



Scientific Equipment, Facilities and Services Requirements

Users can access a range of equipment, facilities and services provided through the Marine National Facility.

Equipment and facilities are of two main kinds: those that are fixed to, or are part of, the vessel and those that can be mobilised for particular Research Voyages.

The list of equipment and services offered by the Marine National Facility is attached. You are asked to identify equipment, facilities and services you will require for your project.

The list has four separate parts:

- Project support services and facilities provided to all users;
- Standard equipment and facilities provided on request;
- Specialised equipment which requires some additional levels of technical support and preparation for use and may incur additional charges for users; and
- Specialised services and equipment which require extensive additional technical support and preparation for use and which may incur additional charges for users.

Applicants should clearly identify the equipment, facilities and services required as part of their research project on the attached list. These selections will determine the amount of technical support required which must in turn be balanced against the amount of support and the number of berths available on the vessel.

You should consult the Marine National Facility Operations Manager if you have any questions about equipment, facilities or services, the level of support required and any associated costs for your project.

I. Project Support Services and Facilities

The following are provided to all users as standard support.

<p>Communications A base-level email service (which excludes larger file transfers) is provided to all projects. Any communications above this level may be charged to users at cost recovery rates. Voice, fax and data communication is available from the ship in all operational areas.</p>	YES
<p>Data Products Underway data is collected for the following parameters: time, navigation data (course & speed); bathymetric depth; meteorological data (air temperature, humidity, wind speed and direction, barometric pressure and light); sea surface temperature and salinity. The standard data set is produced at 5 minute intervals. Other intervals can be arranged on request.</p>	YES
<p>Facilities The Operations Room provides: general computing facilities; marine chart package; 10/100 Ethernet; networking for laptops and PCs; Unix computing (visitor accounts); general purpose PCs; illustrator; DVD writing and Matlab.</p>	YES

2. Standard Services and Equipment Provided On Request

The following services and equipment are normally on board the vessel but applicants should indicate which are required.

Scientific Equipment Use of the following equipment can be provided on request.	
Smith-McIntyre sediment grab	<input type="checkbox"/>
Seapath Seatex 200 – for accurate heading, pitch and roll and heave	<input type="checkbox"/>
Simrad EK500 sounder for biological research (12, 38 and 120 kHz)	<input type="checkbox"/>
Simrad EA500 sounder for bottom detection (12kHz)	<input type="checkbox"/>
ADCP - measures current vectors beneath the vessel	<input type="checkbox"/>

Laboratory and other Facilities Laboratories and other facilities on board require some preparation for use prior to sailing. Applicants should specify which laboratories or facilities they require, note that some can be utilised for different purposes, so please specify what use you require. All laboratories have access to the ship's computer network.	
General purpose laboratory (includes fume hoods, fridge, freezer)	<input type="checkbox"/>
Controlled temperature laboratory /cool room – please specify temperature required	<input type="checkbox"/>
Hydrochemistry laboratory	<input type="checkbox"/>
Wet laboratory/CTD room	<input type="checkbox"/>
Fish laboratory/geoscience laboratory	<input type="checkbox"/>
Fish sorting room	<input type="checkbox"/>
Dark room	<input type="checkbox"/>
Photographic/preservation laboratory	<input type="checkbox"/>
Blast freezer – for quick freezing of samples	<input type="checkbox"/>
Walk in freezer	<input type="checkbox"/>
Moonpool transducer trolley	<input type="checkbox"/>

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2. Standard Services and Equipment Provided On Request cont.

Winches, A-frames and Crane Applicants should consult the Operations Manager on capabilities and other technical details.	
Trawl winches, port and starboard, with 4,500m of 24mm wire (trawling and dredging)	<input type="checkbox"/>
Coring winch with 7,000m of 19mm wire	<input type="checkbox"/>
CTD/Hydro winches each with 5,000m of 8mm single core conducting cable	<input type="checkbox"/>
Towed-body winch with 3,000m of 12mm 7-core conducting cable	<input type="checkbox"/>
Hydrographic A-frame	<input type="checkbox"/>
Stern A-frame (SWL 15 tonnes)	<input type="checkbox"/>
7.0 tonne knuckleboom crane	<input type="checkbox"/>
Gilson winches (15 tonne, 5 tonne)	<input type="checkbox"/>

Data Products The following data can be provided on request:	
ADCP: standard data provided as 20 minute averages. Vertical resolution, range and data quality to be discussed during voyage planning.	<input type="checkbox"/>
Underway data in netCDF format (10s sampling period) & CSV format at user selected sampling period	<input type="checkbox"/>
Ship attitude – heave, pitch, roll and heading	<input type="checkbox"/>
Data from winch sensors (tension, winch speed and wire out)	<input type="checkbox"/>
Bridge log (photocopy)	<input type="checkbox"/>

3. Specialised Equipment and Services Requiring Some Additional Support

The following equipment requires some additional technical support and preparation.

