MIMRA Research Vessel
Statement of operational requirements

- Vessel functions and owner requirements

MIMRA are in need of a Research Vessel capable of steaming safely across the Marshall Islands archipelago and able to accommodate a team of researchers, crew and equipment for up to 21 days in open ocean conditions. The RV should serve as a safe and effective platform to support the following MIMRA activities (showing approximate percentage of vessel cruise time per year on each activity):

(i) Transport, accommodation and dive platform for dive surveys for underwater visual census (UVC) across the entire RMI archipelago (20%)
(ii) Transport and accommodation platform for carrying out community development and socio-economic surveys on 29 atolls in 24 jurisdictions (20%)
(iii) Transport and accommodation (and limited diving) platform for habitat assessment, biological sampling of fish tissue for ciguatera toxin (20%)
(iv) Transport and accommodation (and limited diving) platform radioactive sampling and radiological surveys (10%)
(v) Transport and accommodation platform for water quality and CTD sampling (10%)
(vi) Miscellaneous activities such as FAD and FAD anchor deployment, MSC and SAR (Search and Rescue), etc (20%).

The RV will be engaged in the above operations for approximately 240 days per year.

- Quality

The vessel will be designed and constructed for heavy duty working cruises in tropical conditions so the exterior and interior building materials, equipment, construction and finish will be simple and comfortable but very durable and tough. It is estimated that the length overall of the vessel will be between 22 to 24 metres. Accommodations should be provided for a mixed gender research team of up to 10 researchers and 4 crew (Captain, engineer, deckhand, cook). Research team and Captain accommodations to be preferably on or above the main deck level. Separate M/F bathroom facilities. Vessel to be built to the Pacific Islands Maritime Laws Shipping (Domestic Vessels Safety) Regulations 2017 or similar.

- Autonomy, range and endurance;

Research cruises will extend for up to 3 weeks. Average cruising speed will be around 10.5 knots. Typical cruise profiles indicate that during the 3 weeks, the vessel will be steaming for 40% of the time, and at anchor or drifting for 60% of the time. Noting that the RV should be able to visit all inhabited atolls, the furthest such atoll is Enewetak, being 1500 nautical miles round trip from/to Majuro. Within the archipelago, refuelling stations are limited to Majuro and Kwajalein. A range of 2000 nm may be required to cruise to drydock and repair facilities outside of RMI (eg Guam or Fiji).

- Special features
    - A centre or forward wheelhouse arrangement will facilitate lifting operations of samples, stores and tenders aft of midships.
    - Comfortable but simple accommodations and a large aft working space are required. Separate male and female bathroom facilities required.
    - Wet lab at main deck level
    - Office working area (upper deck, aft of bridge and captains quarters)

    - A rest area for off-duty divers, perhaps on foredeck.
    - If possible, arrangements on the working areas of the vessel should permit flexibility to permit easy modification for any additional tasks which the vessel might be required to perform in the future (such as FAD and anchor deployment).
    - Storage spaces (samples, dry food, diving gear, spare parts etc)
    - Laundry room
    - Walk in freezer for extended cruises
    - Dive platform and boarding ladder at transom
    - Storage racks for scuba tanks and diving gear
    - Consideration should be given to employment of environmentally sound technologies such as waste disposal, CO2 emissions, renewable energy sources, etc.

- Equipment:
    - Two generators
    - Watermaker
    - Diving air compressor (electric, approx 80 cfm 220psi)
    - Recompression chamber
    - Stabilizers (passive)
    - Fast tender with diving/boarding ladder, capacity 8 persons, 60 HP 4 stroke OBM.
    - Crane, lifting equipment and stowage points for tenders, samples, FAD deployment
    - Air conditioning in bridge and all accommodations
    - Oxygen and first aid equipment (as per WHO or national requirements)
    - Safety equipment
    - Comprehensive navigational and communication equipment, WiFi (min 30 mbps) inc GMDSS, 406 MHz EPIRB, a VHF radio capable of transmitting and receiving DSC and radiotelephony, a NAVTEX receiver, a SART, and two-way VHF portable radios etc

- Marine research equipment requirements
    - Sonar, fish finder, split beam echo sounders, CTD etc
    - Scientific sampling gear,
    - Plotter to report accurate data to enable the updating of navigational charts

- Skipper and engineer to receive training by shipyard during RV construction, as required.
- Shipyard will have capacity to provide after sales service and warranty support in RMI, as required.