



AUSTRALIAN NATIONAL MARITIME MUSEUM

MARITIME ARCHAEOLOGY PROGRAM POLICY

Operational Strategy

And

Scientific Diving Operations Procedures Manual and Code of Practice

2005 - 2008

March 2005

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1.0 Summary

Maritime archaeology is defined as the scientific study of underwater cultural heritage and related land based sites.

In May 1991 the ANMM endorsed a Maritime Archaeology Program for the Museum and Mark Staniforth was appointed the first Curator of Maritime Archaeology. In 1995 the new Curator of Maritime Archaeology, Kieran Hosty, reviewed the Maritime Archaeology Policy and Operational Strategy. The 2005 Policy is the fourth to be presented for endorsement.

As outlined in the Maritime Archaeology Policy the role of the Program is to provide expert advice, staffing and equipment in the areas of marine archaeology, site management, assessment, documentation, conservation and interpretation to designated government agencies within Australia and overseas.

Since the endorsement of the 1991 Policy Museum staff involved in the program have:

- participated in major maritime archaeological projects including the excavations of HMS *Pandora* in Queensland, *Sydney Cove* in Tasmania, the search for HMB *Endeavour* in Newport, Rhode Island, USA, located and recorded the wreck of the *Julia Ann* off Tahiti;
- curated exhibitions on *Mary Rose*, *Titanic*, HMS *Pandora*, *Sydney Cove*, *Julia Ann*, *Vasa* and *Sunken Treasures of Brunei*;
- Provided advice to the Museum, Commonwealth and State government departments and the general public on matters relating to maritime archaeology;
- Published more than 50 articles on maritime archaeology;
- Presented more than 250 lectures and workshops;
- Given more than 200 media interviews.

A detailed overview of the Program is provided at Appendix 3 *Maritime Archaeology at the Australian National Maritime Museum - an Overview*

The ANMM's Maritime Archaeology Policy and Operational Strategy 2005 - 2008

- outlines and recommends financial, logistical and staffing requirements for the continuation of the Maritime Archaeology Program;
- provides an operational strategy;
- clarifies the ANMM's maritime archaeological collection and exhibition policy in view of the 1993 ICOM recommendations and the November 2001 UNESCO *International Convention on the Protection of the Underwater Cultural Heritage*.

2.0 Recommendations

1. That the ANMM Director and executive endorse *The Maritime Archaeology Policy and Operational Strategy 2005 - 2008*
2. That the Director and executive endorse Australian / New Zealand Standards 2299, 2815 and the *Scientific Diving Procedures Manual and Code of Practice* for the Australian National Maritime Museum as being the appropriate Standards, Procedures and Code of Practice for the Museum.
3. That ANMM support a Scientific Dive Team and the accreditation of a minimum of three staff members as scientific divers and continue to make provision for the necessary diving medicals, training and experience levels to be achieved and maintained.

Recommended staff members 2005 - 2008

Stirling Smith Curator, Maritime Archaeology and Ship Technology

Kieran Hosty Curator, Maritime Archaeology and Ship Technology (on return from LWOP)

Paul Hundley Senior Curator, USA Gallery

Nigel Erskine Curator, Exploration

Lee Graham Shipwright, Fleet Section

4. That the ANMM appoint a Diving Officer, with the required level of qualifications and experience.

Recommended staff member 2005 - 2008

1. Stirling Smith Curator, Maritime Archaeology and Ship Technology
2. Kieran Hosty Curator, Maritime Archaeology and Ship Technology (on return from LWOP)
5. That the costs associated with the ANMM's involvement in scientific diving and maritime archaeology continues to be met through the Museum's annual operating budget.

3.0 Operating time frame

The Maritime Archaeology Policy covers the three financial years 2005 - 2006, 2006 - 2007 and 2007 - 2008. The policy presents a three-year strategic plan for the period to June 2008 in addition to a detailed operational plan for the twelve months of the financial year 2005 - 2006.

4.0 Definition of maritime archaeology

Maritime archaeology has been defined as the scientific study of underwater cultural heritage and related land based sites (ICOMOS, 2001). Underwater cultural heritage means all traces of human existence having a cultural, historical or archaeological character which have been partially or are totally underwater. These can include

- 1) Sites, structures, buildings, artefacts and human remains, together with their archaeological and natural context;
- 2) Vessels, aircraft, other vehicles or part thereof, their cargo or other contents, together with their archaeological and natural context;
- 3) Objects and sites of a pre-contact nature such as submerged occupation sites, fish traps, stone quarries; and
- 4) Marine related sites such as shipwreck survivor or shipwreck salvage sites, port, harbour and shipbuilding facilities.

The discipline of maritime archaeology is largely perceived in terms of the techniques of archaeological site assessment, scientific excavation, recording, management and interpretation of underwater cultural heritage.

The direct result of maritime archaeology can include media interviews, exhibitions, public education programs and publications.

5.0 Background to fourth Maritime Archaeology Policy and Operational Strategy and reasons for development of a fourth three-year program

Since the adoption of the ANMM's first Maritime Archaeology Policy in 1991 (Staniforth, M. 1991) and the second and third Maritime Archaeology Policies (Hosty, K. 1995, and 2002) Museum staff involved in the program have

- a) Assisted in maritime archaeological expeditions at the request of overseas Government agencies as well as State and Commonwealth government authorities.
- b) Actively participated in national and international conferences on maritime archaeology.
- c) Provided advice and assistance to both amateur and professional maritime archaeologists, groups and government authorities throughout Australia and overseas.

- d) Provided advice to the ANMM on maritime archaeological matters including collection policy, exhibitions, archaeological ethics and legislation.
- e) Actively participated in archaeological panels and associations, including the Council of American Maritime Museums, the Maritime Archaeology Advisory Panel of New South Wales and the National Executive of the Australasian Institute for Maritime Archaeology (AIMA).
- f) Contributed to the ANMM school education program.
- g) Researched, documented and published findings on maritime archaeology and the ANMM program.
- h) Answered public and professional enquires on maritime archaeology.
- i) Successfully tended for and completed a number of consultancies.
- j) Successfully applied for and acquitted grants and sponsorship in kind.

The main reasons behind the development of what will be the Australian National Maritime Museum's fourth Maritime Archaeology Policy and Operational Strategy documents are to

- a) Allow for the continuation of financial, logistical and staffing support for the program.
- b) Provide an operational strategy, which will outline the commitments required to allow the program to continue.
- c) Present the Museum's maritime archaeological collection policy in view of the 1993 ICMM recommendations.
- d) Present the Museum's maritime archaeology policy in view of the ratification in November 2001 of UNESCO's *International Convention on the Protection of the Underwater Cultural Heritage*.

6.0 The function of the Museum in relation to maritime archaeology

In the first Maritime Archaeology Policy document (1991) a number of functions in the *Australian National Maritime Museum Act* (1990) were identified as being relevant to a maritime archaeology program. These functions are

- 6 (c) to develop, preserve and maintain the national maritime collection
- 6 (e) to conduct, arrange for and assist research into matters relating to Australian maritime history
- 7 (1) (c) to recover, or arrange for or assist in the recovery of maritime historical material from the Australian marine environment and from other areas

- 7 (1) (w) to act on behalf of the Commonwealth or of an authority of the Commonwealth in the administration of a trust relating to maritime historical material or related matters

As outlined in the Maritime Archaeology Policy (1991) these functions are relevant to an archaeological program at the ANMM because

- a) The National Maritime Collection contains material from maritime archaeological sites including declared historic shipwrecks.
- b) Under the provisions of the Commonwealth *Historic Shipwrecks Act* (1976) the Minister can direct that relics from declared historic shipwrecks be placed in the custody of the Museum. An example is the Australian Netherlands Committee on Old Dutch Shipwrecks (ANCODS) material.
- c) Australian maritime history is defined as including the recovery of material from the marine environment relating to Australian maritime history.
- d) Maritime historical material is defined as meaning material in any form (including maritime archaeological material) relevant to Australian maritime history.

7.0 Maritime Archaeology Policy

7.1 Objectives

The main objectives are

- a) To provide support to, and to cooperate with, the Department of Communication, Information Technology and the Arts (the Commonwealth department responsible for *The Historic Shipwrecks Act* (1976)) and the various State delegated authorities.
- b) To develop and implement strategic and operational plans for the Museum's involvement in maritime archaeology in Australia and overseas.
- c) To provide advice to Commonwealth government, state, territory or local governments, overseas agencies and organisations on maritime archaeology policy and practice.
- d) To represent the Museum's interests within the profession of maritime archaeology.
- e) To cooperate with Commonwealth, State and overseas government agencies on significant maritime archaeological projects and expeditions including providing assistance in seeking sponsorship.
- f) To promote the advancement of maritime archaeology in Australia.
- g) In view of the UNESCO's *Convention on the Protection of Underwater Cultural Heritage* to promote the need to manage and protect underwater cultural heritage worldwide and to

- promote the need for international cooperation in the conduct of activities directed at underwater cultural heritage.
- h) To provide input to and development of an ANMM maritime archaeology educational program.
 - i) To develop and implement procedures within the Museum to ensure that the training, qualifications and experience levels of staff involved in maritime archaeology and scientific diving are maintained and improved.

7.2 Compliance with legislation, conventions and internationally accepted recommendations

In Australia and many overseas countries, underwater cultural heritage along with general shipwreck material is protected by various forms of legislation.

As a national museum, the ANMM will ensure that it complies with the provisions of Australian and overseas legislation and conventions - including the UNESCO *Convention on the Protection of the Underwater Cultural Heritage* - in the area of the protection of Australia's and other countries' cultural heritage. This is especially important in the areas of archaeological research, acquisition and collection development.

In Australia, archaeological sites both on land and underwater are closely regulated and the provisions of any of the following Commonwealth legislation may apply:

- *The Historic Shipwrecks Act* (1976)
- *The Protection of Moveable Cultural Heritage Act* (1987)
- *The Customs Act*
- *The Navigation Act* (1912)

Relevant State cultural heritage legislation includes:

- *The Heritage Act* (1977) (New South Wales)
- *The Maritime Archaeology Act* (1971) (Western Australia)
- *The Historic Shipwrecks Act* (1981) (South Australia)
- *The Heritage Act* (1993) (South Australia)
- *The Heritage Act* (1995) (Victoria)

Shipwreck and other forms of underwater cultural heritage are also specifically mentioned in the

- UNESCO *Convention on the Protection of the Underwater Cultural Heritage* (2001)
- UNESCO *Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property* (1970)
- UNESCO *Convention for the Protection of the World Cultural and Natural Heritage*. (1972)
- United Nations *Convention on the Law of the Sea* (1982)

As a signatory to these Conventions the Australian Commonwealth Government has agreed to a number of practices and procedures in the archaeological investigation of underwater cultural heritage sites and the acquisition, display and collection of underwater cultural heritage material.

As a Commonwealth Government institution the Museum is obliged to follow these Conventions with regard to underwater cultural heritage.

Shipwreck and other archaeological material are also mentioned in internationally accepted recommendations. Although not legally binding these recommendations have been accepted as basic standards in the Museum display and collection development of archaeological and other cultural heritage material.

As a national museum the ANMM should not only accept these recommendations but also be proactive in their use.

Recommendations and codes of practice which apply to the Australian National Maritime Museum include:

- *The Archaeological Standards of The International Congress of Maritime Museums* (1993)
- *The Archaeological Standards of The International Congress of Museums* (1987)
- *Charter for the Protection and Management of the Archaeological Heritage* ICOMOS (1990)
- *The Code of Ethics of The Australian Institute of Maritime Archaeology* (AIMA)

7.3 Acquisition policy

The ANMM will ensure that it acts in a responsible and ethical manner regarding the acquisition and collection of archaeological and other types of cultural heritage material and will only acquire material in accordance with its *Collection Development Policy* (2003).

7.3.1 Maritime archaeological material from overseas

This refers to underwater cultural heritage material which comes from outside Australia and its associated waters. Overseas material is not subject to, or potentially subject to, the *Historic Shipwrecks Act* (1976) or similar State legislation.

However all overseas material is subject to, or potentially subject to,

- *The Moveable Cultural Heritage Act* (1987),
- *UNESCO Convention on the Protection of the Underwater Cultural Heritage* (2001)
- *UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property* (1970)

As well as various Acts and forms of legislation of the exporting country or the country of source. Material, which has been illegally imported into Australia or illegally, obtained overseas may be subject to repatriation.

The ANMM may have an interest in acquiring maritime archaeological material from overseas which is relevant to Australian maritime history. Such material has already been acquired by the

Museum - for example the sternpost section from one of Cook's ships. In general the type of material will include objects associated with Australian built, owned or operated vessels or overseas vessels with important links with Australia such as exploration, immigration and trade.