Scientific Equipment	
Electronic fish measuring boards	<input type="checkbox"/>
Diving Compressor (high pressure)	<input type="checkbox"/>
Expendable Bathythermograph (XBT) launching system (XBTs provided at user's cost)	<input type="checkbox"/>

Specialised Electronic Equipment	
Acoustic Pinger – used for monitoring the altitude of underwater packages	<input type="checkbox"/>
12kHz Acoustic Receive Transducer (low power, wide beam)	<input type="checkbox"/>
General Purpose Depth Sensor – used for monitoring depth of underwater packages attached to the vessel's cables	<input type="checkbox"/>

Conductivity, Temperature and Depth Profiling (CTD)	
The Marine National Facility offers a standard CTD profiling package comprising the CTD, rosette and Niskin bottles. Users should specify which rosette and Niskins they wish to use. Nominal conductivity calibration only unless Hydrochemistry support is provided for onboard salinity analysis. User support is required for CTD operations.	
CTD (Seabird SBE 911 plus)	<input type="checkbox"/>
Rosette (12 bottles up to 10 litres)	<input type="checkbox"/>
Rosette (24 bottles up to 10 litres)	<input type="checkbox"/>
10 litre Niskin bottles	<input type="checkbox"/>
2.5 litre Niskin bottles	<input type="checkbox"/>

Other CTD Sensors	
The following sensors are available for use with the CTD:	
Transmissometer (to 6,000m depth)	<input type="checkbox"/>
Profiling fluorometer – requires user support for calibration during voyage (6,000m depth)	<input type="checkbox"/>
Light (PAR) (to 500m depth)	<input type="checkbox"/>
Dissolved oxygen (to 6,000m depth) – requires MNF hydrochemistry support for calibration.	<input type="checkbox"/>
Lowered ADCP (to 6,000m depth) – requires users support for data processing and interpretation.	<input type="checkbox"/>

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**3. Specialised Equipment and Services Requiring Some Additional Support
cont.**

Data Products Available on Request	
CTD data	<input type="checkbox"/>
CTD log (photocopy)	<input type="checkbox"/>
Echograms from the Simrad EK500 sounder – readable with Sonardata Echoview software.	<input type="checkbox"/>
Echograms from the Simrad EA500 sounder – readable with Sonardata Echoview software.	<input type="checkbox"/>
XBT data	<input type="checkbox"/>

4. Specialised Equipment and Services Requiring Extensive Additional Support

The following services and equipment require significant support from Marine National Facility technical staff and/or extensive preparation prior to use. They may require further support and/or a financial contribution from users.

Chemical Analyses	
The following chemical analyses can be undertaken onboard. Marine National Facility hydrochemists will be required if any of these services are requested. If possible please indicate how many CTD casts and the numbers of samples/cast required.	
Total number of CTD casts required.	
Number of samples/cast.	
Salinity – analyses as required to calibrate CTD	<input type="checkbox"/>
Oxygen – analyses as required to calibrate CTD	<input type="checkbox"/>
Nitrate + Nitrite	<input type="checkbox"/>
Nitrite	<input type="checkbox"/>
Reactive silicate	<input type="checkbox"/>
Ortho-phosphate	<input type="checkbox"/>

Other Equipment and Facilities	
Underway fluorometer to measure sea surface fluorescence. User support may be required – discuss with Operations Manager.	<input type="checkbox"/>
Scintillation counter – this equipment can only be operated with user support.	<input type="checkbox"/>
Milli-Q water supply	<input type="checkbox"/>
Radiation Sensors – these also require user contribution and support.	<input type="checkbox"/>
SeaSoar – towed undulating CTD system. Can require assistance of up to 3 voyage participants for 24 hour operations. The SeaSoar may also be used as a platform for other small sensor packages. Discuss your requirements with the Operations Manager.	<input type="checkbox"/>
Moonpool transducer pole (for mounting user supplied packages)	<input type="checkbox"/>

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4. Specialised Equipment and Services Requiring Extensive Additional Support cont.

Swath Mapper Kongsberg EM300 swath mapping system. Use of the swath mapper requires at least one voyage participant and often at least one swath processing technician (supplied by Geoscience Australia).	
Swath bathymetry	<input type="checkbox"/>
Swath seabed reflectance	<input type="checkbox"/>
Swath water column data	<input type="checkbox"/>

Sampling Systems and Trawl Nets	
Scanmar net monitoring system	<input type="checkbox"/>
Polyvalent trawl doors	<input type="checkbox"/>
EZ Net – towed multiple plankton net system	<input type="checkbox"/>
Small epi-benthic sled	<input type="checkbox"/>
Rock dredge	<input type="checkbox"/>

Data Products	
SeaSoar (will be supplied if SeaSoar is used)	
Hydrology (will be provided if Hydrochemist onboard)	
Swath bathymetry	<input type="checkbox"/>
Swath seabed reflectance	<input type="checkbox"/>
Swath water column (under development)	<input type="checkbox"/>
Data from other instruments – please consult with the Operations Manager on availability	<input type="checkbox"/>

If you have any questions about the instrumentation, analyses or services available on RV Southern Surveyor, please contact:

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