



NATIONAL MARITIME SAFETY AUTHORITY

Terms of Reference

TASK DESCRIPTION

PROJECT/TASK TITLE:	Upgrade of Kimbe Bay AtoN Structures
IMPLEMENTING AGENT:	National Maritime Safety Authority (NMSA)
PROJECT SPONSOR:	General Manager /CEO
PROJECT LOCATION:	Kimbe Harbour, West New Britain Province
COMMENCEMENT:	May 2018
PROJECT DURATION:	Four (4) Months

1.0 INTRODUCTION/BACKGROUND

The Navigation Safety Services Department (NSSD) of the National Maritime Safety Authority (NMSA) is responsible for the operation and maintenance of all marine Aids to Navigation (AtoN) sites and structures in PNG waters and waterways. The NSSD has funds allocated in its 2018 Work Program and intends to utilize these funds to carry out improvements to this aids to navigation network and the AtoNs in the Port of Kimbe under this project.

The Kimbe Port accommodates regular international and domestic vessel visits on average weekly. The domestic vessels are generally passenger and cargo including tug-towing dumb-barges while the international vessels are mainly container and the palm oil tankers that load the raw oil produced by the several oil palm factories in the Province. The vessels are guided in and out of Kimbe Port by eight main AtoN's out of the 26. Generally foreign vessels are brought into berth or dock and out by the resident Reef Pilot while the domestic vessels are nearly all Pilot exempted.

Vessels coming in to dock will pass between the AtoN Kimbe No.2 and Kimbe No.6, go past Kimbe No.3, and using Kimbe No.5 as reference make the turn towards the wharf keeping Kimbe No.7 and Kimbe No.8 AtoN's in sight as they approach to dock. At close proximity vessel Masters prefer to see the structure to gauge bearing and have an assurance of their distances as they manoeuvre into position. Refer attached Kimbe Bay maps for the locations of the AtoN's.

Reef Pilots and vessel Masters have raised the issue that when coming in during heavy rain, hazy days or on some nights have had much visual difficulty in picking out the AtoN structures. During heavy rain conditions, the vessels' radar also has difficulty in picking out the structures.

2.0 OBJECTIVE

The main reason identified with the visual difficulty of the AtoN's for the approach to the wharf is the physical size (diameter) of the structures. Currently the AtoN's identified as critical first contact AtoN's are small structures coupled with limited capacity for additional accessories to be installed to enhance their visual and radar visibility. The solution to improve navigation is to replace with larger structures that will have platforms to improve their visibility both by the human eye and by vessel radar.

The objective of this project is to replace the two AtoN's structures considered critical: Kimbe No.2 and Kimbe No.5 with larger (diameter) structures including platform tops.

3.0 CONSTRAINTS

The constraints expected from this project but not limited to this list include:

- The prevailing weather and sea conditions
- The vessel traffic conditions
- PNG Ports Corporation requirements and or conditions
- Kimbe Port is almost surrounded by pristine coral reefs and some protected sites (reefs) are in the vicinity if not nearby as such due consideration and relevant measures require to be in place before, during and after the project

4.0 REQUIREMENTS FOR THE BIDDER

4.1 GENERAL PRINCIPLES

By accepting this Terms of Reference (ToR), the Bidder agrees and confirms that they meet the following general conditions:

- The Bidder gives an assurance of proof of evidence that all employed staff and sub-contractors involved in this project are qualified in their relevant field and are certified where necessary to the PNG standards and international standards and requirements.
- The Bidder must be registered as required under the PNG Companies Act 1997 and must always comply with the requirements and guidelines of the Investment Promotion Authority (IPA) and Internal Revenue Commission (IRC).
- The Bidder must comply with all tax requirements of the Internal Revenue Commission (IRC) and must have a current operating Certificate of Compliance (CoC).
- The Bidder on accepting the Terms of Reference shall return to NMSA the Bidder's Proposal for the project, which shall include the costing for the successful completion of the project.
- All design and drawings for the project shall upon completion of the Project be the property of NMSA and shall be properly collated and labeled and handed over to NMSA.
- Upon the successful completion of the Project, a Completion Report is to be submitted to the NMSA Representative within ten (10) working days.
- A Maintenance Plan for the continued use of the new AtoN structure shall be submitted to NMSA on completion of the project concurrently with the Completion Report.

