State/Territory or country, leading to the need for coordinated interstate and/or international assistance.

1.08 This manual also closely follows recommendations from the International Search and Rescue Advisory Group, Response Guidelines published by the United Nations, Office for Co-ordination of Humanitarian Affairs. Both Australia and New Zealand are members of the Asia/Pacific Regional group of International Search and Rescue Advisory Group (INSARAG).

GENERAL

1.09 The 1997 Thredbo landslide and more recent disastrous structural collapse events during earthquakes in Turkey and Taiwan (1999) and India (2001) have highlighted the need for a national coordinated approach to train personnel to perform specialist rescue tasks beyond the capabilities of local resources.

1.10 A heightened risk of major structural collapse exists due to increasing urbanisation and a growing range of hazards including natural (landslides, earthquakes, severe storms), human-caused (poor planning, terrorism, e.g. 11 Sep 2001, USA) and technological (heavy transport accidents in urban areas). Such events in recent years have led to the international development of specialised USAR teams in a number of countries including Australia and New Zealand.

1.11 Australia and New Zealand have adopted a common approach for developing a USAR capability. This manual will form part of the common reference material for future USAR development from a national perspective.

1.12 The Urban Search and Rescue concept hinges on the deployment of highly trained and mobile teams to major collapse situations. The underpinning skills knowledge for USAR operations is contained within the *Australian Emergency Manual – General Rescue (Fourth Edition)*.

CAPABILITY

1.13 In Australia, no single service has the complete capability to cope with a major structural collapse incident. The diversity of expertise and equipment required for these events can only be achieved through the development and implementation of an integrated multi-agency response.

1.14 An USAR response consists of highly trained, multi-agency specialists responsible for their own safety. They operate within a defined structure as a specialised resource working under normal State/Territory emergency management arrangements.

1.15 Due to the complexity of disasters and the possibility of limited resources available from the affected area, it is recommended that a USAR response within Australia should be self-sufficient for a minimum of 72 hours from the time of commencing operations in the incident area with a pre-planned re-supply capability. For international deployment refer to INSARAG Response Guidelines which require self-sufficiency for 10 operational days.

Note: Whilst self-sufficiency is essential for international deployment it needs to be considered on a case by case basis when Australian teams are responding to short-term interstate operations.

1.16 An effective USAR response requires personnel from different disciplines to train and work together for maximum efficiency. An integrated response system is also required. This involves highly specialised equipment, effective communications, logistical support and an established internal command and control system.

1.17 There needs to be a very thorough understanding within the emergency management community of the specialist and technical skills developed by USAR trained personnel. USAR teams must be able to operate in a manner that allows them to undertake their own risk assessment and safety management.

TRAINING

1.18 Having examined national and international rescue capabilities, the National Urban Search and Rescue Working Group recommended the adoption of three categories of training for personnel involved in USAR operations. These are summarised in paragraphs 1.19 to 1.23 and described in detail in Chapter Two – Training.

1.19 CATEGORY 1 – SURFACE SEARCH AND RESCUE

This includes basic search techniques, occupational health and safety, an appreciation of specialist equipment and techniques, and the ability to work as part of a team. It is considered desirable that all agencies be capable of training to this level.

1.20 It would then be common for first responders to a structural collapse incident to be Category 1 trained. They would begin operations by carrying out limited debris removal and rescuing lightly trapped, surface casualties.

1.21 CATEGORY 2 – SURFACE AND BELOW DEBRIS SEARCH AND RESCUE

At this level personnel need to be competent operators of specialised equipment, proficient in all aspects of USAR work, including recognition of hazards, and cribbing and shoring techniques.

1.22 Following the initial assessment, Category 2 operators can, upon request, be mobilised with specialised equipment as well as support personnel such as engineers and surveyors to assist with the more complex, specialist operations.

1.23 CATEGORY 3 – USAR MANAGEMENT

Category Three personnel are trained USAR task force managers, with knowledge of both Category 1 and 2 operations and skills. Refer to Chapter 2, para 2.24 for the list of competencies.

SPECIALIST RESOURCES

1.24 There may be a need for specialist resources beyond normal emergency response capabilities such as:

a. structural engineers;
b. doctors;
c. heavy equipment and rigging specialists;
d. communications specialists;
e. hazardous materials advisers;
f. technical information advisers;
g. urban search dog teams;
h. critical incident stress providers; and
i. logistics managers.

1.25 All such specialists must be able to train and integrate with USAR teams, and have knowledge of both Category 1 and 2 skills and operations. Accordingly, some may need to be fully trained to Category 2 USAR level.

1.27 It should be noted that specialist resources such as engineers or search dogs and handlers are frequently shared between national and international teams as required. On international deployments, one country may provide the dogs and handlers to support another countries' teams to meet operational needs.

CHAPTER 2

Training

GENERAL

2.01 USAR training is based on the collapsed structure rescue training developed in the United Kingdom during the blitz of World War II, and documented in the Home Office rescue manuals of that time.

2.02 In recent years USAR training has advanced to keep pace with technological developments, particularly relating to reinforced, pre and post-stressed concrete and tilt slab construction. These developments have necessitated training in, and use of electronic listening devices, fibre optics, mini cameras and reinforced concrete penetration tools as well as the need for atmospheric monitoring prior to entry, and decontamination procedures on exit from voids.

2.03 USAR is a system that amalgamates the specific requirements of:

a. confined space rescue;
b. vertical rescue;
c. trench rescue;
d. building collapse rescue;
e. tunnelling;
f. shoring;
g. atmospheric monitoring;
h. concrete breaching;
i. electronic/optical search;
j. long-duration operations; and
k. field living skills.

USAR TRAINING STANDARDS

2.04 Training in the USA has been based on National Fire Protection Association (NFPA) standard 1470. This standard sets out the requirements for training, safety, operations and personal protective equipment required at structural collapse incidents.

2.05 The standard also sets out four levels of response operations and is based on a tiered approach to training that is dependent on an organisation's capability and equipment. These four levels are:

a. basic operations;
b. light operations;
c. medium operations; and
d. heavy operations.

2.06 A technical rescue program development manual and a technical rescue technology assessment manual, both of which are continually updated, supplement this standard.

2.07 Training in Europe, and in particular in the United Kingdom has been based on the European 4CL or four competency levels of training which mirror the American standards with amendments based on UK requirements.

2.08 Here, the National USAR Working Group, based on advice from rescue training providers around Australia recommended three categories of training. They are amalgamations of the USA and UK standards adapted to suit Australian conditions and situations. The categories adopted are described below.

AUSTRALIAN USAR TRAINING CATEGORIES

2.09 **CATEGORY 1**

This involves training directed at all personnel involved with a structural collapse and purely an addendum to disaster rescue training. It is aimed at personnel who would be in position from the early stages of an incident as the first responders, and who form a skilled, large-scale back-up. Category 1 training is primarily directed at the rescue/removal of surface casualties.

2.10 **CATEGORY 2**

This requires a prerequisite of Category 1 and deals with training for major structural collapse, utilising specialised equipment and the accessing of voids and confined spaces.

2.11 **CATEGORY 3**

This training is directed at the command, control, management and integration of a task force but not the management of the incident.

2.12 All three categories compliement each other, blending to form the response requirements for a major structural collapse incident.

CATEGORY 1 TRAINING DETAILS

2.13 The Public Safety Training Package, ratified by the Australian National Training Authority (ANTA) in September 2000 provides a framework for USAR training in Australia.

2.14 Category 1 USAR training is currently provided in several ways in Australia, some of these are described below.

2.15 The Australian Capital Territory Fire Brigade (ACTFB) has developed a two-day course that is nationally registered as a short course through the ACT Accreditation and Registration Council. The course code is 14097ACT, and further information can be obtained through the ACTFB.

2.16 Category 1 training is also available via an interactive computer program that has been developed jointly by the NSW and ACT Fire Brigades which can be delivered by any Registered Training Authority (RTO).

2.17 These two courses will seamlessly integrate with the Public Safety Training Package unit of competency.

2.18 Category 1 operators are specialists trained in:

a. identification and use of personal protective equipment;
b. resource requirements for USAR operations;
c. planning for USAR incidents;
d. preparation for the psychological effects of USAR operations;
e. identification of physical hazards;
f. safe working practices that may be encountered at an Urban Search and Rescue incident;
g. identification of operational areas and expected collapse patterns following a structural collapse;
h. hazard marking and identification;
i. search and safely remove of surface casualties from a collapsed structure.

An up to date list of learning outcomes can be obtained by visiting the internet website: http://www.ntis.gov.au/cgi-bin/waxhtml/~ntis2/crs.wxh?page=80&inputRef=805006

CATEGORY 2 TRAINING DETAILS

2.19 Category 2 operators are specialists trained in:

a. technical search and rescue of trapped victims;
b. atmospheric monitoring of voids prior to and during rescue operations;
c. shoring and stabilisation of collapsed and partially collapsed structures;
d. calculating the safe working limits for various cribbing and shoring necessary to render structures safe;
e. cutting, shoring, breaching, void penetration and tunnelling;
f. emergency medical field care for collapse/confined space casualties; and
g. decontamination procedures prior to exiting the site.

2.20 Pivotal to the Category 2 USAR training regime in Australia is the 48-hour practical exercise. This exercise is essential to prepare a USAR operator for the rigours of a long-duration incident, involving multiple shifts per operator, and associated team changeovers. The exercise is essential to practically assess the competencies learnt during Category 2 USAR training in a realistic but controlled situation.

CATEGORY 3 TRAINING DETAILS

2.21 The National USAR Working Group recommended that the Public Safety Industry Training Board be approached to formulate a set of national competencies and a nationally accredited training program.

2.22 This training provides task force managers with the ability to manage the external pressures they will face at a USAR incident as the leader of a USAR task force.

2.23 Category 3 operators are specialists trained in:

a. USAR team capabilities;
b. team leadership;
c. command, control and coordination;
d. occupational health, safety and welfare;
e. disaster management;
f. disaster plans;
g. emergency management legislation;
h. cross border arrangements;
i. cultural issues;
j. political structures;
k. media management;
l. logistics management;
m. travel documentation;
n. victim psychological responses;
o. community recovery;
p. pre-planning for management of external pressures;
q. information management; and
r. use of available aides memoir.

REFERENCES

2.24 The following references relate to international approaches to USAR training:

NFPA Standard 1470 on search and rescue training for structural collapse incidents.

FEMA Manual FA-153, 1/95, Technical Rescue Program Development Manual.

FEMA Manual FA-153, 1/95, Technical Rescue Technology Assessment.

CHAPTER 3

Ethical Considerations

GENERAL

3.01 The public perception of USAR personnel is that they are representatives of a well-organised, highly trained, professional group assembled to provide support to affected communities in desperate need of specialist assistance. USAR team members should, therefore, conduct themselves in a professional manner at all times and be aware that their behaviour could impact on the success or otherwise of their work.

3.02 Violation of principles, or any irresponsible behaviour would be regarded as unprofessional and reflect poorly on the entire team's performance. All the good work teams may have performed would soon be forgotten. During deployment, team members should never take advantage of any situation/opportunity that may arise (e.g. adverse comments to media, actions resulting in personal gain, etc.).

3.03 MANAGEMENT RESPONSIBILITIES

Team managers should reinforce these ethical considerations during all planning sessions, meetings and briefings and be responsible for monitoring compliance. Violations must be documented and appropriate follow-up action taken.

SENSITIVITIES

3.04 Sensitive issues to be considered are:

a. cultural awareness including race, religion and nationality;
b. local customs (food, etc.);
c. language;
d. different local apparel;
e. different work values;
f. value of life;
g. local law enforcement practices;
h. use of different medications;
i. use of alcohol and other drugs;
j. local policy on weapons;
k. handling of sensitive information;
l. use of canines;
m. care and handling of patients and/or deceased;
n. local living conditions;

o. gender restrictions;
p. dress code or standards;
q. recreation restrictions;
r. local communication (radio) restrictions and accepted use;
s. taking of pictures (victims or structures);
t. taking souvenirs (building parts etc.);
u. unnecessarily defacing property (structure marking system);
v. local driving habits/customs;
w. straying into restricted areas;
x. observing moral standards;
y. consideration for other teams capabilities and operating practices; and
z. use of gratuities to promote cooperation.

CHAPTER 4

USAR Team Structure and Duties

INTRODUCTION

4.01 The USAR team concept is based on a multi-agency approach to relevant emergencies. This incorporates technical expertise from many disciplines. USAR teams are to be capable of fulfilling their primary role of search and rescue whilst still ensuring self-sufficiency.

4.02 A USAR team generally consists of eight to 10 personnel including a paramedic and team leader, and may include other specialist personnel as required by the situation. A USAR team is a deployable element in its own right, and may be sufficient to meet operational requirements.

4.03 TASK FORCE

A number of teams may be combined with other specialist personnel to form a USAR Task Force. The Task Force is designed to be fully self-sufficient and capable of sustaining protracted operations.

4.04 USAR consists of three main components. These are:

a. a management component (e.g. Task Force command and control);

b. an operational component (e.g. on-ground specialists such as rescuers, doctors, engineers etc.); and

c. a support component (e.g. logistics, records management, etc.).

4.05 In a Task Force these components are further divided into functional groups to manage specific roles. In a USAR team, these components are absorbed within the team structure. An organisational chart for a recommended Task Force structure is shown at Annex 'A' to this chapter.