The Australian National Maritime Museum will ensure that any material acquired from overseas has been

- a) Legally obtained from the country of origin (in most cases this will require proof that the item was obtained through a government sanctioned excavation).
- b) Legally excavated following all the procedures and guidelines outlined in relevant government heritage legislation and the UNESCO Conventions.
- c) Legally exported from the country of origin (in most cases this will require an export licence).
- d) Exported with the full agreement of all relevant government departments.
- e) Assessed as being directly relevant to the Collection and the Collection Development Policy of the Australian National Maritime Museum.

Items that have been obtained from commercially exploited underwater cultural heritage sites such as treasure hunting operations will NOT be acquired by the Australian National Maritime Museum.

7.3.2 Acquisition of maritime archaeological material

This refers to the acquisition of maritime archaeological material from any source (overseas and from within Australia) by donation or transfer of custody.

The ANMM may have an interest in acquiring maritime archaeological material from within Australia which is relevant to Australian maritime history. Such material has already been acquired by the Museum - for example material from *Dunbar* and *Duckenfield*. In general the type of material acquired will include objects associated with Australian built, owned or operated vessels or overseas vessels with important links with Australia such as exploration, immigration and trade.

The Australian National Maritime Museum was not established to nor does it have the facilities to provide for the conservation and maintenance of large quantities of maritime archaeological or underwater cultural heritage material. The ANMM is not a repository under any current Commonwealth or State heritage legislation and is not obliged to accept any underwater cultural heritage material unless directed to do so.

The Museum can be directed to curate underwater cultural heritage material by the Minister of Communication, Information Technology and the Arts under the powers of the *Historic Shipwrecks Act* (1976) and the Commonwealth Government's obligation under Article 18 of the *UNESCO Convention on the Protection of the Underwater Cultural Heritage*. - for example the ANMM collection of Australian Netherlands Committee on Old Dutch Shipwrecks (ANCODS) material.

With regard to the acquisition of maritime archaeological or underwater cultural heritage material the ANMM

- a) Will not accept maritime archaeological or underwater cultural heritage material which has come from a declared historic shipwreck after its declaration as an historic shipwreck under State, Commonwealth or international legislation unless that material has been recovered in a legal and ethical manner.
- b) Will encourage the consolidation of maritime archaeological material in one place, apart from the need for temporary transfers of custody or loans for conservation, study or display purposes.
- c) Will in the case of material transferred to or donated to the ANMM by individuals or organisations, consider the repatriation of this material to a suitable existing collection of material from the same source in a local, regional or state repository for archaeological material in line with the Museum's *Deaccessioning and Disposal Policy* (1997).
- d) To ensure that archaeological material is repatriated to a suitable existing collection, the ANMM undertakes to encourage the development of suitable state repositories.
- e) Where no suitable state repository exists use established ANMM procedures for the storage and management of maritime archaeological and underwater cultural heritage material which may be in the Museum's custody.

7.3.3 Purchase of maritime archaeological material

To comply with State, Commonwealth and international legislation, recommendations, conventions and codes of practice, the ANMM undertakes to follow the policy of not encouraging the commercial (for profit) exploitation of underwater cultural heritage sites.

General principles to be followed are

- a) The ANMM will not purchase, trade or barter single or groups of artefacts which have come from a declared historic shipwreck after its declaration as an historic shipwreck under State, Commonwealth or international legislation unless directed to do so by the responsible Minister.
- b) The ANMM will not acquire by purchase, trade, barter or donation objects which have been recovered from commercially exploited maritime archaeological or cultural heritage sites.

Note that in these general principles the ANMM accepts the International Congress of Maritime Museums (ICMM) definition that " a commercially exploited heritage site is one in which the primary motive for investigation is private financial gain."

8.0 Loan and display of archaeological and cultural heritage material

The ANMM undertakes

- a) To not knowingly acquire or display artefacts which have been stolen, illegally exported from their country of origin, illegally salvaged, or removed from commercially exploited archaeological sites.
- b) To not knowingly display artefacts from underwater archaeological sites which have not been declared to the relevant State authorities under the *Historic Shipwreck Act (1976)* or other relevant State heritage legislation.

9.0 Requests for assistance

The ANMM receives many requests for assistance with activities relating to maritime archaeology. These activities include general advice on maritime archaeology and shipwrecks, the reporting of marine finds, shipwrecks and artefacts, the identification of and conservation of artefacts, searching for shipwreck sites, recording or excavation of shipwreck sites, requests for talks, lectures and other educational programs.

These requests come from a variety of sources including:

Commonwealth Government
Foreign government departments and agencies
Foreign government sanctioned organisations
State delegated authorities
Other government departments
Non-government organisations
Individuals

ANMM will evaluate these requests for assistance according to the following policy guidelines

- a) The ANMM will not generally become involved in the search for shipwreck sites, unless requested by either a Commonwealth, State delegated authority, foreign government department or agency.
- b) The ANMM will exercise caution in dealing with any requests for assistance from private organisations or individuals and will ensure that they meet the legal requirements of legislation, international conventions and the professional standards as determined by AIMA.
- c) Prior to any activity or work being carried out on underwater cultural heritage a suitable Project Design (as described in Rules 9 - 13 of the UNESCO Convention) for the activity will be developed. This Project Design must examine the scientific methodology, funding, objectives, conservation, curation, documentation, OH&S and environmental impact of the project.

- d) The Museum will consider making its resources available when possible by providing assistance and support for legitimate maritime archaeology projects.
- e) Where possible and appropriate, the Museum will provide support for requests for assistance made by Department of Communication, Information Technology and the Arts and State delegated authorities.
- f) In situations when the ANMM has been officially approached by Commonwealth, State delegated authorities or other organisations to tender for maritime archaeological or conservation services. The Museum may undertake contract work in line with current Commonwealth Government guidelines (*Contracting Out Guidelines of Public Sector Agencies*), and Museum and professional associations (Australian Association of Consulting Archaeologists) Policy.

10.0 Professional Development

The Australasian Institute for Maritime Archaeology (AIMA) is the organisation, which represents maritime archaeologists and sets professional and ethical standards for maritime archaeology in Australia.

Other professional organisations, which are relevant to the subject area, are

- the Australasian Society for Historical Archaeology (ASHA),
- the International Council on Monuments and Sites (ICOMOS),
- the Australian Institute for the Conservation of Cultural Material (AICCM),
- the Australian Association for Maritime History (AAMH)
- the Australian Association of Consulting Archaeologists (AACCA) and
- the Society for Historical Archaeology (SHA)

ANMM will maintain an active involvement in the professional arena and will maintain professional standards in the Museum's operation. Several ANMM staff are Ordinary or Executive Members of some of these organisations and their involvement will be encouraged and supported by ANMM.

ANMM has taken an active role in supporting conferences including jointly hosting the 1988, 1991 and 2000 AIMA conferences. ANMM undertakes to continue its support of AIMA.

11.0 Scientific Diving Policy

Scientific diving is defined as any SCUBA or SSBA (Surface Supply Breathing Apparatus) diving carried out to obtain research information from the underwater environment. Scientific diving includes but is not restricted to maritime archaeology, marine biology, conservation and underwater photography for research purposes.

In August 1990, the Museum endorsed a Scientific Diving Policy proposed by the then Curator of Maritime Archaeology, Mark Staniforth.

Developments and changes in Occupational Health and Safety Legislation, Australian Diving Standards and the Australian Diver Accreditation Scheme (ADAS) now requires that the Australian National Maritime Museum adopt a Code of Practice for Occupational Diving based on Australian / New Zealand Standards 2299.1 and 2815.1, 2, 3 and 4.

A copy of the Scientific Diving Operations Procedures Manual and Code of Practice (appendix 4) is attached to this Policy.

12.0 Operational Strategy 2005 to 2008

- Provide advice to the Maritime Archaeology Advisory Panel (Heritage Office of NSW) Staffing: One Staff Member. Time Allocation: Seven meetings per year
- Through Visitor Programs continue development of maritime archaeology school workshops and lectures Staffing: Two Staff Members. Timing: One x five hour workshop per month
- Continued input into National Policy Development with particular reference to education, display and interpretation work in maritime archaeology through AIMA, Historic Shipwrecks Officer at Department of Environment and Heritage and Heritage Office of New South Wales. Staffing: Two Staff Members.
- Maintenance of scientific diving accreditation for a minimum of three ANMM staff members preferable four. Time Allocation: One half day per month.
- Continue to investigate and assess the search for HMB *Endeavour*. A co-operative project with the Rhode Island Marine Archaeology Program. Staffing: One Staff Member. Timing: August 2005
- Participation in joint AIMA/AAA Conference in Fremantle, Western Australia. Staffing: Two Staff Members. Timing: Three days, November 2005
- Produce and launch a publication cataloguing ANCODS material held by ANMM. Staffing: One Staff Member. Time Allocation: July - November 2005
- Provide advice to Overseas, Commonwealth, State Government, Non Government Agencies and the General Public on shipwrecks, legislations and maritime archaeology. Staffing: One Staff Member. Time Allocation: As required.

Appendix 1

Scientific Diving at the Australian National Maritime Museum

1.0 Scientific Diving

Scientific diving is defined as any SCUBA or SSBA (Surface Supply Breathing Apparatus) diving carried out to obtain research information from the underwater environment. Scientific diving includes but is not restricted to maritime archaeology, marine biology, conservation and underwater photography for research purposes.

With changes to legislation it is no longer possible for staff to perform diving activities in the workplace with recreational diving qualifications. Accordingly staff are now trained to the more rigorous occupational diving (commercial) standards to comply with Occupational Health and Safety regulations.

The ANMM Scientific Diving Policy was adopted in August 1990, January 1995 and January 2004.

2.0 ANMM Scientific Diving Procedures Manual and Code of Practice

Changes to Australian Standard 2299.1 (Occupational Diving), the introduction of the Department of Industry, Tourism and Resources Australian Diver Accreditation Scheme (ADAS) and two recent ComCover workplace safety audits at the ANMM have highlighted the need to develop and introduce a new Scientific Diving Policy.

Set around the workplace specific *ANMM Scientific Diving Procedures Manual and Code of Practice* (2001) the new Policy will enable the Museum to comply with current OH & S legislation and Australian Standards.

3.0 Training and accreditation

3.1 Code of Practice for scientific diving

The Standards Association of Australia (SAA) in late 1999 introduced Australian / New Zealand Standard 2299 which covers the training, qualifications, equipment, experience and medical requirements for the accreditation of occupational and scientific divers (including maritime archaeologists) in Australia.

In accordance to AS 2299 the ANMM must have in place a workplace specific *Scientific Diving Procedures Manual and Code of Practice* which outlines

- The scope of the procedures and Code of Practice
- Personnel, responsibilities, training and qualifications
- Supervision of health
- Diving organisation, planning and records
- Diving equipment
- Diving procedures
- SCUBA diving operations
- SSBA diving operations

- Emergency procedures
- Diving accident investigation

In 2001 the ANMM Diving Officer drawing on

- The *UNESCO Code of Practice for Scientific Diving* (1988)
- The Queensland Museum *Scientific Diving Procedures Manual and Code of Practice* (1996)
- The Heritage Office of NSW *Scientific Diving Procedures Manual and Code of Practice* (1999)
- The Australian Institute for Maritime Archaeology's *Scientific Diving Procedures Manual and Code of Practice* (2000)
- Australian and New Zealand Standard for Occupational Diving 2299.1 and
- Australian / New Zealand Standard 2815

developed a workplace specific *Scientific Diving Procedures Manual and Code of Practice* for the Australian National Maritime Museum.

All Scientific Diving carried out at the Australian National Maritime Museum must follow the procedures outlined in the manual. A copy has been attached to the ANMM Scientific Diving Policy.

3.2 Diving Medicals

All ANMM staff members who carry out scientific diving as part of their duties must pass a dive medical (to AS 2815) every 12 months - payable by the ANMM from the Maritime Archaeology budget.

This diving medical must be carried out by a recognised diving medical practitioner and a copy of the diving medical card or certificate must be

- a) held on file by the ANMM Diving Officer
- b) fixed into the Diver's Log Book

3.3 Scientific Diving Qualifications

Standards Association of Australia (SAA) have introduced an Australian / New Zealand Standard 2299 which covers the training, qualifications, equipment, experience and medical requirements for the accreditation of occupational and scientific divers (including maritime archaeologists) in Australia.

3.4 Scientific diver

In accordance with AS 2299 all scientific divers at ANMM must hold an entry level SCUBA diving qualification along with qualifications and training to at least the minimum level AS 2815.1 (Training and Certification of Occupational Divers: SCUBA to 30 metres).

It is highly desirable that all Scientific Divers hold qualifications and training to AS 2815.2 ((Training and Certification of Occupational Divers: SSBA to 30 metres).