4.2 QUALIFICATIONS AND EXPERIENCES

The successful Bidder is expected to be technically qualified and experienced and have all the required working assets for commencement through to completion of the project. The Bidder shall provide a summary of its technical qualifications and experiences and include a list of all its working equipment to be engaged in the project.

4.3 EXPECTED RESPONSE PROPOSALS

EOI are required to detail the following requirements;

- Works implementation schedule
- Schedule of rates
- Detail proposed method of works plan, including mitigating the constraints, issues and requirements stated above in achieving the objective
- Details of proposed structure

5.0 SCOPE OF WORKS (SoW)

The scope of works shall include all the negotiations and works to bring about the two new AtoN structure to an acceptable degree of structural integrity, safety and security for the support of the AtoN equipment set on the structure and the technician(s) whom attend to its maintenance.

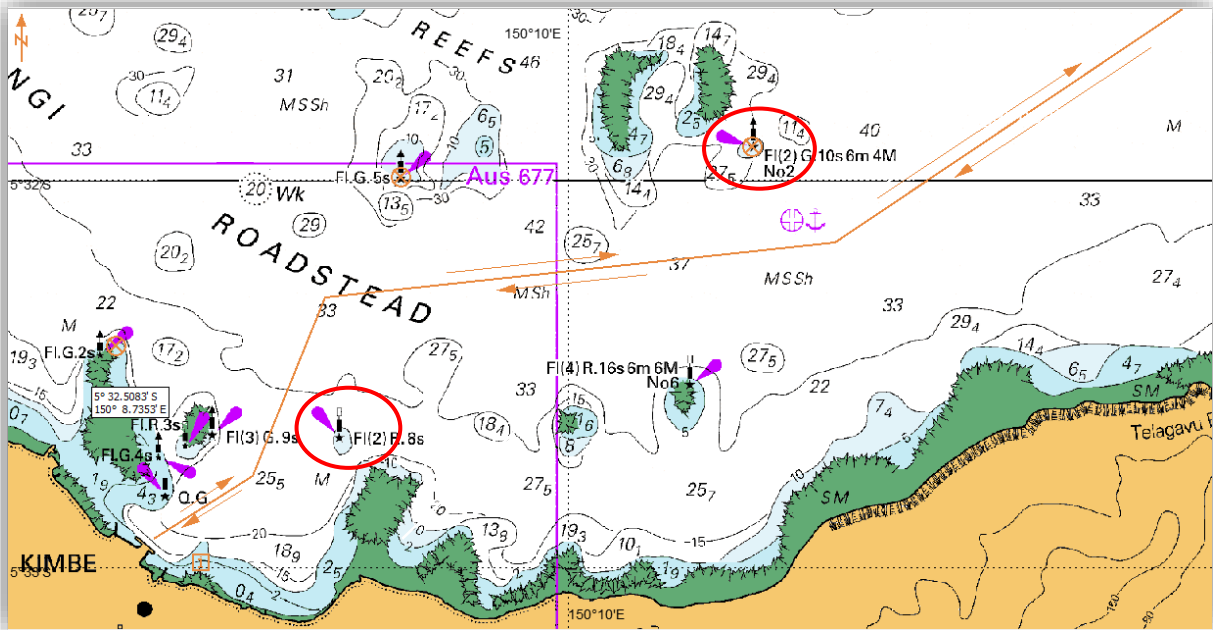
5.1 SCOPE OF WORK AND REQUIREMENTS

1. The approved contractor before commencement of works, shall provide NMSA with their schedule of works and costing.
2. The approved Contractor shall seek NMSA approval of its proposed structure with drawings and details before commencement of works.
3. The proposed structures should meet IALA requirements including colour markings and top marks.
4. The structures shall basically consist of a single pile 7m above mean sea level with a concrete platform and stainless steel guard rails and room space for two persons and centre post pedestal. The post pedestal shall be the same height of the guard rails.
5. The structures shall be designed and constructed taking into considerations the relevant forces acting on it including but not limited to wind, rain, wave and swells, water depth, tie-ons by small crafts, among others.
6. The approved contractor shall if needed, liaise with locals and relevant stakeholders in the surrounding area and inform them of the works to be carried out.
7. All works on site shall be performed with every effort made to prevent or mitigate damage to the reefs and general environment.
8. Appropriate signage and markings where possible shall be set to inform and warn of works in progress
9. The old structure shall be removed and disposed off in a responsible and environmentally friendly manner
10. Upon completion of works, the site shall be cleared of all debris and unused items.
11. After the completion of the project, NMSA shall inspect the installation and the authority shall give final approval of acceptance.