4.06 TASK FORCE LEADER

The Task Force Leader is responsible for the following:

a. Overall command and control of the task force.

b. Managing personnel deployment during the initial stages of the operation, including:

(1) developing a plan for the most effective use of the team personnel;

(2) establishing a work cycle that allows for adequate team rest and yet maintains flexibility to meet changing operational needs; and

(3) ensuring that reserve personnel are available.

c. Management of personnel, equipment, and operations from the point of activation to the return to the home base.

d. Maintaining the primary liaison role between the Task Force and the local authority.

e. In conjunction with the Operations Officer and using local knowledge, compiling intelligence and administering a plan of action for operational teams.

f. Attending briefings by the Local Emergency Management Agency (LEMA) and ensuring that the teams are kept informed of appropriate issues in a scheduled and timely manner. The Task Force Leader should conduct at least two types of briefings including:

(1) a general, full team briefing in which information is disseminated to all members on broad subjects of interest or importance to everyone; and

(2) technical briefings related to functional issues.

4.07 OPERATIONS OFFICER

The Operations Officer's duties include:

a. maintenance of a primary link between the Task Force Leader and teams;

b. overall responsibility for the safety of the assigned shift;

c. maintenance of liaison between the shift and outside services that are in attendance for either direct operations or support;

d. conduct of the briefing of the on-coming Operations Officer and the debriefing of the off-going shift;

e. liaison with the Logistics and Acquisitions Officer;

f. responsibility for implementation of all operational tasks at the incident site; and

g. responsibility for maintenance of discipline and overall monitoring of the shift.

MANAGEMENT COMPONENT

4.08 Planning is an integral part of the complete USAR system, and during the course of a deployment, the team must implement both short range and long range planning.

OPERATIONAL COMPONENT

4.09 TEAM LEADER

The Team Leader is directly responsible for the safety and security of team personnel and must demonstrate a strong commitment in this regard, including:

a. always ensuring that safety/security personnel are clearly designated;

b. continually reviewing and enforcing safety/security procedures; and

c. addressing safety/security issues in the plan of action and briefings.

4.10 The Team Leader must ensure that the team command structure is visibly identifiable. It is important that functional positions on the team are clearly identified. The Leader's responsibilities include:

a. primary responsibility for the safety of their designated team;

b. liaison between the Operations Officer and the team;

c. participation and advice on briefings and debriefings of the shift to which the team is attached;

d. oversight of implementation of all operational tasks, whilst actively participating in the work;
e. direction of individual team members – allocating work as required; and
f. responsibility for rotation of rescuers through various team functions/positions, including Safety Officer.

4.11 RESCUER

Rescuers must be qualified to Category 2 level and must be capable of conducting work allocated to them by the Team Leader.

4.12 SAFETY OFFICER

This role is rotated through rescuer ranks at the discretion of the Team Leader. The primary function is to watch the site for signs of danger and ensure the safety of the team. The Safety Officer may from time to time act as a runner to obtain equipment etc. During such absences, the Paramedic will act as the primary Safety Officer. (Refer also to Chapter Nine).

4.13 PARAMEDIC

The roles and responsibilities of the USAR Paramedic are described in full in Chapter Six.

SUPPORT COMPONENT

4.14 EQUIPMENT MANAGER

The Equipment Manager is primarily responsible for:

a. development of the equipment cache and the issue and service, or repair of Task Force equipment; and
b. answering directly to the Operations Officer.

4.15 HAZMAT OPERATOR

The specialist HAZMAT Operator is:

a. required to implement and control any component of the incident that would fall within a hazardous materials situation;
b. responsible for ensuring the hygiene of persons leaving the scene is maintained through wash stations;
c. required to oversee the use of breathing apparatus during any confined space incident; and
d. responsible for arranging (where possible) for the disposal of hazardous materials.

4.16 LOGISTICS AND ACQUISITIONS

The Logistics and Acquisitions specialist:

a. is primarily responsible to the Operations Officer and required to obtain any additional equipment needed to maintain the Task Force;

b. arranges meals and accommodation; and

c. organises outside resources such as cranes in conjunction with local emergency management arrangements.

4.17 COMMUNICATIONS UNIT

Members of the communications unit are:

a. primarily linked to the Task Force Leader and responsible for all lines of communication; and

b. responsible for maintaining the communications log at all times and for maintaining the incident log whilst the Clerical Assistant is off duty.

4.18 CLERICAL ASSISTANT

Where appointed, the Clerical Assistant is:

a. located with the Task Force Leader and responsible for all clerical matters related to the Task Force; and

b. responsible for the maintenance of the incident log.

4.19 DOCTOR

The Doctor is primarily responsible to the Task Force Leader for the health and well-being of all Task Force personnel. Other specific duties are set out in Chapter Five.

4.20 STRUCTURAL ENGINEER

The Structural Engineer is an integral part of the Task Force who:

a. is responsible for acquiring building plans of the collapsed structure;

b. provides advice as requested by the Operations Officer as to the most appropriate means of approaching and securing the collapse site; and

c. advises on any other aspects of the incident that may fall within the realms of their expertise.

4.21 SEARCH DOGS

a. The following points regarding the use of search dogs and handler must be trained and certified to national or INSARAG standards to work in the disaster environment involving detection and location of victims in collapsed structures.

b. It is desirable that each Task Force has a sufficient number of trained search dogs and handlers to meet operational requirements on multiple work sites.

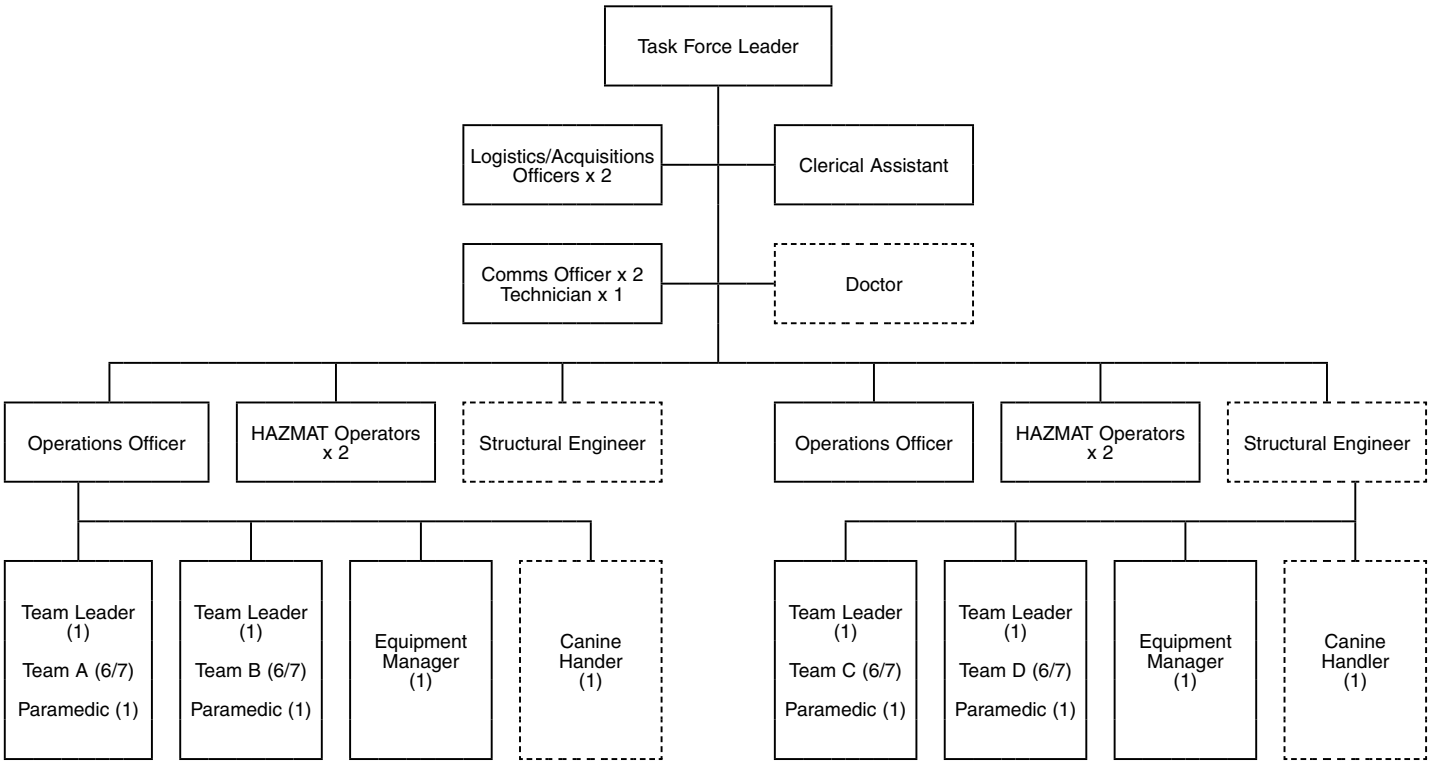
c. To ensure readiness, the following issues need to be accomplished well in advance of any response activation:

   (1) Required general inoculations are current.

   (2) Short notice health certificates are obtained.

   (3) Affected country-specific inoculations are provided.

   (4) Arrangements are in place to acquire food needed for deployment.



Note: Positions shown in broken boxes may not always be included in Task Forces.

CHAPTER 5

USAR Activity Phases

INTRODUCTION

5.01 State and Territory emergency management arrangements make provision for appointment of an Incident Controller/Manager tasked with management of a complex situation. USAR is designed to be a specialised resource available to the Incident Controller in such situations.

5.02 In keeping with INSARAG Guidelines, the National USAR Working Group recommends that the following phases are applicable to USAR activities:

a. Planning.
b. Preparedness.
c. Activation.
d. In transit.
e. Operations.
f. Reassignment
g. Disengagement/stand down.
h. Return to home base.

PLANNING

5.03 TEAM PERSONNEL

Team management should ensure that personnel:

a. have completed appropriate levels of training and are accounted for within a team structure;
b. are physically able to perform their tasks;
c. have appropriate and current inoculations;
d. have appropriate documentation (e.g. passport, visa, inoculation record, emergency numbers for next of kin);
e. are appropriately clothed; and
f. provide medical history documentation.

5.04 PERSONAL CONSIDERATIONS

Team members are responsible for:

a. personal, family and domestic considerations;
b. personal finance;
c. a current will;
d. appropriate agreements between employer/employee; and
e. personal medication.

PREPAREDNESS

5.05 Effective preparedness requires:

a. careful maintenance of the National USAR Directory;

b. distribution of advisories, alerts, activations, situation reports, requests/appeals for assistance;

c. coordination of the dispatch of USAR teams;

d. dispatch of a disaster assessment (reconnaissance) team as appropriate;

e. possible establishment of an on-site reception centre (generally at an airport); and

f. establishment of an on-site coordination centre.

5.06 The responsible State or Territory authority for the USAR team must:

a. submit a team profile that accurately reflects team capabilities to Emergency Management Australia for inclusion in the National USAR Directory;

b. develop team capability documents;

c. inform the team on inter-operability and cultural awareness;

d. brief the team management for liaison tasks; and

e. establish bi-lateral contacts and appropriate cross-border arrangements with governments of States and Territories.

5.07 MOBILISATION PLAN

A mobilisation plan should be developed to include:

a. a 24-hour State contact point;

b. team contact details;

c. team notification process;

d. a designated team assembly point;

e. an equipment packaging and palletising plan; and

f. a transportation plan (team and equipment) including relevant documentation.

5.08 The 24-hour State contact point should be capable of:

a gathering information from, exchanging it with, and disseminating it to all concerned;

b. determining the criticality of the information and passing it to the appropriate authority; and

c. contacting the USAR team contact point or authority.

5.09 Every team/task force must have a single designated contact point capable of receiving all official notifications of USAR-related communications. The team contact point must be capable of:

a. continuous contact and availability;

b. gathering information from, exchanging it with, and disseminating it to all concerned; and

c. alerting staff and team members.

5.10 Members within the team/task force, as a part of their training, should be aware of their organisation's policy on recalls and activation, assembly point, pre-task gear checks, storage and transport of equipment, personnel, medical, welfare and social requirements.

5.11 Contact with the government of the affected State/Territory or country must be established. USAR personnel are to be briefed on cultural and political sensitivities in the area of deployment. (Refer to Chapter Three).

5.12 EQUIPMENT AND SUPPLIES

Team/task force management should ensure that:

a. specialised equipment is accompanied by operator manuals;

b. food identified as appropriate for entry into the affected area, and which will not adversely affect personal health and performance, is available in sufficient quantities;

c. adequate water is available for the initial phase and that water purification equipment is sufficient to support team needs;

d. sufficient sanitation and hygiene provisions are available for deployment; and

e. shelter and bedding are provided/available.

ACTIVATION

5.13 INTRASTATE

Any request for the deployment of a USAR capability within the team/task force's home State is to be in accordance with legislation and appropriate plans of that State.

5.14 INTERSTATE

Requests for USAR deployment across States/Territories can be made from either:

a. a request from the affected State's EOC directly to the assisting State's EOC, with notification to EMA; or

b. the affected State EOC contacting EMA who would then coordinate national resources to meet that request.

5.15 State, Territory and Commonwealth emergency management arrangements for requests for assistance across borders are identified in the document 'Guidelines for Interstate Disaster Assistance' as extracted below:

5. Request for Interstate assistance

5.1 No-one but a Designated Officer, or his or her authorised representative, may request assistance on behalf of a Requesting State, unless the Requesting State and the proposed Assisting State otherwise agree.

5.2 Requests for assistance may be oral or in writing. If oral, the request must be subsequently confirmed in writing (facsimile and electronic mail are acceptable), but acceptance or implementation must not be withheld until receipt of a written request or confirmation.

5.3 Requests for assistance should provide the following information:

5.3.1 A description of the emergency or disaster for which assistance is needed.

5.3.2 The desired outcome of assistance (to enable the Assisting State to assess the type of resources to be provided) or the amount and type of personnel, equipment, materials and supplies needed, and an estimate of how long they will be needed.

5.3.3 The location and time for staging of the resources of the Assisting State response and point of contact at that location.