Scientific Divers must also hold St Johns Ambulance Certification (or its equivalent) in Basic First Aid and Advanced Resuscitation.

Maintenance of accreditation as a Scientific Diver will require an annual medical to AS 2299 together with a minimum of 15 logged hours (900 minutes) of diving approved by the ANMM Diving Officer. It is expected that this will require each scientific diver to participate in at least one expedition of a minimum of seven days duration in each calendar year in addition to other approved diving operations during the year.

Photocopies of SCUBA diving qualifications and Logs (Professional Divers Association Approved Log Book) shall be kept on file and made available to the ANMM Diving Officer.

ANMM requires a minimum of three (3) scientific divers accredited in order to allow participation in situations where staff have other duties to perform which would preclude their participation.

3.5 ANMM Diving Officer

The *UNESCO Code of Practice for Scientific Diving* (1988), *The AMSA Standard for Scientific Diving* and Australian / New Zealand Standard 2815 requires that the ANMM appoint, in writing, a suitably qualified and experienced staff member as the ANMM Diving Officer.

Reporting to the Director, the Diving Officer shall:

- a) Be authorised to make decisions on all matters relating to risk assessment, dive plan design and approval, procurement and responsibility for maintenance of appropriate diving equipment and safety gear, and other tasks necessary to conduct safe and effective diving operations;
- b) Provide assistance to the Director in formulating policies and procedures relevant to diving operations;
- c) Ensure employed personnel, honorary staff or volunteers are appropriately qualified and experienced to supervise and/or participate in proposed scientific diving operations.
- d) Decide on the eligibility of employed personnel, temporary staff and/or volunteers intending to participate in an approved diving operation, in accordance with the regulations and provisions outlined in this Code;
- e) Maintain a register of the ANMM's scientific divers;
- f) Directly approve dive plans submitted for proposed museum work involving diving operations or otherwise delegate responsibility - in writing - for the approval of dive plans to an appropriate Dive Supervisor in circumstances where 'low risk' diving operations are intended (as per clause 3.1.1.);
- g) Appoint a Dive Supervisor for each diving operation and delegate authority to the Dive Supervisor to decide on matters relating to on-site risk assessment, design or appropriate

- dive plans, and any other authority necessary to conduct safe and effective diving operations in accordance with the regulations and provisions outlined in this Code;
- h) Manage procedures for the purchase, inspection and maintenance of all diving and ancillary equipment used in diving operations;
 - i) Ensure that the procedures outlined in this Code are observed by all divers working for or under the direction of the ANMM.

It is expected that the duties of the ANMM Diving Officer will only occupy two to three hours per month and that these duties will be carried out within the existing staffing structure.

4.0 Recommendations

- That the ANMM recognise Australian / New Zealand Standards 2299, 2815 and the *Scientific Diving Procedures Manual and Code of Practice* for the Australian National Maritime Museum as being the appropriate Standards, Procedures and Code of Practice for the Museum.
- That ANMM support a Scientific Dive Team and the accreditation of at least three (3) preferable four (4) staff members as scientific divers and continue to make provision for the necessary diving medicals, training and experience levels to be achieved and maintained.

Recommended staff members

Stirling Smith	Curator Maritime Archaeology and Ship Technology
Kieran Hosty	Curator, Maritime Archaeology and Ship Technology (on return from LWOP)
Paul Hundley	Senior Curator of USA Gallery
Nigel Erskine	Curator, Exploration
Lee Graham	Shipwright, Fleet Section

- That the ANMM appoint a Diving Officer, with the required level of qualifications and experience.

Recommended staff member 2005 - 2006

Stirling Smith	Curator Maritime Archaeology and Ship Technology
Kieran Hosty	Curator Maritime Archaeology and Ship Technology (on return from LWOP)

Appointment of ANMM Diving Officer

On behalf of the Australian National Maritime Museum I

hereby appoint Stirling Smith to be the ANMM Diving Officer

effective from 1 October 2004 for a period not exceeding eighteen months.

Mary-Louise Williams

Director

Australian National Maritime Museum

1 May 2005

Appointment of ANMM Scientific Diving Team

On behalf of the Australian National Maritime Museum I hereby appoint

Stirling Smith: Curator and Diving Officer

Kieran Hosty: Curator and Diving Officer (on return from LWOP)

Paul Hundley: Senior Curator and Scientific Diver

Nigel Erskine: Curator and Scientific Diver

Lee Graham: Shipwright and Scientific Diver

as members of the Australian National Maritime Museum Dive Team effective from 1 October 2004 for a period not exceeding Three (3) years.

Mary-Louise Williams

Director

Australian National Maritime Museum

1 May 2005

Appendix 2:

Scientific Diving Budget

1.0 Scientific Diving Budget

A detailed budget is provided for the remainder of 2004 - 2005 along with forward estimates for the subsequent financial year. These budget estimates are based on the following

- 1) That the ANMM has purchased basic SCUBA diving and photographic equipment over the past ten years and that this equipment requires regular maintenance, occasional replacement and updating.
- 2) That the Scientific Diving Team has the opportunity through sponsorship, assistance from delegated State and Commonwealth authorities and monies generated by contract work to supplement its income.
- 3) That the Scientific Diving Team should be comprised of at least three ANMM staff who will require regular training and participation in fieldwork to maintain accreditation.

1.1 Maritime Archaeology Budget 2004 - 2005

Item	Cost Code	Total Budget
Photographic Equipment	32520	2,000
Diving Medicals	32540	1,000
Equipment	32530	4,000
Fieldwork	32550	10,000
Miscellaneous	32590	2,000

1.2 Maritime Archaeology Budget Requirements 2005 - 2006

Item	Cost Code	Total Budget
Photographic Equipment	32520	3,000
Diving Medicals	32540	1,000
Equipment	32530	4,000
Fieldwork	32550	10,000
Miscellaneous	32590	2,000

1.2.1 Cost code breakdown

Photographic Equipment

Over the last five years the ANMM has purchased a Nikon 950 digital camera, a JVC Digital Video Camera and underwater housings for both. These cameras have been successfully used during maritime archaeology fieldtrips including the last three Newport, Rhode Island expeditions providing images which could be directly downloaded to the ANMM's webpage. In February 2005 a Cannon IXUS 500 digital camera was purchased to replace the Nikon 950 that was no longer serviceable. This camera is housed in a WP-DC800 underwater housing with a UWL-105 wide lens and an Inon D-2000 strobe.

These cameras and housings, along with the Nikonis V underwater still cameras require regular servicing of internal 'O' rings, lenses and electronics.

Diving Medicals

As per Australian Standard 2815 and the ANMM Maritime Archaeology Policy (2001) all ANMM staff operating in scientific diving are required to undergo a diving medical every 12 months which complies with Australian Standard 2299.

Equipment

Over the last ten years the ANMM has purchased base level diving equipment in order to equip the Maritime Archaeology Program. This equipment requires regular (12 monthly) maintenance and/or inspection in order to meet all requirements of Australian Standards.

In addition despite regular maintenance equipment especially wetsuits and other forms of protective clothing wears out and needs to be replaced every four to five years.

Fieldwork

The ANMM Maritime Archaeology Program has assisted both government and non government agencies with maritime archaeology fieldwork programs in Australia and overseas. The Museum is able to provide both trained personnel and equipment to assist in these projects.

Miscellaneous

The Maritime Archaeology Program will require funding for the interstate transport of diving equipment, excess baggage, conference attendance, purchase of reference material, fish bins and additional but non-specific equipment or photographic costs.

Appendix 3

Maritime Archaeology at the Australian National Maritime Museum

1.0 Maritime Archaeology in Australia

Although Bass was one of the early pioneers in maritime archaeology, Australia took the world lead in the development of shipwreck management and protective legislation.

The discovery and subsequent looting of four early Dutch shipwrecks *Batavia* (1629), *Vergulde Draeck* (1656), *Zuytdorp* (1712) and *Zeewijk* (1727) off the coast of Western Australia in the early 1960s resulted in the Western Australian State Government passing an innovative piece of legislation the *Western Australian Museum Act Amendment Act* (1964) which protected specified shipwrecks for their historical and archaeological values.

Additional protection was given to Western Australian wrecks and their associated relics with the *Maritime Archaeology Act* of 1971 and 1973 and the development of a maritime archaeology program based at the Fremantle Branch of the Western Australian Museum.

Following the lead established by Western Australia, the Commonwealth Government enacted the *Historic Shipwrecks Act* (1976). This Act allowed certain shipwrecks and their relics to be declared historic, prohibited any disturbance to the wreck, required people to report the finding of any shipwreck and required all holders of shipwreck material to register that material with the Commonwealth Government.

Due to the complexities of the Submerged Lands Act, each state had to request the Commonwealth to declare the Commonwealth *Historic Shipwrecks Act* (1976) for waters that were not inside that state's jurisdiction. For state waters not protected by the Commonwealth Act, mirror legislation was enacted by the respective states. In New South Wales waters shipwrecks are protected by the NSW *Heritage Act* (1977).

In 1993 the Commonwealth Government enacted a clause in the *Historic Shipwrecks Act* (1976) which extended 'blanket' protection to all shipwrecks older than 75 years.

Supported by the Commonwealth Shipwrecks Program based at the Department of Environment and Heritage in Canberra, all states in Australia have now established maritime archaeology programs, which are responsible for the study, interpretation, protection and management of historic shipwrecks.

2.0 Maritime Archaeology at the ANMM

When the ANMM opened at Darling Harbour in 1991, the Commonwealth's *Historic Shipwrecks Act* (1976) had been in operation for 15 years. More than 200 shipwrecks had been declared historic under state and Commonwealth legislation and maritime archaeology programs had been established in all States.

Shortly before the opening, the ANMM endorsed a Maritime Archaeology Program for the Museum and appointed Mark Staniforth, the first Curator of Maritime Archaeology.

As outlined in the Maritime Archaeology Policy the role of the Program is to provide expert advice, staffing and equipment in the areas of marine archaeology, site management, assessment, documentation, conservation and interpretation to designated government agencies within Australia as well as overseas.

2.1 ANMM Maritime Archaeology Diving Team

2003 – 2005	Stirling Smith	Curator
	Kieran Hosty	Curator
	Paul Hundley	Senior Curator
	Nigel Erskine	Curator
	Lee Graham	Shipwright

2.2 Archaeological Projects 1991 – 2005

- 2005:** Underwater survey of Fort Denison. Search for *HMS Sirius* cannon in Little Whiting Bay. Participated in photographic recording of *SS Duckenfield* in conjunction with NSW Heritage Office.
- 2004:** Continued underwater survey of an 18th century shipwreck believed to Captain Cook's HMB *Endeavour*, ANMM and the Rhode Island Maritime Archaeology Project, Newport, Rhode Island, USA.
- 2003:** Conducted non-disturbance surveys of the *Edward Lombe*, *Royal Shepard* and the *Centurion* shipwrecks in Sydney Harbour in conjunction with the NSW Heritage Office
- 2002:** Survey and excavation of an 18th century shipwreck believed to Captain Cook's HMB *Endeavour*, ANMM and the Rhode Island Maritime Archaeology Project, Newport, Rhode Island, USA.
- 2001:** Desk top survey, archaeological assessment for the Service Pipelines between Rodd and Clark Islands and Sydney Harbour foreshores, Australian Water Technologies.
- 2000:** Survey and excavation of an 18th century shipwreck believed to Captain Cook's HMB *Endeavour*, ANMM and the Rhode Island Maritime Archaeology Project, Newport, Rhode Island, USA.
- Desk top survey, archaeological assessment for Service Pipelines between Goat Island and Balmain, Sydney Harbour, HLA - Envirosciences.
- Survey and excavation of an 18th century shipwreck believed to Captain Cook's HMB *Endeavour*, ANMM and the Rhode Island Maritime Archaeology Project, Newport, Rhode Island, USA.
- 1999:** Survey, excavation of *HMS Pandora*, Great Barrier Reef, Queensland, Queensland Museum. Desk top survey, archaeological assessment for the Twofold Bay Multi Purpose Wharf EIS. Navin Officer Heritage Consultants, Deakin, ACT.
- Survey and excavation of an 18th century shipwreck believed to Captain Cook's HMB *Endeavour*, ANMM and the Rhode Island Maritime Archaeology Project, Newport, Rhode Island, USA.
- 1998:** Survey, excavation of *HMS Pandora*, Great Barrier Reef, Queensland, Queensland Museum. Pre-disturbance survey of unidentified shipwrecks off Levuka, Island of Ovalau, Fiji, ANMM, Australian Department of Foreign Affairs and Trade & The Fiji Museum.

