



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **SFISHIP209B Operate marine communications equipment**

**Release: 1**

## **SFISHIP209B Operate marine communications equipment**

### **Modification History**

Not applicable.

### **Unit Descriptor**

This unit of competency involves using radiotelephony equipment, the global maritime distress and safety sub-systems (GMDSS) available for small commercial vessels, specifically digital selective calling (DSC), the emergency position indicating radio beacon (EPIRB) and the marine search and rescue system. This unit incorporates the competencies required for holding the Marine radio operators certificate of proficiency (MROCP).

### **Application of the Unit**

Not applicable.

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

Nil

### **Employability Skills Information**

Not applicable.

### **Elements and Performance Criteria Pre-Content**

Not applicable.

## Elements and Performance Criteria

### Elements and Performance Criteria

Element	Performance Criteria
1 <b>Transmit and receive communications with radiotelephony equipment</b>	<p>1.1 Types of <b>radio equipment</b> are selected and used in accordance with their <b>limitations</b> and operational requirements.</p> <p>1.2 Radiotelephony <b>procedures</b> are used to transmit and receive various <b>types of signal</b> with different types of equipment.</p> <p>1.3 <b>Regulations</b> applicable to ship stations equipped with radiotelephony and digital selective calling (DSC) facilities are obeyed.</p>
2 <b>Repair and maintain communications equipment</b>	<p>2.1 Fault finding procedures are used to identify and rectify defective radio equipment.</p> <p>2.2 Routine maintenance is carried out on radio equipment.</p>
3 <b>Access search and rescue facilities</b>	<p>3.1 Access is made to the appropriate <b>organisation</b> for the provision of the required search and rescue <b>services</b>.</p> <p>3.2 Information required by the AUSREP (Australian ship reporting) system is supplied in the required format.</p> <p>3.3 <b>Emergency position indicating radio beacons (EPIRBs)</b> are deployed as required according to manufacturer's instructions and accepted search and rescue procedures.</p>

## Required Skills and Knowledge

Not applicable.

## Evidence Guide

Each unit of competency has an evidence guide that relates directly to the performance criteria and the range of variables. Its purpose is to guide assessment of the unit in the workplace and/or training program. The following components provide information to assist this purpose

### **Underpinning knowledge**

The underpinning knowledge identified for this unit is comprehensive due to

its likely inclusion in a group of units that may be used as the basis for the issue of licences by regulatory bodies.

The essential knowledge and understanding a person needs to perform work to the required standard include:

principles of signal transmission in order to avoid equipment limitations

methods of communicating vessel position

purpose for and monitoring of calling and working frequencies

purpose of silence periods

limitations on different

types of  
radio  
equipment

a basic  
understandi  
ng of the  
Australian  
marine  
search and  
rescue  
system

hazards  
associated  
with radio  
transmissio  
n and the  
repair and  
maintenanc  
e of  
equipment.

### **Practical skills**

The  
essential  
skills a  
person  
needs to  
perform  
work to the  
required  
standards  
include:

calling,  
replying  
and  
relaying  
procedures

transmitting  
and  
decoding of  
the  
phonetic  
alphabet,  
excluding  
the figure

code

identifying  
different  
types of  
radio  
equipment

measuring  
capacity of  
batteries  
and the  
specific  
gravity of  
the  
electrolyte

measuring  
on and off  
load  
voltage.

Literacy  
skills used  
for:

reading  
radio  
frequencies

reading  
fuse  
capacity.

Numeracy  
skills used  
for:

adjusting  
settings.

**Critical  
aspects of  
competence**

Assessment  
must  
confirm the  
ability to:

operate and  
maintain  
the full

range of  
radio  
equipment  
found  
aboard  
small  
vessels to  
send and  
receive  
routine and  
emergency  
signals

select  
frequencies  
appropriate  
for  
different  
types of  
signal  
transmission and  
reception

use  
transceiver  
controls

use  
message  
formats  
appropriate  
to general,  
safety,  
urgency,  
alarm and  
distress  
signals

operate  
MF/HF and  
VHF radio  
equipment  
to transmit  
and receive  
signals

test  
equipment  
and identify  
and rectify



common  
faults  
occurring  
to radio  
equipment

perform  
routine  
maintenanc  
e on radio  
equipment

deploy  
EPIRBs  
correctly

take  
appropriate  
action on  
receipt of  
various  
signals

access all  
services  
available  
from the  
various  
organisatio  
ns listed

transmit  
and decode  
messages  
with the  
phonetic  
alphabet,  
excluding  
the figure  
code.