5.16 INTERNATIONAL

The decision to respond to an international incident will be made on a case-by-case basis. This decision will be made by the Department of Foreign Affairs and Trade (DFAT). EMA will implement and coordinate the activation.

5.17 COMMONWEALTH ASSISTANCE

Australian Government Departments including the Australian Defence Force (ADF) may be able to provide assistance by a request being forwarded to EMA from the designated officer of the disaster-affected State/Territory. ADF assistance is generally only provided when all similar resources within those States have been expended or are not suitable for the required task.

5.18 As suitable civilian transport aircraft are limited, the ADF may be utilised in the movement of USAR personnel and their equipment both interstate and overseas. Prior agreement needs to be established between the ADF and State/Territory agencies for timely movement of personnel and resources, including hazardous materials.

5.19 AFFECTED STATE/TERRITORY/COUNTRY REQUIREMENTS

The affected State/Territory or country will provide for:

a. local transport (including drivers and fuels);
b. identified base of operations for incoming USAR resources;
c. security for resources;
d. compressed gases, fuels; and
e. a 24-hour point of contact.

5.20 The affected State/Territory/country is required to have arrangements in place to manage:

a. emergency medical practices and controlled drugs;
b. canine quarantine requirements;
c. entry visas;
d. specialised communications equipment; and
e. interpreters/liaison officers for incoming teams if required.

5.21 ASSISTING STATE/TERRITORY/COUNTRY REQUIREMENTS

The assisting State/Territory or country will bear the cost of deployment unless otherwise agreed. Arrangements must include the following:

a. It is recommended the team/task force should be self-sufficient in terms of food, water, team medical support, shelter, etc. for 72 hours within Australia with an ability to resupply. For international deployment refer to INSARAG Guidelines which require 10 operational days.

b. An incident management structure must be deployed for the team/task force setting out command and control, along with internal/external communications.

c. The responding resources must place a minimal burden on the affected area. The exceptions are compressed gases, fuel, and in-country transport.

d. The team/task force must provide staff and logistical support to State/Territory or country operations, as requested, along with management/liaison personnel.

e. The treatment priorities for USAR paramedics and doctors are detailed in Chapter Six.

f. Planning must be based on a minimum deployment of 10 operational days unless otherwise agreed.

5.22 The assisting State/Territory or country must have provisions to deal with:

a. proper conduct of all team members;

b. treatment of injury to team members;

c. full responsibility for death(s) of a team member; and

d. damages brought about by malicious, wanton and/or willful acts of its members.

IN TRANSIT

5.23 All USAR teams/task forces should have the capability of being at the designated point of departure within a predetermined time following an activation order. To accomplish this, a mobilisation plan must be developed and exercised.

5.24 HOME BASE TO THE AFFECTED AREA/BASE OF OPERATIONS (BoO)

Team management should continue to collect intelligence on the disaster and provide briefings to the team/task force members. Aspects which must be considered whilst in transit should include:

a. ensuring team members rest as much as possible during this phase;

b. briefing the team on the current situation;

c. receiving direction and priorities from the Local Emergency Management Agency (LEMA);

d. establishing mission priorities;

e. identifying and prioritising necessary points of contact;

f. identifying a chain of command and reporting contacts;

g. establishing a communication plan identifying how contacts are made;

h. coordinating with other teams;

i. clearly identifying any political or cultural sensitivities;

j. determining the type and condition of transport equipment;

k. assessing local medical capabilities for emergencies;
l. identifying special hazards and problems (i.e. road conditions, land mines, animals, infrastructure, weather, looting, civil unrest, criminal acts, restricted areas, check point procedures, escort procedures, etc.);
m. confirming local driving regulations, movement procedures, including maps;
n. planning for a reserve fuel supply;
o. identifying an evacuation route and establishing a safe haven; and
p. planning for media relations (refer Chapter Eleven).

OPERATIONS

5.25 All aspects of the IN TRANSIT phase (refer 5.24) must be implemented as appropriate. Additional considerations at this stage include:

a. identifying local officials in charge and briefing them on the team capabilities; and
b. covering issues relating to Health and Safety (refer Chapter Nine).

5.26 During this phase, action must be taken to integrate the team into local operations and develop an incident action plan that meets the needs of the LEMA, including:

a. victim management, documents and transport procedures; and
b. plans for managing deceased victims.

REASSIGNMENT/DISENGAGEMENT

5.27 The team/task force may, upon completion of allocated tasks, be reassigned to another local area or to sites further afield (see 5.29).

5.28 The process for disengagement is equally important as the process for activation. The various ways the assignment can be terminated are:

a. all assigned tasks have been completed;
b. the assisting State/Territory or country recalls the team;
c. team management decides; or
d. the LEMA releases the team.

5.29 The Team Leader should report assignment completion and discuss operation effectiveness with the LEMA. The Team Leader should also report assignment completion to the relevant authorities, and ensure that any press/media who are present on the site understand why the team is leaving.

5.30 Personnel considerations that should be taken into account include:

a. mitigating fatigue;
b. monitoring for stress;
c. preventing loss of concentration and motivation;
d. maintaining team discipline;
e. ensuring information exchange (briefings/debriefings);
f. ensuring safe and secure practices are followed for the breakdown and packaging of the team base; and
g. adherence to ethics and professionalism (refer Chapter Three).

RETURN TO HOME BASE

5.31 The Team Leader should:

a. account for all team members;
b. activate pre-planned arrangements for returning to home base;
c. continue the enforcement of the code of conduct;
d. conduct a full team debriefing;
e. maintain equipment security and check stocks;
f. address media requirements in accordance with agency guidelines and policies;
g. complete refurbishment of equipment caches;
h. complete written after-action report that documents issues and concerns;
i. ensure issues identified in debriefs are actioned appropriately; and
j. ensure all injury follow-ups and stress management issues are completed. (Stress debriefing sessions should be conducted as appropriate).

CHAPTER FIVE — ANNEX 'A'

CHECKLIST

ACTIVATION

- Gather intelligence to obtain an overall picture of the nature, extent and location of the incident.
- Commence activation of team and resources required for deployment.
- Recall team and establish systems required to support deployment.
- Obtain appropriate authorities and approvals to deploy.
- Determine how team members are to be notified and mobilised.
- Determine procedures to be used and what information needs to be provided.
- Determine special needs required for team and individual members.
- Assess likely transport requirements for moving equipment and team members.
- Establish how existing services will be maintained during deployment.

TRAVEL

- Ascertain final transport requirements for exact numbers of team members and equipment.
- Determine means of transport (e.g. road, rail or air).
- Check access into affected area.
- Transport of resources within affected area including what will be supplied there.
- Loading and unloading facilities and requirements.
- Safety requirements for personnel and equipment.
- Packaging and weights.
- Travel times.
- Access routes including maps and clearances to move within the affected area.
- Refuelling requirements en route and in the area.
- Maintenance requirements.
- Security and escort requirements.

PERSONNEL CONSIDERATIONS

- Accommodation.
- Catering needs.
- Relief for team members.
- OH&S.
- Industrial awards/agreements.
- Self-sufficiency.
- Contact with home (both base and family).
- Debriefs.
- Finance (method of payment for services in affected area).

COMMUNICATIONS

- Compatibility:
  - within team;
  - team to local (on-site);
  - team to home base; and
  - individual to home.
- Verbal.
- Maintenance of records/situation reports.
- Clerical support.

CHAPTER 6

USAR Medical Capability

INTRODUCTION

6.01 The medical component of an USAR task force consists of USAR-trained paramedics attached to each USAR team, supported by an appropriately qualified doctor in the role of medical manager. The aim of the task force medical staff is primarily to provide health care and emergency medical treatment to task force members, and secondly to provide advanced life support to victims. They must be prepared for the treatment of serious illness and injury, out of the hospital environment, often for extended periods.

NOTE: USAR task force medical staff deployed interstate or internationally must gain authority from the LEMA before giving medical care to disaster victims or persons other than their task force members.

6.02 **TREATMENT PRIORITIES**

The treatment priorities for USAR medical staff are as follows:

a. First – USAR task force personnel, assigned support staff and canine support.

b. Second – Victims directly encountered by USAR teams.

c. Third – Other persons as required.

6.03 It is not intended for the task force medical staff to provide a free-standing medical resource at the disaster site. Capable local medical systems will be considered the primary providers of general medical care to disaster victims. Task forces planning to provide international response should consider contingencies for deployment to areas with limited local health and medical capabilities.

6.04 Many aspects of USAR operations will be foreign to some medical staff. Paramedics and doctors expected to take on this role may find themselves operating for extended periods in situations which are physically, psychologically and environmentally challenging, and should therefore, be thoroughly assessed for suitability prior to acceptance as a task force member.

ROLES AND RESPONSIBILITIES OF THE USAR PARAMEDIC

6.05 The USAR paramedic performs an essential role as part of the multi-agency task force. Although the role is primarily that of providing medical monitoring, support and where necessary, treatment of task force members, the paramedic must also be prepared for treatment of casualties located by the team at an incident site.

6.06 QUALIFICATIONS LEVEL

The role requires paramedics to demonstrate high levels of professional and clinical competence, and to provide appropriate patient care, where required, in line with their individual services' clinical guidelines. Additionally, if trained to do so, the paramedic will monitor the critical incident stress levels of task force members.

6.07 Due to the types of injuries that could be expected to be encountered at a USAR incident, paramedics involved in USAR operations should be qualified to the highest clinical level available within their State. Ambulance services throughout Australia do not all practice to the same clinical levels, therefore it is to be expected that skill levels may differ from State to State. Similarly, the decision to deploy one or two paramedics with each USAR team will depend on work practices employed by the paramedics' home service, and those agreed upon by the task force organisers.

6.08 USAR TRAINING REQUIREMENTS

In addition to the provision of medical care, USAR paramedics should be able to assist as part of an USAR team, in all facets of the search and rescue operation alongside fellow team members. This requires that they are trained as Category 2 USAR operators.

6.09 The nature of USAR operations is such that there may be times when paramedics are not actively involved in search or rescue operations. During these periods, each paramedic should take on the role of safety officer for their USAR team. They must be acutely aware of the physical and mental limitations of their team members, and actively promote proper rest and nutritional habits.

6.10 SUMMARY

In summary, the roles and responsibilities of the USAR Paramedic are to:

a. work under the direction of the Rescue Team Leader;
b. monitor and maintain the medical, hygiene and psychological needs of the USAR team/task force;
c. liaise with the task force medical manager;
d. perform triage during search and rescue operations;
e. be accountable for the medical equipment cache;
f. deliver medical care within the paramedic's authorised scope of practice, to both USAR task force members and other casualties of an incident;
g. provide medical treatment as required to search dogs, where the paramedic is so trained;
h. undertake training in all facets of USAR;
i. operate specific USAR equipment; and
j. maintain records and prepare reports as appropriate.

ROLES AND RESPONSIBILITIES OF THE TASK FORCE DOCTOR

6.11 Most States will have, as part of their task force structure, a position for a doctor. This person may be someone whom provides medical advice to USAR training officers, or whom responds with the task force when it deploys. Where such a position exists, and the doctor deploys as part of the task force response, the primary role should be that of medical manager.

6.12 This position answers to the task force leader, and is responsible for the health and well being of task force members, support to paramedics in their role, as well as liaison with local hospitals and emergency medical services at the incident site. (Where the doctor is not part of the standard task force deployment, paramedics should develop appropriate clinical management guidelines in conjunction with the medical director/clinical managers of their home ambulance service, and then liaise directly with local ambulance and medical providers at the incident site.)

6.13 QUALIFICATIONS AND USAR KNOWLEDGE

Task force doctors should hold specialist qualifications in emergency medicine, anaesthesia and/or intensive care, with experience in public health as well as pre-hospital and retrieval medicine. As a minimum, their training should include:

a. orientation to the task force role and structure;

b. operational safety and the use of PPE;

c. knowledge of USAR paramedic roles and capabilities; and

d. exposure to USAR operations (typically during the 40 hour exercise of a Category 2 course).

6.14 Task force doctors are not generally expected to provide care in the collapse zone. However, if this requirement is considered by task force organisers to be a possibility, then appropriate training should be provided.

MEDICAL TASKS ACCORDING TO OPERATIONAL PHASE

6.15 Task force medical staff will have specific tasks appropriate to certain phases of the operation. These particular phases are preparedness, activation, in transit, operations, and reassignment or stand down. The tasks for each are detailed below.

PREPAREDNESS PHASE TASKS

6.16 During the preparation period, medical staff should ensure that they are appropriately trained and equipped for response to a USAR incident. Medical staff should ensure that they are physically and mentally prepared for the USAR role.

6.17 MEDICAL RECORDS

Medical information should be collated for all task force members, and inoculation records established.

6.18 Contingencies such as the right to medical practice, and the transport of controlled substances, should be developed for likely response areas.

6.19 MEDICAL EQUIPMENT CACHE

A cache of medical equipment should be prepared and maintained, appropriate to capabilities of medical staff. The cache should be selected to provide treatment against common travel/public health ailments, as well as immediate life-saving medical treatment for the USAR task force (including canine) and any disaster victims encountered during operations at the incident site. It is recommended that the quantity of equipment and medicines in the cache provide for treatment of the following patient classifications for a minimum of:

a. 10 critical cases;

b. 15 moderate cases; and

c. 25 minor cases.

An example medical cache contents list is contained in Annex 'A' to this Chapter.

6.20 ASSEMBLY AND PACKAGING

Appropriate medical cache supplies should be pre-assembled to ensure continuous availability to provide medical care to USAR task force members while in transit, and to provide immediate care to any victims encountered upon arrival at the incident site. Cache supplies should be appropriately labelled for ease of identification, and packaged to allow for safe transport with other task force equipment.