- 1997:** Survey, excavation of the *Pandora*, Great Barrier Reef, Queensland, Queensland Museum. Survey of unidentified shipwreck off Nuka'a'lofa, Island of Tongatapu, Kingdom of Tonga, ANMM, Department of Foreign Affairs and Trade & The Tongan Ministry of Marine and Ports.
- 1996:** Survey and excavation of the *Pandora*, Great Barrier Reef, Queensland. Queensland Museum.
Survey of the SS *Lady Darling*, Montigue Island, NSW. Heritage Office of NSW.
Pre-disturbance survey of the wreck of the *Julia Ann* (1855), Society Islands. ANMM and the Department of Archaeology, Centre Polynesian des Sciences Humaines, Tahiti.
- 1995:** Survey and excavation of the *Pandora*, *Pandora* Passage, Great Barrier Reef, Queensland, Queensland Museum.
Survey of wreck resource at Tweed Heads, Tweed Heads, New South Wales Department of Urban Affairs and Planning.
- 1994:** Survey, excavation and site stabilisation of the *Sydney Cove*; Preservation Island, Bass Strait; Tasmanian National Parks and Wildlife Service.
- 1992:** Survey and excavation of the merchant ship *Sydney Cove*, Preservation Island, Bass Strait, Tasmanian National Parks and Wildlife Service.
Survey and excavation of stretches of the Parramatta River, NSW for the NSW Department of Transport.
- 1991:** Remote sensing archaeological survey, Lorne, Victoria, VAS.
Survey and excavation of the *Sydney Cove*, Preservation Island, Bass Strait, Tasmanian National Parks and Wildlife Service.

2.3 Outreach

Over the last fourteen years the Maritime Archaeology Program has conducted over 140 media interviews, more than 100 lectures and coordinated over 100 workshops both in Australia and overseas including:

- presented paper at the Conference on Underwater Archaeology, Quebec, Canada;
- organised, co-hosted, chaired sessions, and presented papers at the 18th annual AIMA conference at the ANMM, Darling Harbour, Sydney, September 1999;
- presented paper at North American Society for Oceanic History Conference, Lake George, New York, USA. 1999;
- organised, chaired and presented paper at *Beneath the Surface of Maritime Archaeology* conference and Seminar Series at ANMM. August 1997;
- presented paper and chaired sessions, at the 14th Annual AIMA Conference in Hobart, Tasmania;
- presented paper at the Peter Throckmorton Memorial Lecture, University of California, Los Angeles, USA;
- presented paper at Joint Council of American Maritime Museums and North Atlantic Society of Oceanic History Conference, Bermuda.

2.4 Consultancy Work

- 2002 – 2005:** Maritime archaeological inspection and heritage assessment of an unidentified anchor and propeller in the vicinity of White Bay, Sydney Harbour, Sydney Ports Corporation.
- 2001 - 2002:** Desk top survey, archaeological assessment for the Service Pipelines between Rodd and Clark Islands and Sydney Harbour foreshores. Australian Water Technologies. Desk top survey, archaeological assessment for Service Pipelines between Goat Island and Balmain, Sydney Harbour. HLA - Envirosiences.
- 1999 - 2001:** Report oversites and referee for the Proposed MCA Government Dockyard Redevelopment. Casey and Lowe and Associates.
- 1998 - 1999:** Desktop survey archaeological assessment for the Twofold Bay Multi Purpose Wharf EIS. Navin Officer Heritage Consultants, Deakin, ACT.
- 1992 - 1993:** Survey and excavation of stretches of the Parramatta River, NSW for the NSW Department of Transport.

2.5 Exhibitions

- 2003** *Sunken Treasures of Brunei*
- 2001:** *Vasa - curious fate of a King's warship*
- 1998:** *Wreck of the Julia Ann.*
- 1997:** *Shipwreck: the stories of Pandora and Sydney Cove*
- 1997:** *Titanic an interactive exploration.*
- 1994:** *Mary Rose: Life and Death on Henry VIII's Lost Warship.*

2.6 Grants

- 2004-2005:** Special Grant from the Minister for the Environment and Heritage.
- 1999-2000:** Special Grant from the Minister for the Environment and Heritage.
- 1998:** Department of Foreign Affairs and Trade
- 1997:** Department of Foreign Affairs and Trade
- 1992:** Ian Potter Foundation Grant
- 1991:** Ian Potter Foundation Grant

2.7 Panels, committees and associations

- Member: Australian Institute of Maritime Archaeology (AIMA).
- Member: AIMA Executive Council.
- Member: AIMA Special Project Advisory Committee.
- Diving Officer: Australian National Maritime Museum.
- Chair: AIMA Dive Standards Committee. 1994 to present
- Member: Maritime Archaeology Advisory Panel, NSW Heritage Office. 1990 to 2000
- Chairperson: Maritime Archaeology Advisory Panel, NSW Heritage Office.

2001 to present

- Member: Australian Standards Experts Advisory Committee (SF 17) on Occupational Diving. 1994 to 1999
- Co Editor: *Newsletter of The Australian Institute of Maritime Archaeology* 1994 to 2001
- Co-editor: *Bulletin of The Australian Institute of Maritime Archaeology*
- Member: Society for Historical Archaeology,
- Chair, Council of American Maritime Museums Policy Committee. 1997 -

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Appendix 4

Scientific Diving Operations Procedures Manual and Code of Practice

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1.0 SCOPE

1.1 PRELIMINARY

1.1.1 Definitions and Applicability

This Manual and Code of Practice (henceforth referred to as the **Code**) applies only to diving operations using either Self Contained Underwater Breathing Apparatus (AIR) (SCUBA) or Surface Supplied Breathing Apparatus (AIR) (SSBA), which are conducted under the auspices of Scientific Diving Operations and carried out for research, management or educational purposes.

1.1.2

Employees, volunteers, visiting scientists, honoraries and other associated personnel approved by the Director of the Australian National Maritime Museum (ANMM) who participate in scientific diving operations are considered to be scientific divers. These divers shall be subject to the provisions of this Code at all times during their diving operations.

Visiting scientific divers and other divers operating in the workplace controlled by the ANMM shall be expected to operate under this Code and as such shall be considered to be divers of the ANMM and subject to the provisions outlined in this Code. (the corollary, clause 1.1.4. also applies)

These provisions include the minimum diving qualifications (clause 2.4.2) and experience deemed appropriate for the particular level of operation (clause 2.5.3 - 2.5.6), diving fitness (clause 2.5.1), and other requirements set by the Director through the Diving Officer (clause 2.2.2).

1.1.3

This Code is also applicable to divers who are operating on-service and who may be:

- a) Working with private enterprise organisations (i.e. non-government divers) who themselves may not be subject to the *Workplace Health and Safety Act* (1989) (henceforth referred to as the Act);
- b) Joining diving operations sponsored by other state, national or international institutions in which there is no approved diving Code of Practice, or where other institutional Codes are deemed by the responsible Diving Officer (clause 2.2) on-site to be less stringent than the ANMM Code. In these circumstances the most stringent Code shall be used.

1.1.4

This code does **not** apply to:

- a) Employees and associated personnel, who otherwise would be eligible to be occupational divers, conducting fieldwork under the auspices of another government agency, which has an authorized Code of Practice (although clause 1.1.3 may apply). In these circumstances personnel may be directed to abide by the approved Code of that institution;
- b) Divers operating in depths greater than 39 metres;

- c) Divers using mixed gas diving techniques;
- d) Diver training;
- e) Personnel involved in diving operation not authorised or connected under the auspices of the ANMM: e.g. divers undertaking non-occupational recreational diving not sponsored by the ANMM.

1.1.5

This Code contains mandatory requirements for scientific divers and prescribes procedures to be followed prior, during and after diving operations. In particular, this Code outlines:

- a) Procedures to be followed to ensure observance of the prescription of this Code;
- b) Procedures for the approval of permanent, temporary and/or honorary staff to participate in diving operations;
- c) Eligibility of permanent, temporary and/or honorary staff to participate in scientific diving operations;
- d) Procedures for the maintenance of all diving and ancillary equipment used during approved diving operations;
- e) Procedures for approval of Museum work where scientific diving operations are proposed;
- f) Procedures to be followed during scientific diving operations; and
- g) Incidental matters relevant to the administration, management and implementation of scientific diving operations.

1.2 REFERENCED DOCUMENTS

- a) Australian Institute of Marine Science - AIMS Diving Procedures Summary (1987);
- b) Australian Institute of Maritime Archaeology - AIMA Diving Operations Procedures Manual (1997);
- c) UNESCO - Code of Practice for Scientific Diving (1988);
- d) Australian Marine Science Association - AMSA Draft Standard for Scientific Diving (1990);
- e) Australian / New Zealand Standard 2299.1 (1999): Occupational Diving Operations. Standard Operating Practice (henceforth referred to as AS 2299);
- f) Australian / New Zealand Standard 2299.2 (2002): Occupational Diving Operations Part 2: Scientific Diving;

- g) Australian / New Zealand Standard 2815 (1992): Training and Certification of Occupational Divers (henceforth referred to as AS 2815).

2.0 PERSONNEL AND RESPONSIBILITIES

2.1 DIRECTOR

The Director of the Australian National Maritime Museum is the responsible executive officer and has overall authority for all diving operations carried out by the scientific divers, exercised through the Diving Officer in consultation with the ANMM's Occupational Health and Safety Committee.

In the absence of the Director the Acting Director will be the responsible executive officer.

2.2 DIVING OFFICER

AS 2299 requires the ANMM appoint, in writing, a suitable qualified and experienced staff member as the ANMM's Diving Officer.

The Diving Officer is the instrument of the Director on all diving matters, and has direct access to the Director on matters of diving safety. All other employed personnel, honorary staff, or volunteers shall defer to the considered opinion of the Diving Officer on such matters.

2.2.1 Diving Officer's Qualifications and Experience

The Diving Officer shall be an experienced diver with approved diving qualifications and be familiar with all facets of the diving operations to be undertaken for the purposes of scientific diving. In order to fulfil the role of Diving Officer, a person shall

- a) Have appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.1 - Training and Certification of Occupational Divers: SCUBA diving to 30 metres.
- b) Have appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.2 (restricted) - Training and Certification of Occupational Divers: Air diving to 30 metres if also co-ordinating SSBA diving operations;
- c) Be able to recognise and manage diving emergencies;
- d) Have at least three years of active scientific diving experience;
- e) Hold a current St John's Senior First Aid Certificate or equivalent;
- f) Hold a current St John's Advanced Resuscitation Certificate or equivalent; and
- g) Satisfy any other reasonable requirements specified by the ANMM.

The Diving Officer shall also keep up to date with current developments in diving

technology, diving practice and occupational, health and safety.

2.2.2 Diving Officer's responsibilities

Reporting to the Director, the Diving Officer shall:

- a) Be authorised to make decisions on all matters relating to risk assessment, dive plan design and approval, procurement and responsibility for maintenance of appropriate diving equipment and safety gear, and other tasks necessary to conduct safe and effective diving operations;
- b) Provide assistance to the Director in formulating policies and procedures relevant to diving operations;
- c) Ensure employed personnel, honorary staff or volunteers are appropriately qualified and experienced to supervise and/or participate in proposed scientific diving operations.
- d) Decide on the eligibility of employed personnel, temporary staff and/or volunteers intending to participate in an approved diving operation, in accordance with the regulations and provisions outlined in this Code;
- e) Maintain a register of the ANMM's scientific divers;
- f) Directly approve dive plans submitted for proposed museum work involving diving operations or otherwise delegate responsibility - in writing - for the approval of dive plans to an appropriate Dive Supervisor in circumstances where 'low risk' diving operations are intended;
- g) Appoint a Dive Supervisor for each diving operations and delegate authority to the Dive Supervisor to decide on matters relating to on-site risk assessment, design or appropriate dive plans, and any other authority necessary to conduct safe and effective diving operations in accordance with the regulations and provisions outlined in this Code;
- h) Manage procedures for the purchase, inspection and maintenance of all diving and ancillary equipment used in diving operations;
- i) Ensure that the procedures outlined in this Code are observed by all Scientific Divers working for or under the direction of the ANMM.

2.3 DIVE SUPERVISOR

For each diving operation the Diving Officer shall appoint a suitable qualified and experienced diver, with experience relevant to the particular diving operation, to carry out the duties of Dive Supervisor.

2.3.1 Dive Supervisor's Qualifications and Experience

In order to fulfil the role of Dive Supervisor, a person shall

- a) Have appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.1 - Training and Certification of Occupational Divers: SCUBA diving to 30 metres;
- b) Have appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.2 (restricted) - Training and Certification of Occupational Divers: Air diving to 30 metres if also co-ordinating SSBA diving operations;
- c) Be able to recognise and manage diving emergencies;
- d) Have at least three years of active scientific diving experience; and
- e) Satisfy any other reasonable requirements specified by the ANMM's Diving Officer.

