

# Qualifications of medical personnel on offshore petroleum facilities

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## Core concepts

- Operators of offshore petroleum facilities must provide appropriately trained medical service providers at their facilities to reduce the risk of medical emergency to a level that is as low as reasonably practicable (ALARP).
- Offshore medical personnel must be sufficiently skilled, trained, and able to competently respond to a range of emergency situations.
- NOPSEMA has developed this guidance note to assist facility operators ensure that their offshore medical personnel are sufficiently trained, skilled, experienced, and able to competently respond to medical emergencies.

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## Abbreviations/Acronyms

AHPRA	Australian Health Practitioner Regulation Agency
ALARP	As low as reasonably practicable
DMT	Diver Medical Technician
IMCA	International Marine Contractors Association
IRHC	Institute of Remote Healthcare
MAE	Major accident event
Medevac	Medical evacuation
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
OHS	Occupational health and safety
OPGGs Act	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
OPGGs(S) Regulations	<i>Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009</i>
POB	Persons on board

## Definitions

<b>Accident</b>	An occurrence at or near a facility resulting in the death or serious injury of any individual, or which causes a member of the workforce to be incapacitated from performing work for 3 or more days [OPGGs Act Schedule 3 Clause 82(1)(a); OPGGs(S) Regulations, Regulation 2.41(1)].
<b>Extreme remote location</b>	Sites where medical evacuation to a hospital can never be achieved within four hours, even in the best of circumstances (IRHC, 2013).
<b>Remote location</b>	Locations where the medical evacuation of an injured or ill person to a hospital cannot be guaranteed to be achieved within four hours in foreseeable circumstances (e.g. inclement weather) (IRHC, 2013).
<b>Hospital</b>	A tertiary facility able to provide definitive care for the range of potential medical emergencies.
<b>Major accident event</b>	An event connected with a facility, including a natural event, having the potential to cause multiple fatalities of persons at or near the facility [OPGGs(S) Regulations, Regulation 1.5].
<b>Telemedicine</b>	The delivery of medical services, where distance is a critical factor, by doctors using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries (adapted from World Health Organisation, 2010).

## 1. Introduction

### 1.1. Intent and purpose of this guidance note

This document provides guidance on the qualifications of medical personnel on offshore facilities in the context of the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGs Act) and the *Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009* [OPGGs(S) Regulations]. The purpose of this Guidance Note is to provide facility operators with information on appropriate qualifications for offshore medical service providers, thus facilitating compliance with their legislative obligations.

This guidance note addresses the medical qualifications necessary for offshore medical personnel to respond to medical emergencies. While it is recognised that position descriptions for offshore medical personnel often encompass a range of functions outside of medical emergency response, those functions vary between operators and facilities and therefore fall outside of the scope of this guidance note. It is expected that operators will apply appropriate competency assurance processes to ensure that medical personnel are able to perform the range of functions contained within their position descriptions.



Further information is available in the NOPSEMA paper:  
**"Human Factors Competency Assurance"**

*Guidance notes indicate what is explicitly required by the regulations, discuss good practice and suggest possible approaches. An explicit regulatory requirement is indicated by the word must, while other cases are indicated by the words should, may, etc. NOPSEMA acknowledges that what is good practice and what approaches are valid and viable may vary according to the nature of different offshore facilities and the hazards existing at those facilities.*

## 2. Legislative requirements

### OPGGs Act – Duties of operator

- Cl. 9(2)      *The operator of a facility is taken to be subject, under subclause (1) to each of the following requirements:*
- f)      *to take all reasonably practicable steps to provide all members of the workforce, in appropriate languages, with the information, instruction, training and supervision necessary for them to carry out their activities.*
  - h)      *to take all reasonably practicable steps to provide appropriate medical and first aid services at the facility.*

### **OPGGS(S) Regulations – Members of the workforce must be competent**

- Reg 2.9 The safety case for a facility must describe the means by which the operator will ensure that each member of the workforce at the facility has the necessary skills, training, and ability:
- a) to undertake routine and non-routine tasks that might reasonably be given to him or her:
    - i. in normal operating conditions
    - ii. in abnormal emergency conditions
    - iii. during any changes to the facility; and
  - b) to respond and react appropriately, and at the level that might be reasonably required by him or her, during an emergency.

### **OPGGS(S) Regulations – Medical and pharmaceutical supplies and services**

- Reg 2.13 The safety case for a facility must specify the medical and pharmaceutical supplies and services, sufficient for an emergency situation, that must be maintained on, or in respect of, the facility

The legislation stipulates that operators must provide appropriately trained personnel at the facility (OPGGS Act), and that the safety case must describe how this will be ensured (OPGGS(S) Regulations). All members of the workforce – including medical service providers – must be sufficiently skilled, trained, and able to undertake routine and non-routine tasks in normal operating conditions, in abnormal emergency conditions, and during facility changes; and to perform their functions during emergency response activities (OPGGS(S) Regulations).