ACTIVATION PHASE TASKS

6.21 Medical staff should undertake medical surveillance to gather necessary information concerning infectious diseases and other health-related issues specific to the response area. They should attempt to identify medical and veterinary resources within the affected area. If possible, contact should be made with these services prior to arrival.

6.22 RECORDS REVIEW

Team members' medical records should be reviewed. This should include passport details, emergency contacts, medical history, inoculation record and blood type. Pre-deployment medical and physical assessment of all task force members should also be considered.

6.23 INOCULATIONS AND OTHER HEALTH ISSUES

Medical staff should arrange inoculations for task force members, appropriate for the response area, Medical evacuation plans for task force members should be reviewed, and updated as required. Task force briefings should be attended, and task force members should be briefed on health-related concerns in the affected area. Stress management and health maintenance issues should be revisited.

6.24 EQUIPMENT REVIEW

The medical equipment cache should be reviewed to ensure the contents are complete, up-to-date, appropriate to the task and response area, and ready for transport. Medical equipment required during transit should be separated from the main cache.

IN TRANSIT PHASE TASKS

6.25 Medical supplies need to be arranged such that team medical staff have access to ALS supplies at all times, in case one of the task force members becomes ill or injured during transit.

6.26 Where task force equipment must be transported in stages, prioritise elements of the medical cache for early transport to the base of operations.

OPERATIONS PHASE TASKS

6.27 MEDICAL PLAN

Task force medical staff should make contact with local medical services and/or the senior authority for medical operations at the site at the earliest opportunity. In conjunction with local medical authorities, they should develop a medical plan for the operation. The plan should include:

a. objectives;
b. strategies and tactics;
c. integration with local medical systems;
d. resource availability;
e. re-supply logistics;
f. deceased victim management (including task force members);
g. indigenous health concerns;
h. local victim transfer of care; and
i. task force member/search dog evacuation process.

6.28 HAZMAT PREPAREDNESS

The Medical Manager should coordinate with the site Safety Officer and Hazardous Materials specialist regarding:

a. potential for hazardous materials contamination or other exposures;
b. decontamination information for various contaminates or exposures; and
c. treatment options for general hazardous materials exposures.

6.29 Close coordination between medical staff and the USAR Team Leader is important to ensure a safe effective operation and optimal patient care. Rescue operations must be monitored for potential negative impacts that could adversely affect trapped victims and rescuers. The development of specific medical strategies may be required to assist in the mitigation of identified risks.

6.30 It is expected that in the disaster setting, medical equipment (i.e. defibrillators, monitors, ventilators, etc.) will be in limited supply. As such, items from within the USAR medical cache should not leave the incident site with patients. A high priority is placed on maintaining assets at the incident site to provide for the continued protection of USAR task force personnel and further victims. The organisation responsible for patient transport and follow-up medical care should provide all necessary equipment for patient transfer to a medical facility. (This should be clearly stated in the 'transfer of care' section of the medical plan.)

6.31 DOCUMENTATION

Any medical treatment provided must be documented, and the USAR paramedic or doctor must maintain a copy of each completed document for the team files. A copy should be made available to the receiving medical service, when care is transferred from the team's control. A patient treatment log must also be maintained. Standardised forms should be developed for the task force.

6.32 MEDICAL CARE AND EVACUATION OF INJURED TEAM MEMBERS

The USAR paramedic/doctor shall:

a. evaluate the team member's injury or illness;
b. treat as necessary;
c. recommend the team member's duty status/capability to perform;
d. evacuate member, if necessary;
e. investigate and document the occurrence; and
f. liaise with the USAR Team Leader.

6.33 DEATH OF A USAR TEAM MEMBER

Where authorised to do so, the USAR paramedic/doctor shall, in liaison with the USAR Team Leader and the relevant State/Territory or country authorities:

a. verify the identity and confirm death;
b. immediately notify local authorities;
c. secure remains and personal effects;
d. investigate and document the cause of death;
e. forward information to appropriate officials; and
f. evaluate the effects on the USAR team/task force.

REASSIGNMENT OR STAND DOWN PHASE TASKS

6.34 The USAR paramedic/doctor should:

a. evaluate the general physical and mental condition of the USAR team/task force;
b. evaluate the USAR medical cache capability for reassignment and resupply as required; and
c. determine equipment/supplies which, where appropriate, may be donated to the affected country.

CHAPTER SIX **ANNEX 'A'**

USAR MEDICAL EQUIPMENT CACHE

Antibiotics, Antiseptics and Antifungals

Name	Quantity
Amoxyl/Clavulinic Acid, 500mg, 30 tablets/bottle, PO	4
Chloromycetin Ointment 4gms, TOP	3
Betadine Solution, 500mls, TOP	10
Betadine Solution, 100mls, TOP	10
Chlorhexidine and Cetrimide amps, 30mls, TOP	60
Ceftriaxone, 1gm amps for IVI	10
Cephazolin, 1gm, IVI	20
Cephazelin, 500mg, 20 tabs/bottle, PO	4
Metronidazole, 500mg IVI bags, IVI	10
Tetracycline Tabs 250mg, bottle of 25	4
Silver Sulfadiazine Cream, 1% (400gm)	1
Tinaderm Powder TOP 20mg	4

Respiratory Medications

Name	Quantity
Salbutamol MDI	10
Salbutamol 5mg nebule	60
Ipratropium Br 500mcg nebule, box of 30	1 box
Paediatric Spacer	2

Cardiac and Resuscitation Medications

Name	Quantity
Verapamil 5mg/2mls amps	6
Atropine 1.2mg/1ml amps	50
Calcium Chloride 1gm/10mls amps	16
Captopril (25mg, 1 bottle)	1
Dextrose 50% bottle of 50mls	20
Frusemide 50mg/5ml amps	6
Adrenaline 1mg/1ml amps	40
Enoxeparin 100mg	5
Lignocaine 2% 5ml amps	35
Transiderm patch 25mg top	15
Sodium Bicarbonate 8.4% 50ml minijet	6
Sodium Bicarbonate 8.4% 100ml bottles	20
Naloxone 0.4mg/1ml amps	10
Metaraminol 10mg/1ml amps	6
Nitroglycerine spray	5
Digoxin 0.5mg/2ml amps	6
Amiodarone 150mg/3ml amps	12
MgSO4 10mg/5ml amps	6
KCl 20mg/10ml amps	3
GTN 50mg/10ml amps	3
Atelolol 5mg/5ml amps	3
Hydralazine 20mg/2ml amps	6
Dopamine 200mg/5ml amps	3

Patient Comfort Medications

Name	Quantity
Antacid (tabs 1 box of 100)	1 box
Antiemetic PO (30 doses)	30
Antiemetic PR (30 Doses)	30
Metaclopramide 10mg/2ml amps	26
Ondanestron 4mg/1ml amps	3
Haemorrhiod Suppository	25
Throat Lozenges	50
Pseudoephedrine Tabs	1 box
Oxymetazoline Nasal Spray	10
Promethazine Tabs 25mg/tabs, box of 50	1 box
Promethazine 50mg/2ml amps	10
Zantac Tabs 150mg/tabs, box of 60	1 box

Analgesic Medications

Name	Quantity
Paracetamol tablets 500mg	200
Aspirin Tabs 300mg	100
Paracetamol Suspension 100mg/ml 100ml bottles	5
Panadeine tabs	100
Panadeine Forte tabs	100
Fentanyl 500mg/10ml amps	3
Fentanyl 100mg/2ml amps	20
Morphine 10mg/1ml amps	40

Anaesthetic Medications

Name	Quantity
Ketamine 200mg/2ml amps	10
Midazolam 15mg amps	10
Diazepam 10mg/2ml amps	10
Diazepam 5mg tabs 20 tabs/bottle	2
Thiopentone 500mg amps	16
Propofol 200mg/20mls amps	10
Suxamethonium 100mg/2mls amps	20
Pancuronium 4mg/2ml amps	20
Vecuronium 10mg amps	15
Neostigmine 2.4mg/1ml amps	3
Bupivicaine 0.5%, 10ml amps	20
Lignocaine with adrenaline 2% 20ml amps	10
EMLA patches	1 box

Eye/Ear Medications

Name	Quantity
Amethocaine 1% mimims	20
Flouroscein 0.5% mimims	20
Homatropine 2% mimims	20
Softradex drops, bottles	2
Eye Stream 100mls	10

Miscellaneous Drugs and Extras

Name	Quantity
Syntocinon 10 units/ml 1ml amps (keep cold)	10
Phenytoin 250mg amps	15
Phenytoin 100mg tabs	200
Dexamethasone 5mg/1ml amps	10
Drug and Additive Labels	Roll
Infusion Protocols	3
Childrens Hospital Handbook	3
Harriet Lane Handbook or Equivalent	1
Pages from Australian Disaster Manual on Public Health	1
Infectious/tropical disease text	1
Veterinary Notes	1
Mannitol 20% 500ml flask	10
Prednisone Tabs 5mg tabs	100
Actrapid 100 unit amps	5
Resonium, bottle	1
Normal Saline 10ml amps	150
Water for Injection amps	150
Glucose Test Strips, bottle	1
Tetanus Toxoid 0.5mls amps	25
TIG 250 IU	10

Fluids

Name	Quantity
Hartmans 1000mls	12
Normal Saline 1000mls	72
Dextrose 5% 500mls	12
Gelfusion 500mls	24
N/4 and 3.75% Dextrose 500mls	12
N/2 Saline 500mls	12

Airway Equipment

Name	Quantity
Adult Self Inflating Ventilation Bag with Reservoir	6
Child Self Inflating Ventilation Bag with Reservoir	4
Adult Face Masks for Ventilation Bag	6
Child Face Mask Sets for Ventilation Bag	6
Spare Bacteriviral Filters, Box of 20	1
Expiratory Diverters and PEEP Valves	6
Adult Hudson Masks	24
Child Hudson Masks	6
Non Rebreathing Hudson Masks	20
Adult Nebuliser Masks	3
Child Nebuliser Masks	3
T-piece Nebuliser Adaptors for ETT	3
Nasal Prongs	24
Oxygen Tubing 2.2 metres	40
Oxygen Tubing 10 metres	4
Oropharyngeal Airways Sets	10
Nasopharygeal Airways Sets	10
V.Vac Hand Suction Units	2

V.Vac Suction Replacement Cartridges	4
Yankaeur Suckers	5
50ml syringes for suction	3
Laryngoscopes	6
Magill Forceps	6
9.0 Cuffed Endotracheal Tubes	10
8.0 Cuffed Endotracheal Tubes	10
7.0 Cuffed Endotracheal Tubes	10
6.0 Cuffed Endotracheal Tubes	10
5.5 Uncuffed Endotracheal Tubes	6
5.0 Uncuffed Endotracheal Tubes	6
4.5 Uncuffed Endotracheal Tubes	6
4.0 Uncuffed Endotracheal Tubes	6
3.5 Uncuffed Endotracheal Tubes	6
3.0 Uncuffed Endotracheal Tubes	6
Boogies	6
LMA's size 4	6
Spencer Well's Forceps and 10ml syringe	10
Linen tape roll	1
Y Suction Catheter Sets	5
Disposable Scapel	10
Lubricant Sachets	1 box
NG kits, NG tubes, lube, drainage bag	5
Oxylog Ventilator	2
Oxylog Ventilator Tubing	4
Goosenecks	10

Circulation Equipment

Name	**Quantity**
14 gauge Cannulae	40
16 gauge Cannulae	40
18 gauge Cannulae	40
20 gauge Cannulae	40
22 gauge Cannulae	30
24 gauge Cannulae	15
Cannulae Caps	30
Tourniquets	10
Opsites	100
Steristrips	50
Alcowipes	Box
3 way taps	9
Shavers	9
Blunt Drawing Up Needles	300
19 Gauge Needles	20
21 Gauge Needles	100
23 Gauge Needles	200
25 Gauge Needles	50
2ml Syringes	200
5ml Syringes	100
10ml Syringes	200
20ml Syringes	60
50ml Syringes	25
50ml Syringe Pump Sets	6

Giving sets with Pumps	20
Pressure Bags	10
Luerlock 10ml syringes and arterial line extensions	10
Rapid Infusion Exchange Catheter Sets	10
Central Line Kits	3
Interosseous Needles	6
Radial Arterial Lines and Transducer Kits	10
Femoral Arterial Lines	6
Labels For Arterial Lines, set	1

Monitoring Equipment

Name	Quantity
Propaq and leads (ECG, NIBP, Invasive,Temp, SaO2)	2
Power transformer for Propaq	1
Spare SaO2 leads for Propaq	2
Spare ECG leads for Propaq or Lifepac	2
Lifepack 10 or 5 and leads and dots	2
Spare Lifepak Batteries	6
Lifepak Battery Support system	1
Oximeter, leads and spare batteries	2
Capnographs and lines	2
Power transformer for Capnographs	1
Stethoscopes	6
Thermometers and covers	6
BP manometers	6
BP paediatric cuffs	5
BP adult cuffs	6
BP large cuffs	3
Urinary Catheterisation Kits	10
Opthalmoscope/Oroscope	2
Tongue Depressors, box	1
Syringe Pumps	2
Power transformer for syringe pumps	1
Glucometer	1
Portable Electrolyte Analyser	1

Protective and General Equipment

Name	Quantity
Small Disposable Gloves, box	2
Medium Disposable Gloves, box	4
Large Disposable Gloves, box	6
Shears	8
Domestos Cleaning solution and container	1
Water 1000mls containers	12
Garbage Bags	20
Recloseable Plastic Bags	100
Small Sharps Containers	16
Large Sharps Container 4litres	2
Chux wipes, sets of 10	10
Large Enviro Wipes, box thereof	2
Pens	8
Ream of Paper	4