2.3.2 Dive Supervisor's Responsibilities

The Dive Supervisor is authorised by the Director through the Diving Officer to conduct an approved diving operation and shall ensure that prescribed procedures are followed by all participating divers. They shall:

- a) Ensure that all diving is carried out in accordance with the procedures set out in this Code;
- b) Nominate surface support personnel as required;
- c) Ensure that all-appropriate diving and ancillary equipment and emergency gear is available at the dive site and in proper working order;
- d) Prepare in consultation with the Diving Officer appropriate diving schedules;
- e) Ensure that all participating divers are adequately 'worked -up' (according to the schedule listed in 3.16). before the beginning of each diving operation;
- f) Ensure that all participating divers are adequately briefed on prescribed diving procedures and daily diving schedules;
- g) Cancel planned diving operations in the event of bad weather or any condition, which could jeopardise the safety of participating divers;
- h) Conduct workplace risk assessments, approval of dive plan(s), nominate diving teams, and carry out other tasks appropriate to supervision of diving operations;
- i) Ensure that all dive plans and logs are adequately completed;
- j) Ensure that at the end of diving operations all diving and emergency equipment owned, operated and maintained by the ANMM, is returned to the Diving Officer in good condition, or otherwise produce a duly completed technical report detailing any events and circumstances leading to its damage or malfunction. The Dive Supervisor is responsible for

the integrity of the appropriate equipment and plant from the time they receive it to the time it is returned to the Diving Officer.

2.4 SCIENTIFIC DIVERS

2.4.1 Eligibility

In order to participate in scientific diving operations, a diver shall:

- a) Hold a medical certificate demonstrating that they have been passed fit to dive issued by an approved (e.g. SPUMS) medical practitioner within the last twelve months, in accordance with Appendix K of AS/NZS 2299.1 (1999);
- b) Satisfy fitness and other requirements as stipulated in clauses 2.10.2 and 3.16
- c) Present proof of approved diving qualifications and of adequate diving experience to the Dive Officer prior to undertaking diving operations (see clauses 2.5.2 - 2.5.3); these qualifications and proof of medical fitness will be duly entered into the ANMM's Dive Log records;
- d) Be competent to safely carry out the work required.

2.4.2 Approved SCUBA Diving Qualifications to 20 metres (low risk)

Where diving to depths not exceeding 20 metres is planned a scientific diver shall have appropriate training and certification from a recognised training and certifying organisation to at least the requirements of AS 2815.1 - Training and Certification of Occupational Divers: SCUBA diving to 30 metres.

2.4.3 Approved SCUBA Diving Qualifications to 30 metres (low risk)

Where diving to depths not exceeding 30 metres is planned and is deemed to be 'low risk' (as set out in clause 3.1.1) a scientific diver shall have:

- a) Appropriate training and certification from a recognised training and certifying organisation to at least the requirements of AS 2815.1 - Training and Certification of Occupational Divers: SCUBA diving to 30 metres;
- b) Have logged at least 1200 minutes (20 hours) of diving;
- c) Have been assessed for diving fitness by the Diving Officer or their nominee prior to the commencement of diving.

2.4.4 Approved SCUBA Diving Qualifications to 30 metres (non low risk)

Where diving to depths not exceeding 30 metres is planned and is deemed to be 'non low risk' (as set out in clause 3.1.1) a scientific diver shall have:

- a) Appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.1 - Training and Certification of Occupational Divers: SCUBA diving to 30 metres;
- b) If diving to depths greater than 10 metres, minimum experience shall consist of at least 20 logged hours (1200 minutes) of underwater time at a depth of between 4 and 10 metres;
- c) If diving to depths greater than 20 metres, minimum experience shall consist of at least 40 logged hours (2400 minutes) of underwater time at a depth of between 10 and 20 metres;
- d) In cases where the last SCUBA dive was logged more than three months prior to commencement of diving operations, the diver is required to carry out, under supervision of the Dive Supervisor, a number of 'work-up dives' in accordance to the Work-Up Schedule set out in clause 2.10.1 and 3.16.
- e) Have been assessed for diving fitness by the Diving Officer or their nominee prior to the commencement of diving.

2.4.5 Approved SSBA Diving Qualifications to 20 metres (low risk)

Where SSBA diving to depths not exceeding 20 metres is planned a scientific diver shall have appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.2 (restricted) - Training and Certification of Occupational Divers: SSBA diving to 30 metres.

2.4.6 Approved SSBA Diving Qualifications to 30 metres (low risk)

Where diving to depths not exceeding 30 metres is planned and is deemed to be 'low risk' (as set out in clause 3.1.1) a scientific diver shall have:

- a) Appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.2 (restricted) - Training and Certification of Occupational Divers: Air diving to 30 metres;
- b) Have logged at least 1200 minutes (20 hours) of diving;
- c) Have been assessed for diving fitness by the Diving Officer or their nominee prior to the commencement of diving;

2.4.7 Approved SSBA Diving Qualifications to 30 metres (non low risk)

Where diving to depths not exceeding 30 metres is planned and is deemed to be 'non low risk' (as set out in clause 3.1.1) a scientific diver shall have:

- a) Appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.2 (restricted) - Training and Certification of Occupational Divers: Air diving to 30 metres;

- b) If diving to depths greater than 10 metres, minimum experience shall consist of at least 20 logged hours (1200 minutes) of underwater time at a depth of between 4 and 10 metres;
- c) If diving to depths greater than 20 metres, minimum experience shall consist of at least 40 logged hours (2400 minutes) of underwater time at a depth of between 10 and 20 metres;
- d) In cases where the last SSBA dive was logged more than three months prior to commencement of diving operations, the diver is required to carry out, under supervision of the Dive Supervisor, a number of 'work-up dives' in accordance to the Work-Up Schedule set out in clauses 2.10.2 and 3.16;
- e) Have been assessed for diving fitness by the Diving Officer or their nominee prior to the commencement of diving.

2.4.8 Diving Under Instruction

Where an appropriately qualified diver wishes to participate in diving operations but does not have the required hours experience as stipulated in the Code, then provisions may be made on approval by the Diving Officer to dive to accumulate additional hours if;

- a) The Dive Supervisor or a suitable experienced diver undertakes to buddy the diver under instruction;
- b) The diver under instruction does not perform work tasks on the dive but participates only as an observer;
- c) The SCUBA / SSBA dive is rated as 'low risk'.

2.4.9 Diver Responsibilities

All (SCUBA and SSBA) divers shall:

- a) Maintain a level of physical fitness commensurate with the requirements of planned diving activities (as a minimum standard, a diver should be able to demonstrate, prior to planned diving operations, an ability to complete an unaided 400m swim within 15 minutes, without a rest stop);
- b) Report to the Dive Supervisor any condition (e.g. flu symptoms, blocked sinus, and seasickness), which may be perceived to make their participation in a scheduled dive unsafe;
- c) Have a responsibility to ensure that any medications being taken by the diver are not contra-indicated;
- d) Ensure that they are familiar with the prescribed diving procedures and they have been properly briefed on the forthcoming dive schedule;
- e) Comply with the instructions of the Dive Supervisor;

- f) Maintain an up to date log book containing details of qualifications, diving experience and diving medicals, and be prepared to present the log book for inspection to the Dive Officer upon request;
- g) Treat their diving equipment with due care and in a manner according to the Dive Supervisor's and / or manufacturers instructions;
- h) Carry out pre-dive function check on personal diving equipment;
- i) Report any malfunction of equipment immediately to the Dive Supervisor, and assist in preparing an appropriate report on malfunction or damage.

2.5 SURFACE SUPPORT PERSON (SSP)

The SSP is a key member of a diving operation and will be nominated by the Dive Supervisor. At every diving operation - except as outlined in clause 6.2. - there shall be at least one SSP usually the small boat handler, where required the Dive Supervisor shall nominate a second or third SSP as a stand-by diver or as a diver's attendant.

2.5.1 SSP's Responsibilities

In addition to the specific responsibilities outlined in clauses 2.7, 2.8 and 2.9, the responsibilities of the SSP may include some or all of the following:

- a) Ensure that divers are assisted with their equipment before, during or after a dive;
- b) Assist in the recovery of diver's equipment, specimens or artefacts from the water;
- c) Maintain a constant vigil for surfacing divers (particularly towards the pre-arranged time of dive termination);
- d) Act as time-keepers / recorders for each diver's underwater time;
- e) Where required, carry out additional support duties as directed by the Dive Supervisor, in accordance with standard operational procedures (see Section 3.0).

2.6 SMALL BOAT HANDLER (SBH)

A small boat handler may be required for some onshore diving operations. The SBH must hold as a minimum qualification either a NSW Recreational Boat License or a TAFE Certificate of Proficiency - Small Boat Safety and Handling.

2.6.1 SBH's Responsibilities

- a) Ensure boat, steering equipment and outboard engine(s) are in good working order prior to commencing fieldwork;
- b) Ensure boat safety equipment (including anchors, cable, first aid kit, flares, fire extinguishers, PFD's, water, tool kit, spares) is onboard and in good working order;

- c) Ensure fuel supplies are adequate for the proposed fieldwork;
- d) Properly stow all emergency, safety and diving equipment;
- e) Safely navigate the boat to and from the dive site and, while divers are underwater, maintain a secure position at the dive site;
- f) Maintain (radio) communication with pre-arranged lookout at a shore station, support vessel or Coastguard;
- g) Be familiar with the proposed dive schedule and emergency procedures;
- h) Assist divers when required;
- i) Ensure that the no-smoking prescription on board small boats is complied with;
- j) Check the weather forecast before, during and after diving operations and abandon diving operations if the weather conditions warrant it;
- k) Ensure that all international and local small boat signals for diving operations are displayed prior to diving operations commencing and taken down once operations cease;
- l) Carry out on board briefing for all dive personnel explaining location and use of safety equipment, abandon vessel procedure, radio operation etc.

2.7 STAND-BY DIVER (SBD)

An SBD shall be present where SSBA diving operations are being conducted, when decompression diving is being carried out, or, at the Dive Supervisor's discretion, where environmental conditions warrant a SBD.

An SBD must be eligible to be a Scientific Diver, as described in clauses 1.1.1 and 2.5. Where required by the Dive Supervisor, the SBD shall be present at the dive site and be prepared to render prompt and effective assistance to a diver in distress.

2.7.1 SBD's Responsibilities

The SBD shall:

- a) Ensure that all safety and personal diving equipment is assembled and at hand in such a manner that ensures it can be utilised with required promptness;
- b) Be familiar with the proposed dive schedule;
- c) Ensure that their personal residual nitrogen level will not compromise their ability to render assistance to a diver underwater;

2.8 DIVER'S ATTENDANT

A Diver's Attendant must be eligible to be a Scientific Diver, as described in clauses 1.1.1 and 2.5. Where required by the Dive Supervisor, the Diver's Attendant shall be present at the dive site and be prepared to render prompt and effective assistance to a diver.

A Diver's Attendant shall be required where SSBA diving operations are being carried out or in situations where divers are tethered.

If a Diver's Attendant is required to tend an SSBA Diver then the Diver's Attendant must have appropriate training and certification from a recognised training and certifying organisation to a least the requirements of AS 2815.2 (restricted) - Training and Certification of Occupational Divers: Air diving to 30 metres

There shall be one Diver's Attendant per SSBA diver or per tethered diver and the Attendant shall not be engaged, other than as specified in clause 2.8.1, in any tasks other than that of Diver's Attendant.

2.8.1 Diver's Attendant's Responsibilities

The diver's attendant

- a) Must be familiar with the dive schedule;
- b) Must know the pre-arranged signals between diver and attendant;
- c) Shall ensure the umbilical or tether is adequately attended;
- d) Shall maintain a constant vigil during a dive for divers surfacing at a distance from the boat or other dive control position;
- e) Shall assist the diver in 'dressing in' and check off the diver's equipment.

2.9 SUPERVISION OF HEALTH

2.9.1 Certification by a medical practitioner

No person shall dive or be subjected to pressure unless that person has been examined and certified as fit in accordance with AS/NZS 2299.1 within the last 12 months.

2.9.2 Fitness to Dive

All divers involved in diving shall ensure that they are fit to dive. Fitness is maintained by exercise and regular diving. Any noticeable variation in normal feeling of health and fitness should be immediately reported to the Dive Supervisor, and to a medical practitioner if the variation persists.

A diver should not undertake diving within 12 hours of consuming intoxicants, or if under the influence of any drugs that may impair their mental or physical capacities.

When a diver's last dive was more than three months before current diving operations, divers shall carry out a series of supervised dives before the working dive.