## **3. Qualifications of offshore medical personnel**

### **3.1. Current industry practice**

NOPSEMA conducted a review of operator safety case commitments and practice regarding qualifications of medical personnel for a sample size of 71 manned facilities that were active in 2017. The following qualification requirements were identified for personnel employed offshore in the position of 'Medic' or an equivalent role:

- Doctor – 4 facilities
- Registered Nurse – 15 facilities
- Paramedic – 23 facilities
- Registered Nurse or Paramedic (i.e. either qualification is acceptable) – 10 facilities
- Ship's Master Medical Course – 1 facility.

Eighteen facilities did not employ a Medic; rather a number of members of the workforce were trained in first aid. It was noted that each of these facilities are characterised by low (i.e. 25 or less) numbers of

persons on board (POB), including facilities that are not-normally-manned. Fifteen of these facilities would not be considered remote or extreme remote locations as defined in Section 3.2.

For vessel facilities undertaking diving operations<sup>1</sup>, Medics were trained and experienced in hyperbaric medicine. This generally involved having completed a Diver Medical Technician (DMT) course or equivalent. Members of air and saturation diving teams also held a qualification as a DMT. In the event of an injury during diving activities, the DMT provides care for the injured diver whilst in an air or saturation chamber, under remote supervision by the Medic, until decompression is complete. At that stage the Medic is able to access the injured diver and assume normal delivery of care.

Additional competencies, certifications, and experience requirements were noted, including:

- Advanced Life Support
- Trauma Life Support
- Offshore Medic (Health and Safety Executive, 2016)
- Emergency and/or trauma experience
- Remote area experience.

Finally, it was noted that Medics received support from various sources including:

- Telemedicine facilities connected to onshore doctors for provision of advice and instruction
- Members of the offshore workforce trained in first aid
- Dedicated medical evacuation (medevac) providers mobilising in-flight medical professionals and equipment.

### **3.2. Recommended practice**

The Institute of Remote Healthcare (IRHC) defines a remote location as one in which medevac to hospital cannot be guaranteed to occur within four hours of injury or illness onset; while an extreme remote location is defined as one in which medevac can never be achieved within four hours (IRHC, 2017). In accordance with these definitions, many Australian offshore petroleum facilities will be classified as remote or extreme remote locations. Such locations can require provision of medical support for extended periods of time while awaiting medevac. Medical personnel working in remote and extreme remote locations therefore require a broad range of competencies to reduce medical emergency risk to a level that is ALARP.

The IRHC (2017) recommends that all remote healthcare practitioners possess:

- an appropriate medical background such as Registered Nurse, Nurse Practitioner, Paramedic, Doctor, or Military Medic.
- a current professional registration with a relevant regulatory body<sup>2</sup>.

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<sup>1</sup> All current diving support vessels reference compliance to IMCA D 014 in their Diving Safety Management Systems.

<sup>2</sup> Examples include but are not limited to the Australian Health Practitioner Regulation Agency (AHPRA), the UK General Medical Council, and the

- at least three years of clinical working experience in an emergency medicine setting for practitioners working in remote locations, and three years of experience in remote locations for practitioners working in extreme remote locations.

The IRHC further recommends that remote healthcare practitioners demonstrate competence in the following fields<sup>3</sup>:

- emergency medicine with current certifications in:
  - Advanced Cardiac Life Support or equivalent
  - Advanced Trauma Life Support or equivalent
  - Mass Casualty Incident, Incident Command System, and secondary triage
  - emergency communications.
- primary healthcare
- occupational medicine
- clinical governance and administration.

### **3.3. Risk-based approach**

In determining the number and qualifications of medical personnel at the facility, operators should apply a risk-based approach with consideration given to:

- possible Major Accident Events (MAEs) associated with the type of operations undertaken, and the resultant potential injuries (physical and psychological) to multiple people
- possible accidents and illnesses associated with activities performed under normal operations, specialised activities, emergency situations, and facility changes (e.g. shutdowns, campaigns, etc.)
- possible personal medical emergency situations not associated with work activities, including heart attack, stroke, choking, and seizures
- the number of POB at any time
- medevac response times (from mobilisation to arrival at tertiary hospital) during the range of expected environmental conditions, including night flights and cyclonic/storm conditions
- additional risk introduced by medevac processes including risk to the patients and medevac personnel
- practitioner professional development requirements to maintain current knowledge and practical skills.

For saturation diving operations, medevac of an injured diver cannot occur until decompression has been completed, the duration of which can range from 1-10 days depending on diving depth. Telemedicine solutions are available for saturation and air diving hyperbaric chambers. These systems measure the

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Norwegian Directorate of Health.

<sup>3</sup> Refer to IRHC (2017) for the detailed list of competencies associated with each field.

diver's vital signs in real-time, wirelessly transmitting this information from inside the chamber to a specialist onshore doctor, who advises the DMT treating the injured diver in the chamber. Operators of diving support vessel facilities are encouraged to ensure that the DMT is familiar with the telemedicine system available for the saturation chamber, and that the facility medic is appropriately qualified and experienced to support air or saturation diving operations.