Torchs	6
Space Blankets, box	2
Warm Packs	10
Cold Packs	10
Tissues, boxes of 50	20

Dressings

Name	Quantity
Bandaids	300
Trauma Dressings 25 x 76cm	20
Combines 20 x 20cm	40
Gauze Swabs, packs of 2	100
Shell Dressing	6
Crepe Bandages	35
Triangular Bandages	15
Eye Pads	20
Elasoplast 2 inch tape	6
Leucoplast 3 inch tape	5
Silk Tape	5

Splinting/Immobilisation Equipment

Name	Quantity
Cardboard Splint (Short)	20
Cardboard Splint (Long)	20
SAM Splint	10
Cervical Collars (Set)	6
Cervical Immobilisation Device (KED/OSS)	2
Traction Splint	2

Chest Drain Equipment

Name	Quantity
Intercostal Chest Catheters 32 gauge	6
Intercostal Chest Catheters 20 gauge	3
Intercostal Chest Catheters 12 gauge	3
12 G Dwellcaths	6
Chest Drain Bags	6
Heimlich Valves	6

Procedural Disposable Equipment

Name	Quantity
Kits each containing dressing pack x 1 disposable scalpel x 1 chlorhexidine 5ml x 2 betadine swabs x qty sterile gloves x 1 pr each sizes 7 & 8 sutures – 1 x 0 Nylon, Vicral ties,1 x 4/0 Nylon, 1 x 0 Black silk.	6
Kits as above without chlorhexidine	6
Dressing Packs	30
Chlorhexidine 5mls	30

Obstetric Kit

Name	Quantity
Kit Containing	1
Laerdal Bag Resuscitator + O2 Tubing	
Dressing Pack x 2	
Paper Drapes x 4	
Gauze Squares x 4	
Sterile Scissors	
Cord Clamps x 2	
Examination Gloves single x 4	
Sterile Gloves size 7 & 8 x 1 each	
Hibitane obstetric cream, jar x 1	
Pinnard Fetoscope	
Gauze Squares x 4	
Coban x 2	
Velband 5cm x 2	
1/4 Thermal Blanket x 2	
Interossious needle kit	
Salbutamol 5mg/5ml x 5	
Magnesium Sulfate 10mmol/5ml x 5	
Betamethasone Acetate 3mg/1ml x 5	

Other

Name	Quantity
Disposable Skin Staplers	5
Amputation Kit containing Sterile instruments	1
giggly handles x 1, giggly blade x 4,	
mosquito forceps x 5,	
Forceps x 2, toothed and untoothed,	
Scissors x 2, tissue and suture	
Spare Giggly blades	5
Splinter Forceps	5
Sterile Scrub Brush	20
Sterile Gloves size 7	20
Sterile Gloves size 8	20
Suture Sets, sterile, each containing	5
Needle Holder, Toothed Forceps,	
Mosquito x 2 Suture Scissors	
Disposable Sterile towels/Drapes	20

CHAPTER 7

USAR Equipment Capability

INTRODUCTION

7.01 When establishing a USAR equipment cache, consideration needs to be given to the operational requirements of the developing agency. Limited funding can be allocated to expensive equipment items for which a Service has no foreseeable need, or has insufficient numbers of operators trained to the necessary competency levels to operate.

7.02 Nationally recommended learning outcomes and levels of competency for USAR operators are set out in Chapter Two. The structure recommended for a fully self-contained USAR Task Force is set out in Chapter Four.

7.03 Having established the need, trained the operators, purchased the equipment, and implemented an ongoing skills maintenance programme, an adequate replacement and equipment maintenance support system needs to be established to ensure that the equipment will not fail the vital test during the time of most need.

7.04 EQUIPMENT CACHE LIST

Annex 'A' to this chapter details the recommended minimum equipment list for a self-contained USAR Task Force, recommended by the National USAR Working Group. Where only an USAR team is deployed, it may respond with partial or complete specialist equipment. This will be dictated by the event/request.

7.05 Many of the cache items are standard equipment common to all rescue units. It is suggested that these "common" items are ideal for the majority of Category 1 operations (i.e. surface search and rescue). The more complex and expensive electronic and mechanical equipment is designed for search, access and extrication of persons from below debris (i.e. Category 2 operations).

7.06 USAR operations by their very nature often necessitate long time-frames, and the logistical requirements for equipment and personnel have to be given careful consideration. Replacement of worn or damaged equipment and the supply of additional back-up equipment and personnel may become an issue.

FINANCIAL CONSIDERATIONS

7.07 When pre-planning for USAR operations consideration should be given to the ready availability for purchase, hire, donation, requisition or loan of equipment. Such considerations need to include:

a. payment for the purchase or hire of such equipment;

b. purchase agreements with potential suppliers;

c. costs to be met by the host government;

d. estimated total cost of operations; and

e. expenditure authorisations and "chain of approval" for emergency services purchases.

MOBILISATION

7.08 A task force should have as a minimum the recommended level of equipment and trained personnel. It should be self-supporting in all aspects of equipment, food, shelter and medical resources for at least 72 hours within Australia, with an ability to resupply. If deployed internationally, a task force in accordance with INSARAG Response Guidelines must be self-sufficient for 10 days. In addition to those needs, consideration needs to be given to transport of personnel and equipment, both prior to arrival and most importantly after arrival at the affected area.

7.09 When planning to mobilise an USAR equipment cache, specialist resources should be considered. These additional resources may include:

a. heavy machinery in the form of bulldozers, trucks, front-end loaders, backhoes, bobcats, shovels, cranes, cherry pickers, fork lifts, etc.;

b. medium machinery in the form of portable generators, portable pumps, lighting, ventilation and extraction fans and associated trunking, conveyor belts, cutting equipment suitable for the building material liable to be encountered, including reinforced concrete, masonry, steel, timber, etc.;

c. theodolites, for checking remaining structural stability after a collapse, which may be obtained through local government engineers and surveyors, as well as commercial operators; and

d. laser devices for measuring distances associated with walls, roofs and floors.

7.10 CATEGORY 2 SPECIALITIES

For Category 2 operations, pre-planning should identify:

a. access to fibre optic cameras which may be sought through local water and sewerage authorities as well as plumbers and drainers; and

b. shoring materials including large quantities of timber, acrow props and scaffolding.

DEPLOYMENT TIMES

7.11 Realistic acquisition and deployment times for specialist equipment resources must be determined. A dedicated team with its own trained personnel and equipment may be able to be activated in a short time, however, its ability to perform may be impaired if it has to rely too heavily on outside resources for its operation.

COMMERCIAL OPERATORS

7.12 In considering the use of commercial resources, the potential abilities and welfare of equipment operators in adverse conditions needs to be assessed. Whilst they may be highly skilled professionals in their day-to-day operations, answers to the following questions should be considered:

a. Who are they and what are their characteristics and capabilities?

b. Are they physically and mentally equipped to cope with a disaster situation?

c. Can they work away from their homes for a long duration?

d. Are they able to integrate into the command structure and discipline of the team or task force?

e. Will their medical, social and welfare needs be met whilst they are working with the team or task force?

f. What are the industrial implications of integrating them into the operation?

g. What are their pay rates for such operations, accommodation, meals, travel, medical, welfare and workers compensation arrangements?

h. What are the legal implications of their activities?

MOVEMENT

7.13 Due to considerations of access, transportation, fuel and maintenance, answers to the following questions must be addressed:

a. Who are the contacts and key holders for commercial/council equipment depots?

b. What are their phone/fax numbers for contact at short notice on weekends and public holidays?

c. Will owners allow their equipment to leave the local area, State or even the country for a potential long duration incident?

d. What are the maintenance back-up arrangements for this heavy equipment?

e. Are mechanics and spare parts readily available?

f. Is a ready fuel source available?

g. How are these assets to be accounted for?

h. Can they be transported by road, rail, air, or ship?

i. Does this need for transport create additional pre-planning requirements, and are the transport options readily available?

CHAPTER 7 ANNEX 'A"

RECOMMENDED TASK FORCE EQUIPMENT CACHE

1 SEARCH	NUMBER
Acoustic/seismic listening systems	2
Search camera/Snake Eye	2
Thermal imaging camera	2
Fibre optic camera	2
Binoculars	2
Spray paint cans – fluoro	
Visiboard panels for marking systems	
Marker pens	
Light sticks (Cyalume or similar)	

2 ACCESS/BREACHING	
Hydraulic power unit – breaching tools	2
Hydraulic concrete cutting chainsaws and accessories	2
Ring cutters and accessories	2
Quick cut rotary saws c/w metal and masonry discs	2
Hand hydraulic "reo" rod cutters	2
Jack hammers c/w bits	4
Rock splitters hydraulic	2
Concrete core drill and bits (25, 64 & 125mm)	2
Electric hammer drills, bits and accessories	2

3 LIFTING AND STABILISING EQUIPMENT	
Lifting slings	
Steel chain (12mm)	
Shackles	
'D' rings	
Chemical anchors	
HASR anchors rods	
HKD-S flush anchors	
Hilti HKD safety rings	
Wire rope	
Tirfor winches c/w cables and SWR pulley	2
Chain pulls	2
High pressure air bags and controls (min 20 tonne)	2
Low pressure air bags (large) and controls (min 9 tonne)	2

4 HYDRAULIC RESCUE KITS	
Hydraulic power unit – hydraulic rescue tools	2
Hydraulic rams (20 tonne)	2
Hydraulic rams (50 tonne)	2
Hydraulic cutters	2
Hydraulic spreaders c/w pulling chains	2
Hydraulic pedal/strap cutter	2

5 HOT CUTTING EQUIPMENT	
Electric welders c/w masks and rods	2
Oxy welder/oxy cutting (plus cylinders)	2
Thermal lance (plus cylinders)	2

6 SHORING	
Acrow props (mixed sizes)	12
Trench jacks	12
Shorco's	6
Nails (75mm and 100mm x 3.75mm)	
Power actuated nail guns (Concrete) & accessories	2
Nail guns (framing)	2
Shoring timbers	
Step chocks	8
Cribbing	
Wedges	

7 POWER AND LIGHTING	
Generators (7kVa minimum)	3
Lights portable	
Lights intrinsically safe	
Electric extension cords	
Power boards safety type (six plug)	
Residual current devices (RCDs)	
Water pumps (complete suction/discharge kit)	2
Sludge pumps	2
Ventilation fan and ducting (min 20m)	2
Compressors	2

8 TOOLS – WOODWORK	
Compound sliding saw	2
Circular saws (175mm)	2
Circular saws (225mm)	2
Reciprocating saws and blades	2
Hand saws	
Chain saws, chains and tool kits (incl chain files)	2
Chainsaw chaps	2
Axes	2
Wood chisels	
Carpenters squares	
Carpenters pencils	
Hammers, claw	
Nail bags	

9 TOOLS – METAL	
Hack saws and spare blades	
Angle grinders (steel discs)	2
Air operated nibbling tool	2
Bolt cutters (large)	2
Bolt cutters (medium)	2
Hammers (ball peen)	
Hammers (club/mash)	
Cold chisels	
Engineers chalk	

10 TOOLS – MASONRY	
Hammers, sledge 6kg	
Masonry/diamond blade for angle grinders	
Bolsters	
Chisels, masonry	

11 TOOLS – MISCELLANEOUS	
Spanners imperial (sets)	
Spanners metric (sets)	
Spanners shifter (large, medium and small)	
Screwdrivers sets (blade & phillips head)	
Impact drivers	
Socket sets imperial	
Socket sets metric	
Air operated socket wrenches	2
Stilsons (large)	
Stilsons (small)	
Multi grips	
Pliers	
Side cutters	
Tin snips	
Centre punches	
Nail punches	
Marlin spike	
Halligan tools	4
Crow bars	
Jemmy (pinch) bars	
Saw horses (steel stands)	6
Glass cutters	
Spirit levels	
Stud finders	
Ladders (folding ‘acrobat’ style)	2
Buckets (steel)	
Shovels (long handles)	
Shovels (short handles)	
Spades	
Picks	
Mattocks (grubbers)	
Wheelbarrows	
Allen key sets	
Duct tape	

12 SAFETY EQUIPMENT	
Theodolite, stand and case	2
Barrier tape (rolls)	50
Air horns	6
Hot sticks (Delsar or similar)	2
Loud hailers	3
Fire extinguishers (2 x CO2; 2 x water; 2 x foam)	6

13 HAZMAT EQUIPMENT	
Atmospheric monitors	2
Methane, sulphur dioxides, CO_2, flammables, O_2 detectors	2
Super gas detectors	2
Chlorine, nerve agents detectors	2
Radhaz detectors	2
Chemical suits	6
BA equipment	6
BA re-charging facilities	
Airline equipment	2
BA entry control boards	2
BA safety lines	6
Canister respirators (APRs)	
Chemical absorbent	
Decontamination facilities	
Containment facilities	

14 PERSONAL EQUIPMENT	
14.1 Operational kit (for 10 day deployment)	
Operational clothing (overalls)	1
Boots	1
Jacket or parka	1
Rain gear	1 set
Hat	1
Helmet and light	1 ea
Leather work gloves	2 pr
Barrier (medical) gloves	6 pr
Ear muffs	1 pr
Earplugs	6 pr
Personal first aid kit	1
Safety goggles	1 pr
Safety glasses	1 pr
Whistle	1
Pocket knife	1
Knee and elbow pads	

14.2 Bum Pack	1
Water bottles	2
Dustmasks	4
Stanley knife and blades	1
Side cutters	1 pr
Carpenters pencils	2
Marker pens	2
Tape measure (8m)	1
14.3 Field Response Pack	**1**
Torch intrinsically safe (c/w spare globe/batteries)	1
Rescue harness	1
Karabiners	4
Descender	1
Prusik loops	3
Tape slings	2
14.4 Personal Kit (for 10 day deployment)	
Change of uniform	1
Spare boots	1 pr
Underwear	
Socks	
Toiletries	
Personal medications	
I.D. Cards	
Passport	
Money	
Credit cards	
Medical records	
Water purification kit	
Insect repellent	
Sun screen	
Sunglasses	
Personal hygeine kit	