- a) if diving to depths up to 10 metres, at least one dive at a depth of between 4 and 8 metres of at least 30 minutes. During the first part of this dive the diver shall exchange standard hand signals, demonstrate mask clearing and practise buddy breathing;
- b) if diving to depths up to 20 metres, at least two dives as described in section (a) above and a third dive of at least 30 minutes duration at a depth between 10 and 20 metres;
- c) if diving to depths up to 30 metres, at least three dives as described in section (b) above, plus an additional work-up dives of at least 15 minutes duration at a depth of between 20 and 30 metres;

2.9.3 First Aid for Diving Teams

All divers and attendants shall be trained in first aid so that, as a minimum, they are able to:

- a) Control bleeding;
- b) Carry out CPR;
- c) Care for an unconscious patient; and
- d) Administer 100% oxygen.

2.9.4 First Aid Kits and 100% O₂ for Diving Teams

For each dive operation a suitable casualty evacuation plan shall be prepared. This will need to include the emergency recovery of a casualty from the water and the transportation to a specialist treatment centre. The details of the emergency arrangements should be recorded in the dive plan. The initial stages of the plan should be tested at the start of every field season to ensure that it is effective.

There shall also be a means of summoning further emergency assistance (radio, mobile phone) that does not involve the Dive Supervisor, dive medic (if present) or other essential personnel leaving the immediate dive site.

A fully stocked first aid kit including a copy of The Dive Emergency Service (DES / DAN) Handbook and the ANMM's Dive Manual shall be immediately available on all dive sites.

A fully operational Resuscitation Unit capable of providing 100% O₂ for at least 60 minutes shall be immediately available on all dive sites.

If working in a remote area or overseas the Dive Supervisor should ensure that adequate 100% O₂ is available to transport an injured diver from the dive site to medical treatment.

2.10 RECORDS

2.10.1 Diver's Logbook

Every diver shall keep a logbook of all dives, including times and depths of dives. These details should be entered in the logbook at the completion of each working day along with a brief summary of any incidents and accidents.

The logbook should be bound, with each page consecutively numbered, and all entries should be in ink.

The logbook shall contain a record of all medical examinations, dive certifications and the diver's full name and current address.

In addition all divers shall download their personal dive computers as soon as practical after completion of the dives and send the completed record sheets to the ANMM Dive Officer.

2.10.2 Employer's Record

The ANMM through the appointed Dive Officer shall keep a record of each diving operation. This record shall include the following minimum details of each individual dive:

- a)** Proposed Dive Plan;
- b)** Date;
- c)** Dive Supervisor's name;
- d)** Diver's name;
- e)** Maximum depth of dive;
- f)** Decompression profile used;
- g)** Details of incidents and accidents;
- h)** Gas mix and contents at beginning and end of dives on cylinders;
- i)** Other relevant details.

2.10.3 Maintenance Records

Where tests on or maintenance of diving equipment is carried out, records of tests and maintenance shall be kept for a minimum period of seven years.

3.0 DIVING ORGANISATION AND PLANNING

3.1 GENERAL

Diving needs planning and foresight. Bottom time is at a premium. The diver(s) shall be placed on the job under the optimum conditions of knowledge, equipment, ability, safety, and freedom from distractions. Topside assistance shall be well organised and capable. Time spent in determining conditions under which the diver will work should result in greater efficiency once the work is commenced.

This Diving Operations Procedures Manual and Code of Practice along with the relevant AS/NZS should form the basis of the pre-dive plan and risk assessment.

3.2 DIVE SITE REGISTRATION

At the beginning of a scientific program, or as new dive sites are used during a program, a site shall be registered with the Dive Supervisor or the Diving Officer (if present). The registration should include the results of a general risk assessment of the site and the type of work proposed, along with emergency numbers, emergency response plans, exposure, isolation, known or anticipated water depths and tidal currents, and any other special hazards as appropriate.

3.3 PROPOSED DIVE PLAN

Before each diving operation, the Dive Supervisor shall prepare a Proposed Dive Plan and submit the plan to the Diving Officer for approval.

The dive plan shall -

- a) specify as far as possible the intended location, date(s), time, depth and duration of the proposed dive;
- b) specify the equipment to be used;
- c) specify communication and emergency procedures, emergency services and recompression facilities;
- d) provide a risk assessment of the proposed dive and dive site.

3.4 RISK ASSESSMENT

The Dive Supervisor is authorised by the Director, through the Dive Officer, to assess the level of risk for particular diving operations. Risk assessments shall be conducted prior to any proposed diving activities.

3.4.1 Low Risk Diving

Low risk diving include the following circumstances:

- a) Diving in calm or sheltered waters including the ANMM's Marina, North and South Wharves and Berry's Bay;
- b) Diving for a duration that does not exceed two safety stops or recommended no decompression limits (i.e. 90% of no decompression times listed in the DCIEM tables);
- c) Use of Diving Equipment (SCUBA and SSBA) in calm or sheltered waters to a maximum depth of 20 metres;
- d) Adherence to all other diving procedures, safe weather assessment, provision of adequate diving and support personnel and equipment requirements as outlined in this Code.

3.4.2 Types of Low Risk Diving

Low Risk Diving may include the following operations:

- a) Collecting by hand of pelagic, benthic, or sub-benthic organisms, small rock, sediment samples, rubble and other organically formed substrates which do not require undue physical exertion;
- b) Underwater still and video photography;
- c) Use of basic surveying equipment including tapes, slates and hammer;
- d) Hull, pontoon and wharf inspections and cleaning.

3.4.3 'Advanced' Diving

Advanced diving may include the following operations:

- a) Decompression diving;
- b) Diving to a depth greater than 20 metres;
- c) Diving using power-driven equipment, which cannot be readily controlled by the diver;
- d) Diving under adverse environmental conditions including weather, underwater visibility, current and tide.

Diving in conditions other than those defined as 'low-risk' constitutes 'Advanced' diving operations.

Advanced diving operations may be carried out but the appropriate procedures must be followed commensurate with the level of risk; and as outlined in AS/NZI 2299 and the ANMM's Diving Operations Procedures Manual and Code of Practice.

3.5 ON-SITE PRE DIVE PLAN

The Dive Supervisor is authorised by the Director, through the Dive Officer, to assess the level of risk for particular diving operations. At the dive site before every dive, the Dive Supervisor, Divers, Diver's Attendants and Small Boat Handler shall discuss in detail and agree upon the pre-dive plan and up date (if necessary) the risk assessment.

Risk assessment must be conducted prior to any proposed diving activities.

The pre-dive plan shall include -

- a) the location of the dive;
- b) consideration of weather, surface and underwater conditions and hazards;
- c) proposed maximum depth and dive profile;
- d) thermal protection required;
- e) tasks of all team members;
- f) residual inert gas status of dive team members;
- g) breathing gas supply appropriate for the dive;
- h) emergency procedures to be followed in the event of an equipment or system malfunction or an accident;
- i) proposed vessel and small boat movements;

3.6 SELECTION OF BREATHING APPARATUS

3.6.1 General

The decision as to which type of breathing apparatus is appropriate for a given type of diving operation shall be made after consideration of the type of work to be done by the diver(s). The equipment required, the conditions under which the diver(s) will work, and the inherent risks and limitations of each type of breathing apparatus.

3.6.2 Factors to consider

The decision as to which type of equipment is appropriate for a given diving operation should be taken after consideration of the following:

- a) SCUBA diving operations require an assessment of the likely gas consumption for the operation. This can vary greatly, depending upon the diver, the task and environment. As depth increases, it becomes increasingly difficult to make reliable assessments of gas consumption under varying work conditions and therefore, of the amount of gas left in the bottles.

- b) Surface-supplied systems do not require the same extent of gas consumption assessment as the supply is usually not limited and these systems are therefore more applicable to deep dives or dives requiring hard work.

3.7 SURFACE CONDITIONS

In planning a diving operations, careful consideration shall be given to the surface conditions that will be encountered at the scene of the operation. These conditions include state of the sea, weather, visibility, tide, currents, water temperatures and ship and boat movements.

Diving operations shall not be undertaken in rough seas, unusual tides or currents or other adverse conditions unless the Dive Supervisor and Divers consider that the Diver's safety will not be jeopardised.

3.8 IN-WATER CONDITIONS

Careful consideration shall be given to the in-water conditions likely to be encountered before diving operations commence. Such conditions include visibility, presence of contaminants, obstructions, marine life, thermoclines, pump intakes, pressure differentials and currents.

3.9 DEPTH OF WATER

Before diving operations are commenced at any site, the maximum depth at the site and the maximum possible depth to which the Diver could be exposed shall be ascertained by reliable means.

3.10 WATER TEMPERATURE

The temperature of the water at the dive site shall be ascertained and suitable thermal and breathing equipment shall be used to maintain the diver at a safe temperature.

3.11 COMMUNICATIONS

A communication system appropriate to the task and situation shall be established between tethered diver(s) and the surface support position. Voice communications should be considered.

When divers are operating in a free-swimming SCUBA mode in circumstances in which there is surface support, there shall be a means of recalling the divers to the surface.

The Dive Supervisor shall ensure that at every dive site there are adequate means of immediate communications in the event of an emergency.

3.12 EMERGENCY SERVICES

The Dive Supervisor shall identify the location of the nearest emergency medical and hyperbaric facility and shall make appropriate plans for emergency notification of an accident, and transport of an injured person to such a facility.

3.13 DIVING AND TRAVEL

Altitude exposure after diving is a potent precipitator of decompression illness. A diver shall not fly for at least 24 hours after any diving operations. In cases of multiple decompression dives, extreme exposures; omitted decompression stops and other adverse events the diver shall not fly for a minimum of 72 hours after diving operations.

Restrictions in travel also apply to road travel over mountain ranges.

3.14 RECOMPRESSION FACILITIES

No dive shall be planned for a period of time and at a depth exceeding those laid out in Table 4.1 in Section 4 of AS/NZS 2299.1 unless a recompression facility is available on-site.

3.15 REMOTE LOCALITY DIVING

Remote localities are those areas that are more than 6 hours (by road or air) from recompression facilities.

For each dive operation in a remote locality a suitable causality evacuation plan shall be prepared. This will need to include the emergency recovery of a casualty from the water and the transportation to a specialist treatment centre. The details of the emergency arrangements should be recorded in the dive plan. The initial stages of the plan should be tested at the start of every field season to ensure that it is effective.

There shall also be a means of summoning further emergency assistance (radio, mobile phone) that does not involve the Dive Supervisor, dive medic (if present) or other essential personnel leaving the immediate dive site.

A fully stocked first aid kit including a copy of The Dive Emergency Service (DES / DAN) Handbook and the ANMM's Dive Manual shall be immediately available.

A fully operational Resuscitation Unit capable of providing 100% O₂ for the time it takes to transport an injured diver from the dive site to medical treatment.

3.16 WORK-UP DIVING SCHEDULE

When making up the Proposed Dive Plan and On-Site Pre-Dive Plan (particularly the availability of divers), the Dive Supervisor shall take into account the divers' diving experience.

3.16.1 Work-up dives

Where diving experience was logged more than three months prior to current diving operations, all divers shall complete the following work-up dives:

- a) If diving to depths up to 10metres, at least one dive at a depth between 4 and 8 metres of at least 30 minutes duration. During the first part of the dive the diver shall exchange standard hand signals, demonstrate mask clearing and practise buddy breathing.

- b) If diving to depths between 10 and 20 metres, at least two dives between 4 and 8 metres of which the first dive is as described under (a) and a third dive of at least 30 minutes duration at a depth between 10 and 20 metres.
- c) If diving to depths between 20 and 30 metres, at least three work-up dives as described in (b) above, plus an additional work up dive of at least 15 minutes duration between 20 and 30 metres.
- d) If diving to depths between 30 and 39 metres, at least two work up dives as described in (c) above, plus two additional work up dive of at least 15 minutes duration between 25 and 30 metres.

4.0 DIVING EQUIPMENT

4.1 PERSONNEL SCUBA DIVING EQUIPMENT

All ANMM SCUBA Divers shall be issued with the following equipment.

- a) Regulator with alternate air source ('octopus');
- b) Submersible pressure gauge;
- c) Depth gauge;
- d) Buoyancy control vest or jacket equipped with a inflation device
- e) Dive computer or dive timer
- f) Suitable Protective clothing which may include a 'stinger suit', wet-suit or dry-suit;
- g) Mask, snorkel, fins, weightbelt and dive knife.

4.2 PERSONNEL SSBA DIVING EQUIPMENT

All ANMM SSBA Diver's shall be issued with the following equipment.

- a) Dive computer or dive timer
- b) Suitable protective clothing which may include a 'stinger suit', wet-suit or dry-suit;
- c) mask, snorkel, fins, weightbelt and dive knife.
- d) Back-up (self-contained) air supply.

4.3 COMPLIANCE AND MAINTENANCE

All personal diving equipment shall comply with the minimum standards as laid down in section 5.4 and 6.3 of AS/NZS 2299.1

All personal equipment shall be cleaned after use and regularly maintained. Any faults or problems with the equipment must be reported to the Dive Supervisor and the equipment not used again until it has been repaired or replaced.