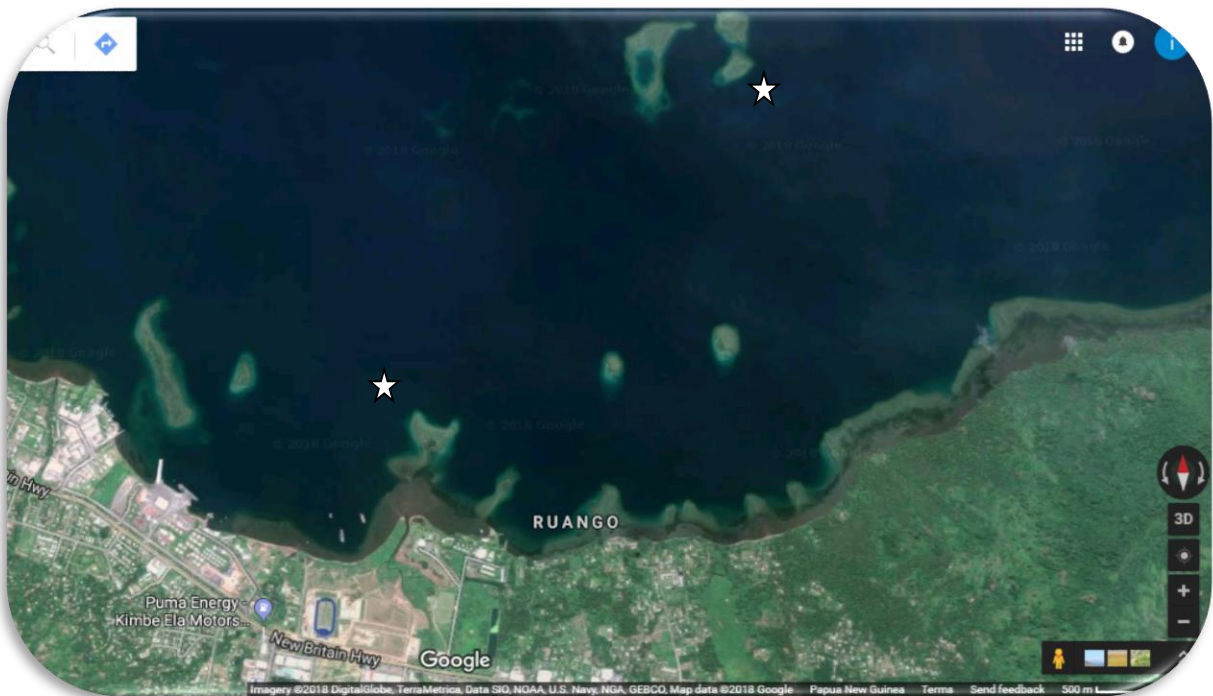
6. EXPECTED OUTCOMES

The installation of the new structures shall be completed in a professional and timely manner incorporating a high standard of works and finish and should comply with all known best practices. NMSA expects to have on completion a structure that meets IALA standards, is structurally sound and causes the least environmental impact as possible.

Map area of Kimbe Bay and Wharf



- Red line and arrows indicate the general approach and exit of vessels docking at the main wharf. AtoN's Kimbe No.5 (lower left) and Kimbe No.2 (upper right) are indicated by red circles. Chart extract of marine chart No. AUS 674.



- Google Earth view of Kimbe. The stars indicate positions of the AtoN Kimbe No.5 and Kimbe No.2.

The AtoN Piles designated for upgrade



● AtoN Kimbe No.2 structure currently in place. Pile is a 600mm diameter



● AtoN Kimbe No.5 structure currently in place. The pile is a 180mm diameter.