15 ADMINISTRATIVE	
35mm Still camera	1
Digital camera	1
Video camera	1
Tape recorder	2
Occurrence book	
White boards	
ICS resource book	
Note pads (A3 and A4)	

15 ADMINISTRATIVE *continued*	
Pens, pencils and white board markers	
Lap top computer with modem	1
Photocopier	1
Calculator	1
Tables	
Chairs	
Equipment inventory system	
Equipment manuals	
Maps	
Equipment operations manuals	
Equipment maintenance manuals	
Contact phone/fax numbers	

16 TEAM EQUIPMENT	
Tents	
Camp stretchers/sleeping mats	
Sleeping bags (both warm and cold)	
Food (sufficient for 72 hours)	
Water (sufficient for 72 hours)	
Water purification equipment	
Cooking equipment, portable	
Knives, forks, spoons and plates	
Washing up facilities, tea towels	
Paper towels	
Refrigeration equipment	
Freezer	
Microwave oven	
Portable showers	
Toilet facility	
Toilet paper	
I.D. Vests	
Spare safety equipment	
DVI equipment	
Body bags	
Salvage sheets	
Debris sheets	
Rescue litter	2
Long spinal boards	2
Half spinal boards	2
Confined space stretcher/evacuation splint	2

17 FUELS/OILS (supplied by host)	
Diesel fuel	
Petrol	
LPG	
Two-stroke oil	
Engine oil	
Hydraulic fluid	

18 COMMUNICATIONS	
Radio base station	
Radios hand held, batteries and chargers (programmable to change frequency)	
Satellite telephone, batteries and chargers	
GPS	
Mobile phones, batteries and chargers (global roaming)	
Head sets and ear microphones	
Field phones	
Repair and maintenance manuals	

19 VERTICAL RESCUE KIT	
Rescue rope	
Web slings (eye each end)	
Tape or webbing (both 48mm and 25mm)	
Rescue harness	
Karabiners and maillons	
Hauling system	
Descenders	
Ascenders	
Pulleys	
Edge rollers	
Edge mats/parcelling	
Larkin frame	2
Tripod	2
Prusik loops	
Patient harness	
Leg loops	
Wire rope ladders	4
Pickets	
Ground plates	
Cargo net	
Line throwing gun/catapult	2

20 OTHER RECOMMENDATIONS		
20.1 Helmets		
Pacific style, HFR5F5 helmets were considered the most appropriate for USAR activities with the following colour coding.		
Team Leader	Red	
Team Member	Yellow	
Medical	Green	
Police	Blue	
Operations Officer	Red	
Engineers	***To be allocated***	
Dog Handlers	***To be allocated***	
20.2 Overalls		
Recommendations to be determined		
20.3 Equipment Stowage		
The National USAR Working Group has recommended the allocation of colours for equipment cache cases to States/Territories developing a USAR Category Two capability, in order to avoid confusion during operations.		
New South Wales	Grey	
Australian Capital Territory	Blue	
Victoria	Red	
Queensland	Maroon	
Western Australia	Black	
Tasmania	Purple	
South Australia	Orange	
Northern Territory	***To be allocated***	
New Zealand	***To be allocated***	

CHAPTER 8

Mapping and Marking Guidelines

INTRODUCTION

8.01 The purpose of these guidelines is to standardise the identification of USAR team functions and of work site hazards. They also standardise mapping, sketch and landmark labelling with common symbols.

8.02 The system provides for standardised:

a. search assessment;
b. general area marking;
c. structure assessment marking;
d. victim location marking;
e. special markings; and
f. team accomplishments.

GENERAL AREA MAPPING AND SECTORISING

8.03 If maps are not available, improvise by:

a. developing a sketch map;
b. identifying and labelling landmarks; and
c. assigning a name to each site (i.e. GPS reference, street names, or colloquial names).

8.04 Orientation of buildings should be established, including internal plans if available.

8.05 LOCATIONS WITHIN STRUCTURES

It is important to identify locations within a single structure. The address side of the structure shall be defined as SIDE ONE. Other sides of the structure shall be assigned numerically in a clockwise manner from SIDE ONE.

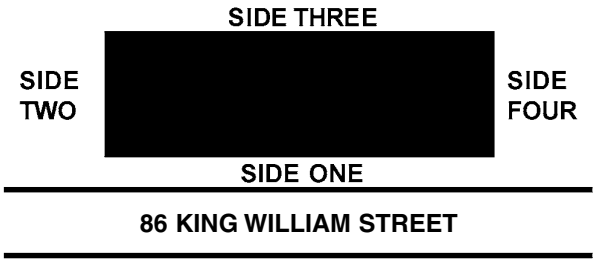


Figure 8-1: Preliminary Identification

8.06 The interior of the structure will be divided into **quadrants**. The quadrants should be identified alphabetically in a clockwise manner starting from where the Side One and Side Two perimeters meet. The central core, where all four quadrants meet, will be identified as Quadrant E.

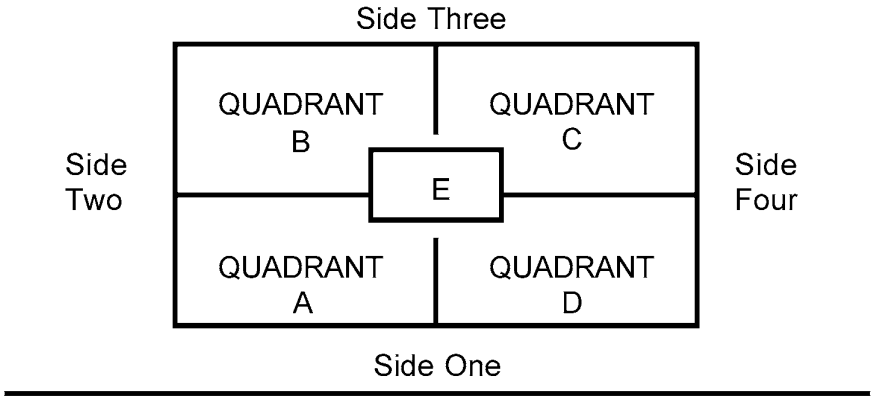


Figure 8-2: Building Quadrants

8.07 Multi-storey structures should have each floor clearly identified. If not clearly discernable, the floors should be numbered as referenced from the exterior. The ground level floor would be designated FLOOR LEVEL 1 and, moving upward the next floor would be FLOOR LEVEL 2, etc. Conversely, the first floor below ground level would be BASEMENT 1, the second BASEMENT 2, etc.

MARKING SYSTEMS

8.08 Two systems of marking are employed in USAR operations. These marking systems are for ***structure assessment*** and ***victim location***. It is important that information relating to structure identification, conditions, hazards, and victim status are posted in a standardised fashion to ensure uniformity and clarity, as USAR team participants may originate from countries around the world.

8.09 Information should be displayed to permanently identify the status, integrity and location of victims within the structure.

8.10 STRUCTURE ASSESSMENT MARKING SYSTEM

Structure assessment marking systems are used to tell a brief story of what was found in a building that has either partially or totally collapsed. The first search team to access the structure usually compile the structure marking system on the outside of the structure close to the entry point. It is designed to give following teams a briefing on what the first team found and is used to save valuable time that would be taken up in teams checking a structure that has already been searched.

8.11 If a second team enters the building they should indicate this by a separate marking system next to the original markings. **No team should ever amend an existing marking system.** If it is necessary to review the original markings, a separate marking system must be placed next to the original.

8.12 SCENARIO – STRUCTURE MARKING

An USAR team comes across a collapsed building and decide to enter to conduct a search to ascertain the integrity of the structure. A Safety Officer is appointed to remain outside the structure and hopefully be in voice contact with the entering search team. The search team will cover as much of the building as possible and the Safety Officer may talk to local survivors to obtain intelligence about the structure. On exiting, the search team should compare their intelligence with the Safety Officer and construct the following marking on the outside of the structure in close proximity to the safest entrance.

8.13 The structure marking system shown below at Figure 8-3 indicates the following:

Top of square	The structure requires shoring and rats were found inside.
Left side of square	1 person found alive and removed.
Right side of square	2 people found dead and removed.
Bottom of square	Unaccounted for victims and locations of other deceased victims.

Inside the square

- **G** (go) indicates the structure is safe to enter, and **NG** (no go) would indicate it is not safe for entry.
- Name of USAR team.
- Time and date USAR team entered the structure.
- Time and date the team exited the structure.

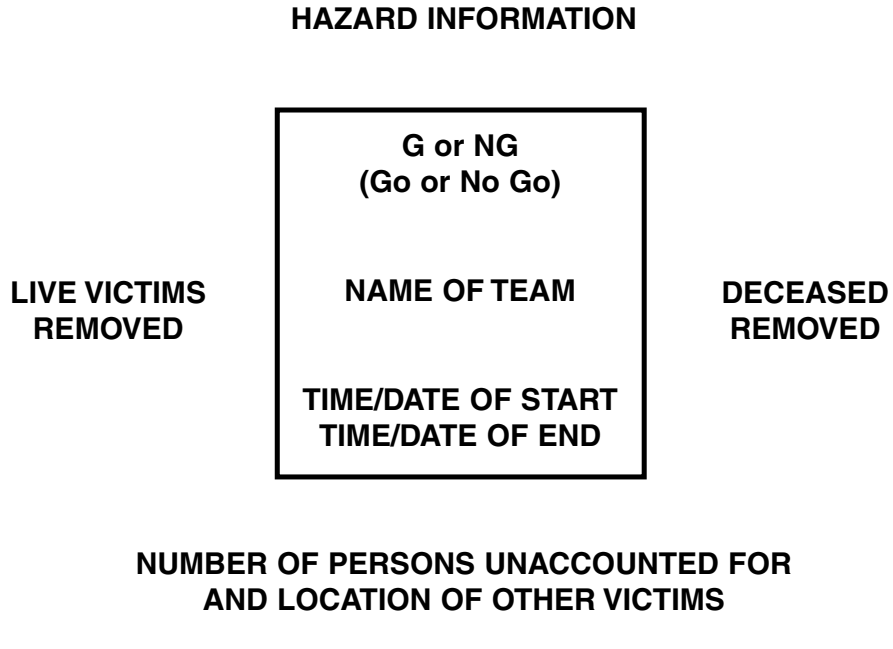


Figure 8-3: Structure Marking Box

NOTE:

The finished marking system is circled. This does not mean that all victims have been removed from the structure, it simply indicates that the marking box has been completed indicating that the assessment of the structure has been completed.

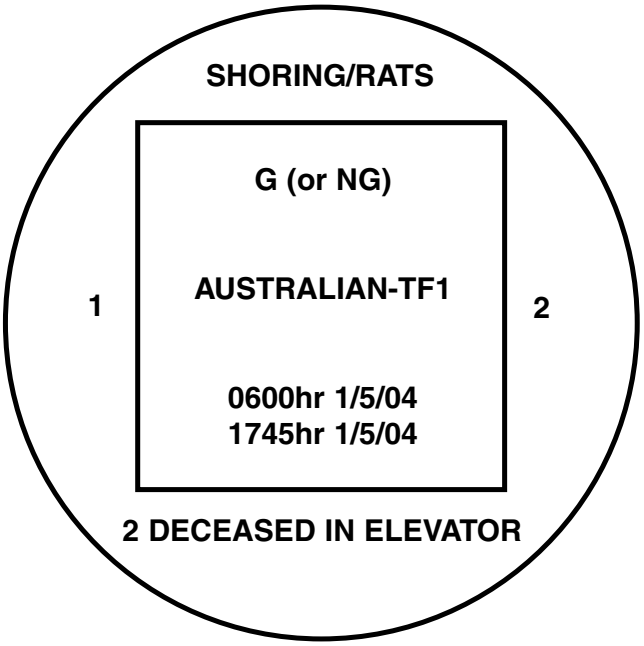


Figure 8-4: Completed Structure Marking Box

VICTIM LOCATION MARKING

8.14 During the search function, it is necessary to identify the location of any victim. The amount and type of debris in the area may completely cover or obstruct the location of the known or potential victim.

8.15 The victim location markings are made by the search team or other individuals conducting search and rescue operations whenever a known or potential victim is located and not immediately removed. The victim location markings should be made with fluorescent colour as follows:

a. A large '**V**' is drawn near the location of the known or potential victim.

b. The letter '**L**' with a number will denote the number of live victims.

c. The letter '**D**' with a number will denote the number of deceased.

8.16 SCENARIO – POTENTIAL VICTIM IN AREA

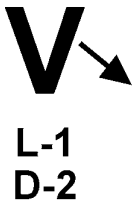
The following is a rescue scenario demonstrating victim location:

a. A five person search team arrives at a collapsed structure. A man standing outside the building informs the team that it is his apartment block and says that his wife and son are still inside on the second floor in what the team would identify as Quadrant “A”.

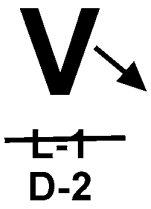
b. Initially a **V** would be placed in the area to identify a potential victim location due to the intelligence received from the man.

c. The search team would then conduct a technical search to locate the victims. Assuming that the team acquires both audio and visual confirmation, an arrow would be added to indicate the direction in which the victims lie.

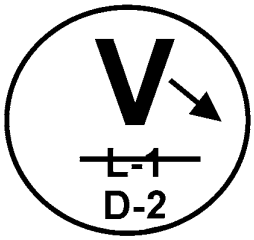
d. When the team talks to the trapped woman, it is obvious she is alive, but she states that her son and one other person in that area are dead. The victim marking is now changed to show one live and two dead victims.