Assessment  
must  
confirm  
knowledge  
of:

services  
available  
from  
organisatio  
ns and the

methods of  
accessing  
emergency  
and  
communica  
tions  
services

authority to  
transmit  
and the  
circumstanc  
es of use of  
alarm and  
distress  
signals

regulatory  
requirement  
s covering:

ship station  
licence

authority of  
skipper

secrecy of  
communica  
tions

false or  
deceptive  
distress or  
urgency  
signals

unnecessar  
y  
transmissio  
ns

keeping a  
log

avoiding  
interference

ship station  
identificatio  
n

information  
to be made

available to  
coast  
stations

documentat  
ion to be  
kept on  
board

language to  
be used  
during  
transmissio  
n.

### **Interdepen dent assessment of units**

This unit  
may be  
assessed  
after/with:

no  
recommend  
ations.

### **Context of assessment**

Assessment  
is to be  
conducted  
at the  
workplace  
or in a  
simulated  
work  
environmen  
t.

### **Method of assessment**

The  
following  
assessment  
methods  
are  
suggested:

written or  
oral short  
answer  
testing

practical  
exercises

project  
work

observation  
of practical  
demonstrati  
on.

**Resources  
required  
for  
assessment**

Resources  
may  
include:

fully  
operational  
radioteleph  
ony  
equipment

digital  
selective  
calling  
equipment

equipment  
for  
assessing  
voice  
procedures

equipment  
for  
assessing  
ability to  
identify and  
rectify  
faults with  
radio  
equipment  
and power

supply

EPIRBs

radio  
communica  
tion  
simulation.

### **Key competenci es**

This refers  
to the seven  
areas of  
generic  
competency  
that  
underpin  
effective  
workplace  
practices.

The key  
competenci  
es cover the  
three levels  
of  
performanc  
e in the  
following  
areas:

Communicating ideas and information	Collecting, analysing and organising information	Planning and organising activities	Working with others and in teams	Using mathematical ideas and techniques	Solving problems	Using technology
Level 2	2	1	1	2	2	2

## Range Statement

### Range of variables

The range of variables places the competency in context and allows for differences between enterprises and workplaces, including practices, knowledge and requirements. The range of variables also provides a focus for assessment and relates to the unit as a whole. The following variables may be present

### Radio equipment:

radiotelephony equipment:

medium frequency/high frequency equipment (MF/HF)

very high frequency equipment (VHF)

digital selective calling (DSC) equipment

emergency position indicating radio beacon (EPIRB)

single battery

two batteries connected in series, parallel or in combination of the two

aerials

electrical and radio cable connections

electrical fuses and their current carrying capacity.

### Limitations:

changes in transmission ability with time of day

line of sight

transmission power and geographic range

COSPAS-SARSAT availability.

### Procedures:

as contained in the current 'Marine Radio Operators Handbook for Small Craft':

fault finding

power supply

transceiver

antenna

DSC formats

general voice procedures and phonetic

**Types of signal:**

alphabet  
safety, urgency, alarm and distress formats  
silence periods  
appropriate frequencies.  
via COSPAS-SARSAT  
straight line  
via atmospheric layers  
relayed between various organisations  
general  
public correspondence:  
stations accepting radiotelegrams and  
radiotelephone calls  
ship to shore radiotelephone calls  
on demand service  
auto seaphone service  
auto seaphone 999 service

safety  
urgency  
alarm and distress.

**Regulations:**

arising from Federal communications  
legislation:  
Australian Communications Authority Act  
1997  
Radiocommunications Act 1992  
Telecommunications Act 1997  
Telecommunications (Transitional  
Provisions and Consequential Amendments)  
Act 1997.

**Organisations:**

search and rescue coordination centre  
location and operator  
state police forces  
coast stations  
limited coast stations

fishing organisations and cooperatives  
private shore stations  
volunteer coast guard stations.

**Services:**

medical advice  
AUSREP  
search and rescue  
public correspondence.

**Emergency position indicating radio beacons (EPIRBs):**

of the type:  
406MHz  
121.5/243 MHz.

**Unit Sector(s)**

Not applicable.

**Functional area**

Vessel operations