Medical personnel should be provided with appropriate resources<sup>4</sup> to enable them to manage multiple casualties effectively, based on possible MAEs. Sick bay size, location and layout should facilitate efficient access to all casualties during a MAE, and stretcher access to the helipad for medevac. In addition to the necessary range of medical and pharmaceutical supplies, the sick bay should be equipped with sufficient beds, appropriate diagnostic equipment, and telemedicine facilities. Competent medical practice should be supported through the implementation of rigorous medical standards, codes, and systems of work. Further, a proportion of the workforce should be trained in first aid to provide support to medical personnel across a range of scenarios.

It should be noted that, while telemedical support may be able to supplement some gaps in individual knowledge and experience, the physical skills required of offshore medical personnel cannot be substituted by virtual support. The provision of telemedical support to personnel who are not medical professionals is not considered sufficient to meet regulatory requirements.

Notwithstanding the above, it is noted that some facilities have low numbers of POB (i.e. <25) or may be intermittently attended by personnel during normal operations. Subsequently, the placement of dedicated medical personnel on such facilities may be impracticable (IRHC, 2013). In these situations, additional measures should be implemented to ensure that medical risks are reduced to ALARP. Additional measures may include:

- increased numbers of personnel with first aid qualifications
- advanced first aid qualifications for a proportion of the workforce
- additional medical equipment and supplies
- enhanced telemedicine facilities (e.g. video observation, remote monitoring, telediagnostic review, etc.)
- shortened evacuation times
- medevac with health professionals and medical equipment on board
- provision of competent medical service providers during periods of increased POB or more hazardous operations (e.g. commissioning, shutdowns, campaign maintenance, tie-ins, etc.).

Facility operators have a duty of care to ensure that the risks associated with medical emergencies are reduced to a level that is ALARP. Operators must be able to demonstrate that the members of their

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<sup>4</sup> OGP Report Number 343 (2011) provides guidance on medical emergency management resources.

workforce responsible for the provision of medical and pharmaceutical services have the appropriate skills, knowledge, and experience to be able to perform their functions.

Note: It should not be assumed that medical qualifications and experience that may be referred to under particular maritime codes/standards will necessarily be considered appropriate for a vessel when it is a 'facility' under the offshore petroleum regime (i.e. under the OPGGS Act).



Further information is available in the NOPSEMA guidance note:  
**"ALARP"**



Further guidance is available in the NOPSEMA guidance note:  
**"Emergency Planning"**



Further guidance is available in the NOPSEMA guidance note:  
**"Risk Assessment"**



## 4. Appendix: Registration requirements for Australian health practitioners

Australian health practitioner registration is managed by AHPRA and the national boards for each regulated health profession. Table 1 provides an overview of the typical qualification and minimum experience required to demonstrate eligibility for registration in relevant professions in Australia, along with the annual hours of professional development required to maintain registration. This is provided for information only. The OPGGS Act and the associated regulations do not prescribe Australian qualifications or registration with AHPRA.

**Table 1 – Minimum requirements to register as a health practitioner in Australia**

Practitioner type	Typical Qualification	Experience	Annual Professional Development
<b>Paramedic</b>	Bachelor of Health Science (Paramedicine) or equivalent (grandparenting for Diploma of Paramedical Science)	Practicum within Bachelor program	40 hours (proposed)
<b>Intensive Care Paramedic (ICP)</b>	Graduate Diploma (ICP) or Masters (ICP)	Internship program	40 hours (proposed)
<b>Australian Defence Force (ADF) Medic</b>	ADF Medic course includes Diploma of Paramedical Science and Diploma of Nursing		
<b>Registered Nurse</b>	Bachelor of Nursing	Practicum within Bachelor program	20 hours
<b>Registered Nurse – Scheduled Medicines (Rural and Remote)</b>	Graduate Certificate in Health (Scheduled Medicines)	1 year full-time clinical nursing practice	30 hours
<b>Nurse Practitioner</b>	Master of Nursing (Nurse Practitioner) or equivalent	3 years full-time clinical advanced nursing practice	30 hours
<b>Doctor</b>	Bachelor of Medicine and Bachelor of Surgery (MBBS) or equivalent	5 years post-award of MBBS	50+ hours

*Note: Paramedics are progressing towards inclusion within the Australian National Registration and Accreditation Scheme, with national registration of paramedics due to commence in late 2018. The requirements for Paramedics listed within this table are sourced from Paramedics Australasia (<https://www.paramedics.org>) and may change upon commencement of national registration. The requirements pertaining to nurses and doctors are sourced from their respective Australian national boards and associations.*

## 5. References, acknowledgements & notes

Health and Safety Executive (2016). *Offshore medic qualifications: A guide for training organisations approved under the Offshore Installations and Pipeline Works (First-Aid) Regulations 1989*. Retrieved from: <http://www.hse.gov.uk/pubns/MS39.htm>

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*Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009*

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Note: All regulatory references contained within this Guidance Note are from the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* and the associated Commonwealth regulations. For facilities located in designated coastal waters, please refer to the relevant corresponding laws of each State and of the Northern Territory.

For more information regarding this guidance note, contact the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA):

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