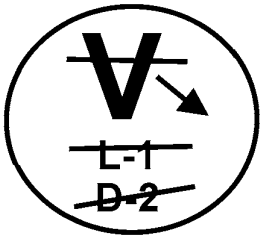
e. When the rescue crew extricates the trapped woman, and only the deceased remain in the area, the marking is changed so that it is clear that the live victims have been extricated.



f. If the rescue crew is only concerned with the extrication of live casualties, it is now finished with this task. A circle is drawn around the entire marking to denote that the crew has finished and moved on.



g. Where the crew is tasked with clearing all victims from the area, and has removed the deceased, the marking is completed with the crossing out of the number of dead, and when the crew leaves the site, a circle is again drawn around the entire marking. As an additional measure, the **V** is crossed out to clearly show that all victims have been extricated.



8.17 SPECIAL NOTE

It is important to note here that rescue teams are concerned primarily with recovering the living and will, on most occasions, leave the deceased in place and move on to the next site where live victims may be located. The marking would then be circled when the team moves on.

DEALING WITH THE DECEASED

8.18 In general, rescuers would not remove bodies from the position in which they are found without the agreement of Police. Nevertheless, rescuers may be justified in moving a body where:

a. they would be put at risk if they had to re-enter the damaged building or structure where the body was located;

b. it was necessary in order to reach an injured person; or

c. the body itself could be affected by flooding, fire, or imminent collapse of the building or structure.

8.19 The exact position in which a body is found may be critical to the identification of that person, particularly if there is extensive mutilation.

8.20 Where bodies do not have to be removed from a building or structure for reasons of safety, rescuers should make a notebook entry of the location of the body and advise the Police as soon as possible. If possible, rescuers should remain on site until the Police have arrived.

8.21 POLICE RESPONSIBILITY

In Australia, although many agencies may be involved at the scene of an emergency, it is the Police who are responsible for obtaining the necessary information to be placed before the coroner. Where possible USAR personnel should liaise with the scene Disaster Victim Identification (DVI) coordinator in relation to dealing with deceased.

8.22 Members of a USAR team should be aware that they could be called as witnesses before a coroner. Written notes and sketch drawings should be maintained.

SPECIAL MARKINGS

8.23 The following system of markings are recommended to denote specific locations for easy identification and are to be used as map symbols. The markings indicated are only a small proportion of those that may be required:

a. **Facilities**: Iconic flags, banners, balloons, etc. just identify team identity, team medical facility, team command post (CP).

b. **Vehicles**: These must be marked with team name and function (flag, magnetic sign, etc.).

c. **Team and Function:**

(1) Response team identity (country and team name) by uniform, patch, etc.

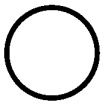
(2) Personnel – the following positions must be colour-coded and labeled in English plain text (vests, arm bands, helmet colour, etc.).

(a) Management position(s) – white

(b) Medical position(s) – red cross/crescent

(c) Safety/security position(s) – orange

d. **Symbols**: (Plain text such as team name would be denoted adjacent to the symbol).

- Facilities — circles 
- Zones — irregular shapes 
- Command function — box 
- Reference point — triangle 

e. **Sample Symbols**

- Command Post 

- EOC 

- SAR Base of Ops 

- OSOCC 

- Reception Centre 

- Work Site 

- Airport 

- Landing Zone 

- Hospital 

- Hazards (write hazards and specify zone) 

- Fuel 

- Medical care (Red Cross/Crescent) 
- Reference point/landmark (triangle – include descriptor) 

CHAPTER 9

Occupational Health, Safety and Welfare

INTRODUCTION

9.01 Search and rescue operations are dependent on all the disciplines working in close concert with each other. These operations take place in a dangerous and sometimes hostile environment. If any team function fails to carry out their respective assignment in a safe and secure manner, the risk of injury to, or death of, a team member is greatly increased.

9.02 Although the risk of injury or death is greatest during disaster operations, it can also occur at other times. For this reason, a number of safety and security considerations associated with each phase of team missions are included in this guideline.

9.03 **SAFETY PRIORITIES**

The top three safety priorities in USAR should always be:

a. yourself;
b. your fellow rescuer(s); and
c. the casualty/victim.

9.04 Removal of all surface victims should be effected as quickly and safely as possible. Extreme care must be used during this phase to ensure that rescue personnel do not become victims. Personnel should not be misled by the outward appearance of the structure. What appears to be a settled pile of debris could, in reality, be lacking any genuine support and a secondary collapse could occur.

9.05 USAR and other responding personnel must adhere to the following safety principles when working on a site:

a. Liaison with local emergency service organisations and the Incident Controller on safety and security issues.
b. Conduct a risk assessment/hazard analysis of the SAR incident site, travel routes and assigned work area.
c. Establish perimeter control procedure for incident and work site(s).
d. Brief team personnel on safety and security aspects.
e. Continually mitigate risks/hazards where possible.
f. Continually monitor for compliance of safety procedures and initiate corrective action in all areas of team activity where required.
g. Ensure safety and security considerations are included in the plan of action and briefings.

h. Ensure a warning system and evacuation plan is established, briefed and exercised.

i. Maintain a roster of all personnel detailing duties, area of deployment and status.

j. Ensure that team personnel do not work alone (use the 'buddy system').

k. Provide adequate lighting for security of incident and work sites.

l. Continually monitor weather forecast.

m. Ensure biohazard control measures are adhered to (i.e. body recovery, patient handling, hygiene, etc.).

n. Investigate and document all accidents.

o. Ensure personnel, canine and equipment decontaminating practices are followed prior to leaving the work site.

p. Ensure that all team personnel have adequate means of communications.

q. Ensure rest, rotation, hydration, and feeding of team members.

SAFETY OFFICER

9.06 In order to monitor environmental and situational hazards, a Safety Officer should be appointed to each rescue team. Safety Officers are responsible for ensuring the safety of the team and any additional responders working with them. Their duties include:

a. monitoring the scene for unsafe conditions and acts;

b. warning team members of impending danger;

c. ensuring crews are rotated as required; and

d. monitoring the location of the team and the safe progress of its mission.

9.07 Overall safety and security is the ultimate responsibility of the Safety Officer and Team Leader. However, all team members are personally responsible for their own safety and security and that of other team members including the need to identify, report and mitigate unsafe or insecure situations. It is possible for rescuers to become overwhelmed by the situation and neglect their own safety needs while attempting to rescue others; this situation is to be avoided at all costs.

9.08 ADVERSE CLIMATIC CONDITIONS

The rescue situation may expose personnel to extremes of temperature, and other adverse climatic conditions. Such conditions, either individually or in combination can have negative impacts upon ill-prepared rescuers.

9.09 The following adverse conditions are examples of some of those that may be experienced by ill-prepared or poorly monitored rescuers:

a. **Heat/Cold Exhaustion** – This occurs as a result of working for excessive periods in extreme environments, with little shade, correct thermal clothing, inadequate rest breaks and poor fluid and food replenishment leading to deterioration in body functioning. Any team member suffering the effects of heat or cold induced illness should be referred to the USAR Paramedic immediately.

b. **Fatigue** – This is a major consideration in ensuring operator safety. As an operator tires, judgement and decision making ability becomes impaired increasing the risk of personal injury to the rescuer, and exacerbation of injuries to the victim. Rotation of teams, job functions and rest periods all play a part in reducing these risks and fatigue. Although the team leader will be responsible for the team's performance, it is up to each member to inform the leader of his or her needs and wellbeing.

c. **Hydration** – This is one of the most important aspects to maintaining physical condition and optimum body function in order to meet the demands of the rescue. Water loss results in thirst, but not until significant dehydration effects have occurred. Personnel must not wait until they are thirsty to drink, rather, regular fluid intakes must be observed.

d. **Hygiene** must be strictly monitored. Team members and Safety Officers must ensure that proper cleaning or decontamination procedures are followed when leaving the work site. Poor hygiene may result in illness that can disable task force members.

9.10 Team members must make a point of taking care of each other, and should they notice a fellow rescuer exhibiting any abnormal behaviour or complaining of any adverse signs or symptoms, they should ensure that they get immediate attention.

9.11 Rescuers should not allow their own or their fellow team members safety to be compromised by external influences. Situations such as those created by the presence of victims relatives and bystanders can create added pressures for achievement of results. Personnel must not allow an external sense of urgency to cloud their judgement. Actions and decisions executed in haste could jeopardise rescue personnel and casualty safety.

MANUAL HANDLING

9.12 Rescue can at times impose significant manual handling demands on personnel in order that they may perform the tasks required of them. Adoption of correct manual handling techniques is essential. Rescuers will be required to lift, haul or push loads and must be trained to handle these tasks properly and safely to avoid injury.

9.13 Manual handling activities account for the majority of recorded injuries at incident sites, primarily involving strains, and sprains of the muscular-skeletal system. A large number of these injuries involve the lower back, often resulting in long-term pain and disability. Strains are a common type of injury during rescue activities. They may be caused by improper lifting techniques, attempting the task with too few people or general poor physical conditioning.

9.14 Understanding how these injuries are caused, the damage they can do and how to avoid them is important to prevent manual handling injury. This includes awareness of proper body mechanics and lifting techniques, promotion of fitness and weight control principles including strengthening and flexibility programs.

9.15 INJURY PREVENTION PRINCIPLES

To prevent injuries rescuers should apply the following principles to any task involving manual handling requirements (e.g. lifting and lowering):

a. Assess the job.
b. Position the feet.
c. Bend the knees.
d. Keep arms and elbows close to the body.
e. Keep the back as straight as possible.
f. Avoid static or fixed work postures.
g. Control the movement.

Always lift within your capacity and use team lifting and lowering techniques.

SITE EVACUATION ORDERS

9.16 At any Urban Search and Rescue operation, there needs to be a set of standard, internationally accepted signals that can be conveyed over the entire area of operations in case of an emergency, for example if another aftershock occurs or a secondary device is suspected or found.

9.17 The internationally accepted warning signals are as follows:

a. Evacuation – three short blasts at one second duration each.
b. Quiet in the area – one blast for three seconds.
c. Resume operations – one blast for three seconds followed by a one second blast.

PERSONAL PROTECTIVE EQUIPMENT

9.18 USAR incidents by their very nature are somewhat different, both in scale and hazard, when compared with most day-to-day rescue situations that emergency service organisations attend. As a result, additional protective clothing requirements are identified that allow the rescuer to more safely work in an environment containing a proliferation of debris, broken reinforcing bars, conduit, steel and other parts of a building's structure that have been displaced from their normal position due to the collapse.

9.19 Close fitting garments, such as overalls, that are both durable and comfortable should be worn to exclude dirt and rubble and protect the rescuer from cuts and abrasions. They should have pockets to carry small items, minimal openings and no loose straps that may catch on edges when crawling through debris. In addition to the pockets on the clothing, a 'bum bag' or tool bag can be a useful item allowing the rescuer to carry spare personal protective equipment and other small items that may be required.

9.20 PERSONAL SAFETY LIST

A typical list of personal safety equipment to be used during an incident comprises:

a. safety helmet, helmet light;
b. ear protection;
c. ear plugs;
d. dust mask;
e. torch (intrinsically safe);
f. safety goggles and glasses;
g. knee pads;
h. elbow pads;
i. protective gloves;
j. surgical gloves;
k. protective foot wear;
l. protective clothing;
m. whistle; and
n. wet weather gear.

9.21 At an incident that is entering its second, third or subsequent days, one of the major problems that may confront rescuers will be the biological hazard associated with the decomposition of bodies and rotting foodstuffs in the debris. These issues present a specific hazard of their own, and precautions must be taken to protect rescuers from any body fluids and airborne pathogens that may be present. Consideration should be given to the use of fluid-impermeable disposable overalls, gloves and appropriate respiratory protection.

9.22 PERSONNEL DECONTAMINATION

Decontamination of both equipment and personnel will be required before either can leave the site of a USAR incident.

STRESS

9.23 Stress is a normal personal reaction; each stressful situation creates a different stress reaction for each individual. Stress is a response to events, both external and self-generated which may tax physical and mental resources beyond the individual's ability to cope.

9.24 Stress is an unavoidable fact of life; it can be beneficial or detrimental in its effect on individuals. In other words, some stress inspires us to better meet life's challenges while other stressors may exhaust us and cause ill health. Each individual may control stress in different ways, such as the following examples:

a. Recognising stressful situations.
b. Taking steps to reduce the causes of harmful stress.
c. Identifying an enjoyable stress reduction technique and always applying it.

9.25 Urban Search and Rescue incidents require rescuers to be physically and mentally fit, in order to perform at their optimum level. Stress affects the individual mentally as well as physically. Rescuers need to be aware of how prolonged stress will lower their defence mechanisms and reduce their effectiveness.

9.26 **HYDRATION**

Adequate fluid intake is as important for sound mental function as it is for physical wellbeing and optimal body function. This is often the case for rescue workers who are likely to be operating under exertion in harsh environmental conditions for extended periods.

9.27 Time out from the rescue site is vital. The ability to switch off or wind down is imperative. Regardless of individuals desires, all rescuers should be rotated on and off the site for rest breaks as often as is practicable.

CRITICAL INCIDENT STRESS

9.28 Critical incidents put a great strain on the coping ability of those involved or in some way associated. The reactions experienced by individuals are typical stress reactions, more often than not labelled normal reactions to an abnormal event.

9.29 Every USAR team member should have access to a senior professional mental health worker. Additionally, Critical Incident Stress Management guidelines and practices need to be integrated into USAR training and procedures.

HAZARDS

9.30 An USAR operation often involves many hazards. These are combined with an often unfamiliar and hostile environment and can overwhelm a large percentage of untrained rescuers.