In order to ensure that diving equipment is maintained the Diving Officer will arrange for

- a) all tanks and cylinders to be inspected annually by a registered pressure-vessel testing station;
- b) all regulators, gauges, pressure hoses and BCD's to be inspected and serviced annually by a competent diving technician;
- c) all first aid and resuscitation equipment to be inspected and serviced annually by an appropriate service agency.

5.0 DIVING PROCEDURES

5.1 REQUIREMENTS

When SCUBA has been selected as the appropriate type of equipment for a diving operation, then that diving operation shall comply with the requirements in this Manual in addition to the general, medical and equipment standards contained in other sections of this manual as well as AS.NZS 2299.1.

5.2 DECOMPRESSION SCHEDULES

All SCUBA diving, including repetitive diving, shall be carried out in accordance with DCIEM decompression tables or a dive computer following the guidelines set by the manufacturer.

NO dive shall be planned or undertaken for a period of time that requires a decompression schedule, except in accordance with Clause 5.10.

5.3 BREATHING GAS SUPPLY

Every ANMM SCUBA diver shall carry sufficient quantity of breathing gas to complete the planned dive plus a reserve supply providing a minimum 25% safety margin i.e. if a dive tank is filled to 200 bar then the diver must return to surface as soon as the tank pressure gauge reads 50 bar.

Further more if the diver is engaged in 'Advanced', non low-risk or diving to a depth greater than 25 metres then that diver must carry an additional 'redundant' air supply along with there normal SCUBA equipment.

5.4 PERSONNEL REQUIRED - GENERAL

At every SCUBA and SSBA diving operation there shall be sufficient personnel to ensure that diving is performed safely. The minimum number and designations of personnel required for various types of SCUBA and SSBA diving operations are set out in clause 6.0. The provision of extra personnel should always be considered as a means to reduce risk, particularly during dives involving hazards or those involving unusual underwater tasks.

5.5 DIVING - GENERAL

- a) ANMM Scientific Divers are not permitted to
 - 1) supply snorkel divers with compressed air;
 - 2) use their BCD's to lift heavy objects from the seabed;
 - 3) travel by air within 24 hours of diving;
 - 4) consume alcohol 12 hours prior to a dive;
 - 5) take any medication marked above S2 12 hours prior to a dive;
 - 6) (unless engaging in approved decompression diving) perform dives in excess of 95% of no decompression times when diving to depths less than 30 metres;
 - 7) (unless engaging in approved decompression diving) perform dives in excess of 90% of no decompression times when diving to depths greater than 30 metres;
 - 8) carry out more than three dives in any 24 hour period;

5.6 DIVING FROM SHORE - GENERAL

- a) A shore party should be present and at a position where the divers, their bubbles or buoys are visible;
- b) The divers should have experience in entry and exit procedures appropriate to the conditions that may occur at the dive site.
- c) Dive sites shall be marked by a diver towed or an anchored dive flag.

5.7 DIVING FROM BOATS - GENERAL

- a) All boats used shall be safe and suitable for the purpose and carry all the necessary safety equipment.
- b) All divers should have experience in entry and exit procedures appropriate to the conditions that may occur at the dive site.
- c) All boats shall display a diving flag and other signals required by the International Regulations for the Preventing of Collisions at Sea (1972).

5.8 TOWED DIVERS - GENERAL

Divers being towed by a boat and using sledges, sleds, 'manta boards' or other towed devices shall be able to release themselves from the towed device at any time.

In addition -

- a) the device should be attached to a float line equal to or greater in length than water depth;
- b) there should be both a SMH and an observer experienced in such underwater towing operations present on the boat; and
- c) the diver should have a demand valve safety strap or wear a full-face AGA style mask.

5.9 DIVING AT NIGHT - GENERAL

During every night diving operation the dive site, including the entry and exit points of a shore dive, shall be adequately and distinctively illuminated. Every diver shall carry at least two lights, one of which may be a cold cyalume stick.

5.10 PRECAUTIONARY DECOMPRESSION STOP

- a) All divers shall carry out a precautionary decompression stop at 5 metres.
- b) If divers come close to (within one minute) for the time limits set out for no-decompression diving they shall carry out a precautionary decompression schedule equivalent to that shown in the DCIEM tables.

5.11 DEEP DIVING AND DECOMPRESSION DIVING

- a) No SCUBA dive shall be carried out to a depth greater than 39 metres
- b) No SCUBA Dive shall be carried out to depth greater than 25 metres or for a period of time that requires a decompression schedule unless - each diver, including standby divers has undertaken the appropriate training and each diver carries an independent reserve gas supply.
- c) No SCUBA Dive shall be carried out unless each diver has undertaken the required work up dives
- d) No SCUBA Dive shall be carried out unless appropriate facilities and equipment including support vessels, shot lines, buoys, ropes, spare SCUBA sets and reserve air supplies are present at the dive site; and
- e) No SCUBA Dive shall be carried out unless arrangements are in place for emergency recompression of any diver showing signs of decompression illness.
- f) when decompression stops are carried out in the water an accurately marked and adequately weighted line shall be used for each stop, the diver shall be on the shot line at all times and shall record the depth and duration of all stops.
- g) If during decompression diving the diver breaks the surface before completing the time required, then the procedures outlined in the DCIEM tables for a missed decompression stop must be followed.

5.11.1 Maximum Depth-Time Limits for Deep Diving

- a) The Dive Supervisor shall ensure that all emergency equipment is available in full operational condition;
- b) The Dive Supervisor shall ensure that no deep (greater than 25 metres); no decompression dive is carried out exceeding the limits outlined in the table below unless a recompression chamber (RCC) is available as set out below:
 - 1) where an RCC is available within two hours of the dive site, the maximum times shall be those given in column B of the table;
 - 2) where an RCC is available within 6 hours of the dive site, the maximum times shall be those given in column A of the table;
 - 3) where an RCC is not available within 6 hours of the dive site, the maximum times shall be 90% of those given in column A of the table.

DEPTH (METRES)	COLUMN A BOTTOM TIME MINUTES	COLUMN B
27	15	20
30	10	15
33	10	12
36	8	10
39	6	8

- 4) Where deep diving operations are carried out according to the times set out in the table, the Dive Supervisor shall only use the DCIEM Tables to determine second or third dive profiles.
- 5) An appropriately qualified person capable of performing oxygen therapy shall be on site during deep diving operations.

5.12 HAZARDOUS CONDITIONS

The following conditions are potentially hazardous, of 'non low risk' and/or 'Advanced' diving and may require special training precautions and equipment:

- a) Diving using dry suits;
- b) Being towed on 'manta boards';
- c) Diving in zero or low visibility;
- d) Diving at night;
- e) Deep diving;

- f) Diving in caves, enclosed spaces, or places where there is danger of entanglement;
- g) Blue water diving (diving in open water where the bottom is beyond permitted diving depths);
- h) Decompression diving;
- i) Diving in surf, strong currents or heavy sea;
- j) Conditions that present unusual hazards;

5.13 TERMINATION OF A DIVE

A dive shall be terminated in accordance with the pre-dive plan, or when -

- a) The Dive Supervisor or surface coordinator requests termination;
- b) A diver requests termination;
- c) A diver loses contact with, or fails to respond correctly to communications from a dive buddy or with the surface;
- d) A diver fails to respond to communications from the diver's attendant;
- e) A diver begins to use their reserve gas supply;
- f) A diver is aware of any equipment malfunction or sign or symptom of distress, or
- g) A team member becomes aware of any unusual or unplanned situation, which threatens the health and safety of any dive team member

5.14 OPERATION OF POWER DRIVEN EQUIPMENT

Use of power driven equipment is classed as 'Advanced' diving procedures, and is therefore not appropriate under 'low risk' diving operations.

- a) Divers may use SCUBA gear whilst operating power driven equipment (i.e. water dredges, airlifts or coring devices) in diving operations not exceeding 14 metres provided this equipment does not exert a level or torque which cannot be safely and easily adjusted by the diver;
- b) Where power driven equipment is required for diving operations in depths exceeding 15 metres divers shall use SSBA equipment;
- c) Where power driven equipment is in use, divers shall be equipped with a self-contained reserve air supply;
- d) No air driven equipment shall be operated from the diver's own air supply.

6.0 SCUBA DIVING OPERATIONS

6.1 SCUBA DIVING OPERATIONS IN TANKS, SWIMMING POOLS ANMM MARINA OR IN SHELTERED OPEN WATER

Sheltered waters are defined as places where:

- a) The maximum depth does not exceed 20 metres;
- b) Swell and/or wave height does not exceed 1m during dive operations;
- c) Current and tidal flow at time of diving are such that divers are able to leave and enter the water without undue physical exertion;
- d) Underwater visibility is greater than four metres;
- e) Dive location is from shore or less than one nautical mile from shore.

The following personnel shall be present:

- a) One dive supervisor
- b) One tethered diver
- c) One diver's attendant

Thus, the minimum dive team for dives is three, one of whom shall remain at the surface dive-coordinating position.

In exceptional circumstances, where minimal risk is present, the Diving Officer may authorize a minimum team of two with the Dive Supervisor also acting as Diver.

These 'low risk' dive SCUBA Diving operations may be conducted if:

- a) diving is carried out by a minimum of a two-person dive unit;
- b) diving is conducted in calm, sheltered water;
- c) diving is conducted only during daylight hours;
- d) divers are trained to carry out effective diver rescue and emergency procedures;
- e) maximum dive depth is no greater than 10 metres;
- f) swell and wave heights are less than 0.5 metres;
- g) currents and/or tidal flows are negligible and divers are able to swim back to shore without due physical exertion;

- h)** underwater visibility exceeds four metres
- i)** Dive Officer (or other responsible person) has been advised of location of the dive site and times (duration) of the time;
- j)** As soon as possible after the dive (no later than 30 minutes) the Dive Supervisor contacts the Diving Officer.

Such authorisation shall include consideration of the following:

- a)** Poor visibility,
- b)** Danger to the diver from natural currents or currents associated with obstructions, intakes and outlets;
- c)** Risk of entrapment of the diver or entanglement in his equipment;

6.2 FREE SWIMMING SCUBA OPERATIONS IN OPEN WATER

The following personnel shall be present:

- a)** One dive supervisor
- b)** Two buddy divers
- c)** One diver's attendant

The Dive Supervisor may act as either the diver's attendant or as a diver. Thus the minimum dive team for free swimming SCUBA operations is three. One of whom shall remain at the surface dive coordinating position.

If the dive supervisor enters the water, then their duties shall be transferred to another person who shall remain at the surface and is competent to recognize and manage diving emergencies.

When a free-swimming SCUBA operation involves more than two divers, then divers shall dive in pre-arranged groups of either two or three buddy divers, but no more. Before entering the water, one member of each buddy team shall be designated the underwater dive leader for that group.

Free-swimming buddy divers shall remain in visual contact with each other at all times and shall be ready to render assistance to one another if required.

6.3 TETHERED MODE SCUBA DIVING OPERATIONS IN, WHICH THE DIVER IS SECURED BY A LIFELINE AND TENDED BY A DIVER'S ATTENDANT OR IS SECURED TO A TENDED FLOAT LINE.

The following personnel shall be present:

- a)** One dive supervisor,

- b) One diver,
- c) One diver's attendant,
- d) One standby diver,

The Dive Supervisor may act as either the diver's attendant or the standby diver. The Dive Supervisor may dispense with the requirement for a standby diver except where there is risk to the diver -

- a) of entrapment or entanglements in their equipment,
- b) from natural currents or currents associated with underwater obstructions, outlets and inlets,

Thus the minimum dive team for tethered mode SCUBA diving operations is two, one of whom shall remain at the surface dive coordinating position.

When SCUBA diving is done in a tethered mode, the diver shall be either -

- a) secured by a lifeline which is tended by the diver's attendant; or
- b) secured by a float line whose surface float is observed by the diver's attendant at all times.

A SCUBA diver tethered by a lifeline shall maintain the ability to communicate with the diver's attendant at all times.

When a SCUBA diver is tethered to a float line, the diver's attendant shall have and maintain the ability to recall the diver by means of an agreed signal at all times.

7.0 SSBA DIVING OPERATIONS

7.1 GENERAL

When SSBA has been selected as the appropriate type of equipment for a diving operation, then that diving operation shall comply with the requirements in this Section in addition to the general and medical requirements contained in other sections of this manual.

All SSBA diving, including repetitive diving, shall be carried out in accordance with DCIEM tables.

7.2 PERSONNEL REQUIRED

7.2.1 General

At every SSBA diving operation there shall be sufficient personnel to ensure that diving is performed safely. The minimum number and designations of personnel required for various types of SSBA diving operations are set out in clauses 7.3 to 7.6. The provision of extra personnel should always be considered as a means to reduce risk, particularly during dives involving particular hazards or those involving unusual underwater tasks.