9.31 When USAR members arrive at a structural collapse site it is important that they consider the types of hazards that are present. Basic rescue skills come into play requiring answers to questions such as the following:

a. What type of structure is it?
b. What type of occupancy is it?
c. Are hazardous materials stored here?
d. Where is the storage area located?
e. Have the adjacent structures been affected?
f. Have the utilities been affected and are they isolated?

9.32 Search and rescue operations take into consideration the hazards present at the collapse site. An evaluation and safety assessment should be conducted before any rescue efforts are commenced. This should be conducted at the same time as the structural triage assessment. The collapse site must be made safe in order for rescue personnel to enter and perform rescues.

9.33 HAZARDOUS MATERIALS (HAZMAT)

These could include materials stored on site or those used in the construction of the structure and may include:

a. asbestos;
b. various types of gas cylinders, (e.g. oxygen, acetylene);
c. research materials (biological, radioactive, or base chemicals);
d. pesticides;
e. bleaches;
f. acids;
g. oils; and
h. contaminated waste products.

9.34 The type of hazard that the rescuer encounters will dictate the level of personal protective equipment required. The physical and chemical properties of the material will determine the type of threat, either respiratory, contact, or skin absorption that faces both rescuer and victim.

AVOIDING FURTHER COLLAPSE

9.35 The way rescuers are deployed onto a structural collapse can have an effect on the integrity of a building. The Team Leader should always monitor the location of rescuers, as should the Safety Officer.

9.36 Structural Stability will be a major consideration before, during and after operators have been committed to search and rescue operations. This will be partly addressed during the initial structural triage assessment to identify structural concerns. A structural engineer should be on hand to offer advice concerning structural integrity. The structure must be monitored throughout rescue operations by various means (e.g. by using a theodolite, tape ruler method, and constant visual and audible monitoring.)

9.37 Before commencing operations the team must:

a. seek advice from a structural engineer;
b. monitor structural stability;
c. determine if load bearing walls are faulty;
d. determine if floor spaces are under excessive loads; and
e. shore the damaged structure before entering and commencing search and rescue operations.

9.38 Secondary collapse hazards are always present. These hazards may be triggered by earthquake aftershocks, weakened structural members, or external stresses. To appropriately plan for secondary collapses, it is best to assume that it will be a matter of when secondary collapse will occur, not a matter of if one will occur.

9.39 Identifying hazards after structural collapse is extremely difficult. Buildings are often complicated, and there are many different types and configurations. After the triggering activity has ended, the danger of further collapse is often still present. 'Brittle' conditions pose the greatest threat due to the probability of sudden failure. As many hazards as possible should be identified and risk factors should be assigned to them. Measures to avoid and mitigate the danger can then be factored into the overall search and rescue effort.

9.40 **UTILITY DAMAGE**

Damage to gas, water, sewerage and power services will further complicate a rescue at a collapse incident. Escaping gas results in multiple concerns, these include oxygen displacement in a confined space and the potential for an explosive mixture.

9.41 With oxygen displacement, both victims and rescuers could be overcome by the lack of oxygen. Ventilation or the use of breathing apparatus will assist, but atmospheric monitoring is essential to ensure a safe working environment.

CONCLUSION

9.42 The personal safety of the rescuer is the first priority and shall not be compromised in any way. Without rescuers, there can be no rescue.

9.43 The rescue team must under no circumstances place themselves, the casualty or any other person in any situation of increased danger.

CHAPTER 10

USAR Records Management

INTRODUCTION

10.01 As a general rule, society records, reviews, stores and retrieves information in order to function on a daily basis. For example, the newspaper is a record of the past 24 hours' newsworthy events. In terms of USAR operations, accurate recording and retrieval of information is vital, not only for the safety of personnel, but also for post-incident analysis.

WHY DOCUMENT?

10.02 Under normal circumstances an organisation is legally required to record the activities in which it engages and to provide access to that information, should it be requested. In order for this to take place, the material (correspondence, reports, planning documents etc.) needs to be controlled. Documents need to be systematically organised into files, which are easily located – no matter where they are within the organisation.

10.03 These records, as well as assisting in the day-to-day activities of the organisation and supporting future decision making, are evidence that functions of the organisation have been performed in an orderly and systematic manner.

10.04 At the completion of an operation of this magnitude it is conceivable that the appropriate State/Territory/country authorities will hold an inquiry. It is important that the USAR management can present transparent records on all aspects of their activities during the operation if and when required.

WHAT SHOULD BE DOCUMENTED?

10.05 In providing a USAR capability, there are a number of phases that require some form of records management, document capturing and data storage process.

10.06 The following information is considered the minimum that needs to be captured, collated and stored for future reference. The format considers before, during and post-incident information.

Development (Pre)	Incident (During)	Post Incident
• Capability strategy • Financial plan • Activation and deployment procedures • Mutual aid agreements • Equipment specifications and selection • Equipment purchase • Equipment maintenance • Transport agreements • Skills maintenance • Operational staff locations • Industrial agreements • Organisational communications strategy • Training plan • Staff selection criteria • Location of additional resources	• Equipment usage • Operational plan and logs • Staff attendance • Incident site entry and exit • Casualty information • Site plans and engineering • Incident reports • Acquisition requests • Petty cash • Delegations and authorities • Invoices and receipts • Medical histories • Personal details of staff on site • Attendance data • OH&S • All decisions • Logging of shift changeovers	• Medical • Investigation • Training review • All costings • Incident reports • CISD • Staff welfare program • Inoculation • Media conference • Time off, recuperation • Personal Diary

10.07 The methods of data collection and/or recording will vary depending on resources and technology. Generally, paper records are used and collated into files with specific headings relevant to a particular category of activity.

10.08 Equipment can be bar-coded and scanned upon use, so that as it is used, its location and the borrower can be identified. Maintenance schedules can also be electronically controlled by this system.

10.09 Electronic data storage is effective in compressing the quantity of information that will be gathered, particularly during on-site operations. However, portable computers usually depend upon portable power supplies and therefore additional batteries should be carried.

10.10 The use of voice recording, still photography or video recording, also provide a valuable representation of the events that transpired. Each method, however, has its disadvantages and each individually, is not capable of capturing all information.

CONCLUSION

10.11 This chapter has provided a brief insight and overview of the types and methods of records that agencies may need to capture in providing a USAR capability. In developing a records capturing and storage system, the use of an expert in this field is advisable.

CHAPTER 11

USAR Team Public Information Guidelines

INTRODUCTION

11.01 Information to the media will generally be coordinated and disseminated via a Media Liaison Officer (MLO) appointed by the Incident Controller who has legislative responsibility for the incident.

11.02 USAR teams should appoint a media-trained member as their MLO, to work in conjunction with the Incident MLO to provide timely and accurate information. Comments emanating from a team MLO should be confined to matters under their direct command such as the teams capability, structure and role.

11.03 Upon activation, an USAR team should brief all personnel about the latest information and critical media issues. Briefing/handouts should be prepared at regular intervals and given to the Incident MLO.

MEDIA MANAGEMENT SUGGESTIONS

11.04 INTERVIEWING 'DOs':

a. **Use your full name.** Nicknames are not appropriate.

b. **Choose the site (if possible).** Make sure you are comfortable with the location of the interview. Consider what is in the background.

c. **Choose the time (if possible).** If you would be more comfortable waiting another five minutes, tell the reporter.

d. **Be aware of media deadlines.** These may influence interview times.

e. **Be calm.** Your demeanor and apparent control of the situation are very important in establishing the tempo of evolving events.

f. **Tell the truth.**

g. **Be cooperative.** There is an answer to most questions, and if you don't know it now, advise that you will determine the facts needed.

h. **Be professional.** Don't let your personal feelings about the media, or this reporter in general, affect your response.

i. **Be patient.** Expect uninformed questions. If the same question is asked again, repeat your answer without irritation.

j. **Take your time.** If you make a mistake during a taped or non-broadcast interview, indicate that you would like to start again with your response. If appearing live, just start again.

k. **Use wrap-around sentences.** This means repeating the question with your answer for a complete 'sound bite'.

11.05 INTERVIEWING 'DON'Ts':

a. **Say "no comment".**

b. **Give your personal opinion.** Stick to the facts.

c. **Go off the record.** Anything you say can and will be used against you.

d. **Lie.** To tell a lie unintentionally is a mistake. To intentionally tell a lie is stupid.

e. **Bluff.** The truth will come out.

f. **Be defensive.** The media and their audience recognise a defensive attitude and tend to believe you're hiding something.

g. **Be afraid.** Fear is debilitating and is not a characteristic you want to portray.

h. **Be evasive.** Be up front about what you know of the situation and what you plan to do to mitigate the effects of the disaster.

i. **Use jargon.** The public is not familiar with much of the language used in the field.

j. **Confront.** This is not the time to tell a reporter how much you dislike the media.

k. **Try to talk and command a disaster response at the same time.** You won't do either well.

l. **Wear sunglasses.**

m. **Smoke.**

n. **Promise results or speculate.**

o. **Respond to rumours.**

p. **Repeat leading questions.**

q. **Use a reporter's name in your response.** Other media representatives won't be able to use the same 'grab'.

Glossary of Terms and Acronyms

NAME	ACRONYM	DEFINITION
AUSTRALIAN EMERGENCY MANAGEMENT COMMITTEE	AEMC	The peak Australian body for emergency management principles and practices, originally called the National Emergency Management Committee (NEMC).
ASSEMBLY POINT		Location or facility designated by the sponsoring organisation where team members initially report after receiving an activation order.
ASSISTING COUNTRY		Nation/government sponsoring an INSARAG team that mobilises and responds upon request.
BASE OF OPERATIONS	BoO	On-site operational facility close to the work sites comprising areas for the team management, equipment stock, personnel shelter, feeding areas, etc.
BIOHAZARD MONITORING		Monitoring for biohazardous risks, e.g.; medical waste, sharps, body fluids.
BIOMEDICAL MONITORING		The utilisation of special medical equipment (cardiac monitor) to evaluate a patient's medical condition.
BREACHING		A tactical rescue operation involving penetrating a structural medium (usually reinforced concrete) with power tools and techniques.
BUILDING MARKINGS		Pre-determined symbols marked on structures by search and rescue personnel indicating current status of building.
CACHE		See Equipment Stock.
DEACTIVATION		Assignment to a USAR Team indicating that their mission assignment is complete and to make ready for return home.
DEMOBILISATION		The process used to return resources to their original location at the conclusion of a mission.
DISASTER RESPONSE BRANCH	DRB	Section within the UN Office of Coordination of Humanitarian Affairs (OCHA).
EMERGENCY OPERATIONS CENTER	EOC	A facility, either static or mobile, from which the total operation or aspects of the operation are managed.

NAME	ACRONYM	DEFINITION
ENGAGEMENT/ DISENGAGEMENT		Procedures followed by task force when entering or leaving a specific work site.
EQUIPMENT STAGING AREA		The area at a rescue work site where assigned tools and equipment can be safely stored, maintained and issued as needed to support the operation.
EQUIPMENT STOCK		USAR Team/Task Force equipment, tools, communication equipment, medical supplies, etc., necessary to be self-sufficient and operate at a disaster site for 10 days.
FIELD COORDINATION SUPPORT UNIT	FCSU	Section within the UN Office of Coordination of Humanitarian Affairs (OCHA).
HAZARDOUS MATERIALS	HAZMAT	A substance or material which has been determined by an appropriate authority to be capable of posing an unreasonable risk to health, safety and property.
HOT ZONE		A hazard area defined during operations that usually denotes a personnel hazard relating to hazardous materials or chemicals.
INTERNATIONAL SEARCH AND RESCUE ADVISORY GROUP	INSARAG	A group of functional USAR specialists formed for the purpose of advising the United Nations on the development of standards and guidelines to be adopted and used by all international USAR Teams.
LOCAL EMERGENCY MANAGEMENT AGENCY	LEMA	The emergency management authority within the receiving country.
MEMORANDUM OF UNDERSTANDING	MOU	Agreements established between stakeholders.
NON-GOVERNMENT ORGANISATION	NGO	A not-for-profit organisation, distinct from a governmental organisation, having no statutory ties with national governments.
OFFICE OF COORDINATION OF HUMANITARIAN AFFAIRS	OCHA	A department in the United Nations, which is responsible for INSARAG. Formerly known as the Department of Humanitarian Affairs (DHA).
ON-SITE OPERATIONS COORDINATION CENTRE	OSOCC	A centre set up “in country” by the UN to coordinate incoming assistance to a disaster.
OSOCC RECEPTION CENTRE		Point of arrival for response groups, established by the OSOCC, near affected area, but not within the direct operational scope of national/local authorities.
POINT OF ARRIVAL	POA	Designated area during disaster operations where responding USAR teams and other resources are received, organised, briefed and assigned.

NAME	ACRONYM	DEFINITION
POINT OF ASSEMBLY		Designated area where the members and elements of a USAR team are gathered in preparation for mobilisation.
POINT OF DEPARTURE	POD	Area established where SAR team personnel and equipment are brought together and organised before mobilising.
REASSIGNMENT		Where a USAR team is redirected to a different assignment from the original.
RECONNAISANCE TEAM		An assembly of appropriate USAR team personnel assigned to assess an impacted area or building to determine the need for search and rescue operations.
RISK ANALYSIS		A review of an operation or work site performed in advance, establishing safety and personnel hazard concerns and mitigation procedures.
UNITED NATIONS DISASTER ASSESSMENT AND COORDINATION	UNDAC	A team to assist in emergency assessments and coordination, i.e.: staffing an OSOCC.
UN-OSOCC:		See OSOCC
USAR TEAM		A set number of trained functional specialists assembled to perform urban search and rescue operations.

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