7.3 SSBA DIVING USING INCOMPRESSIBLE HELMETS, BAND MASKS OR FULL-FACE MASKS UP TO 10.0 METRES.

The following personnel shall be present:

- a) Dive Supervisor
- b) A Diver
- c) A diver's attendant

The Dive Supervisor may act as the diver's attendant provided that the diving operation does not involve -

- a) Poor visibility;
- b) Danger to the diver from underwater hazards, currents, outlets and inlets.
- c) Risk of entrapment of the diver or equipment
- d) Use of equipment or tools; or
- e) A situation in which third party assistance is not readily available in an emergency.

The minimum dive team for dives up to two metres of water is two. If a dive team of two is used, the dive supervisor shall maintain constant visual contact with the diver and be capable of removing the diver from the water in an emergency or if the diver requests assistance.

7.4 SSBA DIVING USING INCOMPRESSIBLE HELMETS, BANDS MASKS OR FULL-FACE MASKS UP TO 20.0 METRES.

The following personnel shall be present:

- a) A Dive Supervisor.
- b) A diver
- c) A standby diver
- d) One diver's attendant.

The Dive Supervisor may act as the diver's attendant or carry out other service duties but shall not be nominated as the diver or standby diver.

The minimum dive team for dives to 20 metres using SSBA equipment is three people.

7.5 SSBA DIVING USING INCOMPRESSIBLE HELMETS, BAND MASKS OR FULL-FACE MASKS TO DEPTHS BETWEEN 20.0 AND 30.0 METRES.

The following personnel shall be present:

- a) A Dive Supervisor.
- b) A diver
- c) One diver's attendant.
- d) A standby diver
- e) One standby diver's attendant.

The Dive Supervisor may act as the diver's attendant or the standby diver's attendant or carry out other surface duties but shall not be attendant for both the diver and standby diver.

The minimum dive team for dives between 20.0 and 30.0 metres is four people.

7.6 DIVING USING HALF-FACE MASKS AND SEPARATE DEMAND VALVES TO 30.0 METRES.

The following personnel shall be present

- a) A Dive Supervisor.
- b) One diver
- c) One diver's attendant

The Dive Supervisor may operate as a diver, in which case two divers working as a buddy pair with one surface attendant is required. The minimum dive team is three.

In special circumstances the dive supervisor may act as the diver's attendant provided the diving operation -

- a) Is in an aquarium tank or swimming pool or in shallow (less than 10m); clear 4 metres lateral visibility) and sheltered open water;
- b) does not subject the diver to danger from entrapment, natural currents or currents associated with sluices, weirs, locks, inlets or outlets;
- c) does not use equipment or tools;
- d) third party assistance is readily available.

In special circumstances, the minimum dive team is two. If a dive team of two is used, the Dive Supervisor shall remain on the surface and maintain constant visual contact with the diver and be capable of removing the diver from the water in an emergency or if the diver requests assistance.

7.7 DIVING USING HALF-FACE MASKS AND SEPARATE DEMAND VALVES UP TO 30.0 METRES WITH THREE OR MORE DIVERS IN THE WATER.

Where three or more divers are in the water at the same time, there shall be present on the surface a diver's attendant for each two divers. A diver's attendant shall not tend more than two divers. Each pair of divers shall operate as a buddy team, and no buddy team shall exceed three divers. The Dive Supervisor may act as a diver's attendant.

Where two or more divers are, or may be, required in the water at the same time, the Dive Supervisor shall ensure that prior to the commencement of diving operations, sufficient qualified personnel are available to carry out such diving operations in a safe manner.

7.8 LIFELINES

No SSBA diving operation shall be carried out unless the diver is secured by a lifeline.

A lifeline shall be -

- a) a cordage line of a diameter not less than 8mm;
- b) a combined communication line and cordage line of diameter not less than 8mm; or
- c) a diver's hose and its attachments if to the standard specified in AS/NZS 2299.1 Section 5.4.

The lifeline shall be independently attached in such a manner that the weights and other equipment can be readily discarded by the diver under water without fouling the lifeline.

7.9 DIVING EQUIPMENT AND AIR SUPPLIES

Diving equipment and air supplies shall comply with the relevant requirements as specified in AS/NZS 2299.1 Section 5.4.

For surface-supplied diving operations, the underwater equipment shall include the following:

- a) A surface-supply breathing gas hose for each diver, including a non-return valve located as close as possible to the diver, e.g. at the breathing medium inlet to the mask or mouthpiece or as an integral part of the components;
- b) Either -
 - 1) an incompressible helmet, band mask or full face mask; or
 - 2) a half-face mask and separate demand valve
- c) Inlet and exhaust valves.

- d)** Either one of or a combination of-
 - 1)** a demand gas supply device with or without tubes; or
 - 2)** a free flow gas device
- e)** For demand breathing, breathing tubes, pressure pipe or pressure hoses
- f)** An emergency gas supply
- g)** A harness to secure gas supply hose, equipment and emergency gas supply to diver
- h)** Lifeline.
- i)** If the diver is using a half-face mask and separate demand valve, a buoyancy compensating device.
- j)** Diving suit.
- k)** Weight belt or weight system to AS/NSS 2299.1 Section 5.4
- l)** Diver's knife

8.0 EMERGENCY PROCEDURES

8.1 EMERGENCY PROCEDURES - AUSTRALIA

In case of emergency involving any diver, engaged in diving operations under the auspices of the ANMM, the Dive Supervisor shall immediately contact the Director and the Diving Officer of the ANMM after completion of the following steps:

ACCIDENT OCCURS

RESCUE DIVER

GIVE IMMEDIATE FIRST AID AS REQUIRED

- ABC, Resuscitation, 100 %Oxygen
- Consult the DES Emergency Handbook for immediate treatment schedules

CONTACT DIVING MEDICAL DOCTOR

- See pre-dive plan
- Divers Emergency Service 008 088 200

FOLLOW MEDICAL ADVICE

IMMEDIATELY RECALL ALL OTHER DIVERS STILL IN THE WATER

PREVENT FURTHER INJURY TO OTHER DIVERS

ARRANGE EVACUATION OF INJURED DIVER

8.1.1 Collect the following essential information

- a) Number of patients
- b) Conscious ? Requires resuscitation
- c) Obvious major injury or problem
- d) Progressive state of patient(s)
- e) Brief diving history related to accident
- f) Medical equipment on site and training of personnel
- g) Diving history of injured diver
- h) Previous state of health
- i) Collect and seal off injured diver(s) equipment for accident investigation.

8.2 EMERGENCY PROCEDURES - OVERSEAS

In case of emergency involving any diver, engaged in diving operations under the auspices of the ANMM, the Dive Supervisor shall immediately contact the Director and the Diving Officer of the ANMM after completion of the following steps:

ACCIDENT OCCURS

RESCUE DIVER

GIVE IMMEDIATE FIRST AID AS REQUIRED

- ABC, Resuscitation, 100 %Oxygen
- Consult the DES Emergency Handbook for immediate treatment schedules

CONTACT DIVING MEDICAL DOCTOR

- See pre-dive plan
- Diving Emergency Service +61 8 8224 5123

FOLLOW MEDICAL ADVICE

IMMEDIATELY RECALL ALL OTHER DIVERS STILL IN THE WATER

PREVENT FURTHER INJURY TO OTHER DIVERS

ARRANGE EVACUATION OF INJURED DIVER

CONTACT THE ASSISTANT DIRECTOR COLLECTIONS AND EXHIBITIONS AND THE ANMM DIVING OFFICER ON +61 (2) 9298 3777

CONTACT INTERNATIONAL SOS on +61 (2) 9273 2785

THE ANMM'S COMCOVER MEMBER NUMBER IS 12ACMA000001

8.2.1 Collect the following essential information

- a) Number of patients
- b) Conscious? Requires resuscitation
- c) Obvious major injury or problem
- d) Progressive state of patient(s)
- e) Brief diving history related to accident
- f) Medical equipment on site and training of personnel
- g) Diving history of injured diver
- h) Previous state of health

8.3 LOST DIVER PROCEDURES

In the event of a diver(s) not surfacing

- a) Assess the degree of the urgency. Consider time overdue, planned dive profile, possible decompression and air status
- b) Question dive buddy, if available, to determine:
 - 1) any obvious problems
 - 2) where and when the missing diver was last seen, what they were doing and direction of travel
 - 3) maximum depth reached
 - 4) last known air contents
 - 5) diver's last action
 - 6) where buddy surfaced relative to separation point
- c) Re-assess degree of urgency in light of information;
- d) Buoy the area where the diver was last seen;
- e) Place a lookout at the highest possible vantage point and get them to scan the surface, shoreline for diver(s) and bubbles

- f) Check the diver has not left the water
- g) Prepare Standby divers and recall all other divers. Determine who is to participate in search, if necessary, without compromising their safety;
- h) If bubbles are visible send in a pair of stand-by divers to investigate;
- i) Phone or radio for assistance (SBO can use the PAN PAN PAN emergency call on the radio). Notify Police and / or Coast Guard
- j) Utilise any available boats and divers and prepare appropriate search
- k) Consider current / tide movement and change. Concentrate search down current from where diver(s) was last seen.
- l) Do not endanger search divers
- m) Collect and seal off injured diver(s) equipment for accident investigation.

9.0 DIVING ACCIDENTS

9.1 ACCIDENT REPORTS

The ANMM shall ensure that all accidents and incident reports are recorded and retained in accordance with the relevant regulatory requirements.

The ANMM should refer to the relevant regulatory authority (COMCOVER) for the requirements for recording and reporting accidents and incidents.

9.2 INVESTIGATION OF ACCIDENTS AND INCIDENTS

In addition to existing legal requirements to record and report incidents, accidents and injuries, the ANMM shall investigate and document all diving-related incidents, accidents and injuries. Appropriate action to prevent further occurrences shall then be taken. This shall be done in consultation with employees and their representatives (Union and OH&S Committee).

The investigation report should contain the following

- a) A summary of all aspects of the event occasioning injury or death, specifying-
 - 1) The name and address of the injured diver(s)
 - 2) the date, location and time of the incident;
 - 3) details of the diving experience of the injured diver, if injured whilst diving;
 - 4) full details of the incident and cause (if known) or possible contributing factors;
 - 5) the nature of the injury sustained by the diver, and
 - 6) the Dive Supervisor's recommendations to prevent a recurrence.

- b)** Full narrative statements from all persons (including the Dive Supervisor, diver and diver's attendant) engaged in the relevant diving operations and who can detail any information pertinent to the occurrence of the incident.
- c)** Such medical reports, in relation to the diver, as are available, being reports compiled both before and after the occurrence of the incident.
- d)** Full details of the type of diving apparatus used by the diver, in particular noting condition of such equipment immediately after the incident including, in the appropriate case-
 - 1)** whether cylinder valves were open or close and to what extent;
 - 2)** remaining pressure in cylinder;
 - 3)** the position of the emergency supply valve; and
 - 4)** the type of breathing gas used.

In any case where a fatality has occurred, all equipment should be left in the condition that it was at the time of the accident until it has been investigated by the relevant authorities.

APPENDIXES

PROPOSED DIVE PLAN

This form is to be completed by the Dive Supervisor and returned to the Diving Officer **prior** to diving operations.

1.0 Diving Operations are (delete one)

‘Low Risk’ or ‘Advanced’

2.0 Proposed Place(s) and Date(s) of Diving Operation

Date(s)	Place(s)	Location (Lat/Long or Name)
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3.0 Proposed Dive Supervisor

4.0 Name of Project Leader

5.0 Names and Qualifications of ANMM Divers

Names	Qualifications
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6.0 Diving Equipment (circle one or both)

SCUBA SSBA

7.0 Additional Equipment

7.0 Additional Equipment (cont)

8.0 Description of Dive Program

9.0 Name of Vessel

10.0 Name of Vessel's Master

11.0 Communication Details (radio, sat phone, ship - shore, mobile)

12.0 Deep Diving (circle one or both)

Yes No

Justification

Proposed Maximum Depth

Divers

13.0 Decompression Diving (circle one or both)

Yes **No**

Justification

Proposed Maximum Depth

Divers

14.0 Have Following Equipment Requirements Been Satisfied or Arranged

Surface tender / dingy and boat safety gear

Buoyed float line, dive flags

Weighted and marked shot line

Adequate Oxygen and First Aid Equipment

Oxygen and First Aid Personnel

Communications

Recompression Chamber

15.0 Emergency Procedures

Nearest Recompression Facility

Contact Details

Nearest Hospital

Contact Details

Nearest Diving Medical Practitioner

Contact Details

Record of Dive (Diver)

Record of Dive (ANMM)

Hand Signals for SCUBA / SSBA Diving Operations