

OFFICIAL



Expression of Interest

400Hz Power Distribution Network

Hunter Class Frigate Program

Doc. No: HCF-0000052282

BAE SYSTEMS

Maritime Australia

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Acronyms and Definitions

Abbreviation	Definition
ABN	Australian Business Number
AIC	Australian Industry Capability
ALARP	As Low as Reasonably Practical
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASCS	ASC Shipbuilding
ASDEFCON	Australian Standard for Defence Contracting
AUD	Australian Dollars
BAE	British Aerospace
BAESAM	BAE Systems Australia - Maritime
CDP	Confidentiality Deed Poll
CDRL	Contract Data Requirement List
D&P	Design and Productionisation
DISP	Defence Industry Security Program
EOI	Expressions Of Interest
EVMS	Earned Value Management Systems
FOC	First of Class
GCS-A	Global Combat Ship-Australia
HCFP	Hunter Class Frigate Program
ICN	Industry Capability Network
ILS	Integrated Logistic Support
ISO	International Organization for Standardization
ITAR	International Traffic in Arms Regulations
MIL-STD	Military Standard
NDA	Non-Disclosure Agreement
OQE	Objective Quality Evidence
PDS	Power Distribution System
RAN	Royal Australian Navy
RAP	Reconciliation Action Plan
RFT	Request for Tender
SFC	Static Frequency Converter
SHE	Safety, Health and Environment
SOW	Scope of Work
SWaP-C	Space, Weight and Power-Cooling
T26	British Type 26 Global Combat Ship

1. INTRODUCTION

BAE Systems Australia - Maritime (BAESAM) are seeking Expressions of Interest (EOI) to supply ships with a 400Hz Power Distribution System (PDS) for the Hunter Class Frigate Program (HCFP).

BAESAM has been contracted to design and build nine future frigates for the Royal Australian Navy (RAN). The BAE Systems Future Frigate offering, also known as the Hunter Class GCS-A (Global Combat Ship – Australia) is a variant of the British Type 26 GCS (T26).

The Hunter Class Frigate is designed for maximum versatility and flexibility in operational roles, from humanitarian and disaster relief operations to high-intensity warfare. Modified to meet Australian requirements, the frigate will be constructed on an acoustically quiet hull and feature unique sonar capabilities, modular digital design and open systems architecture to facilitate through-life support and upgrades as new technology develops.

The Hunter Class Frigates will be built at the BAESAM Facility in Osborne, South Australia. The program requires maximisation of Australian content.

A Request for Tender (RFT) will be sent to down selected parties that have expressed interest closer to this time.

2. SYSTEM DESCRIPTION

The purpose of the 400Hz Power Electronic Equipment is to establish a 'new' 400Hz Power Distribution System to serve as the current and future power source to the ship's 400Hz Combat System Equipment.

The 400Hz PDS consists of the following components and subsystems:

- 2x 440V 400Hz Static Frequency Converters (SFCs) (capable of 40kVA continuous full load);
- 2x 440V Power Distribution Switchboards (with both 440V and 115V circuit-breaker protected outputs);

As the 400Hz equipment to be supplied form part of the SEA5000 Aegis Combat System, output operational and performance criteria is based on defined U.S Military standards. In addition to (but not excluding) other manufacturing standards, the 400Hz PDS is to conform to the following list of standards (as a minimum):

- MIL-STD-1399-300B-1 for Type III Devices (Power Quality)
- MIL-STD-167 (Mechanical Vibrations)
- MIL-STD-461G (EMI Requirements)
- MIL-S-901D (Shock Testing of Shipboard Equipment)

3. SCOPE

The purpose of the Capability Questionnaire is to establish the feasibility of prospective industrial partners to BAE Systems Australia - Maritime for the Hunter Class Frigate Program (HCFP).

The 400Hz PDS consists of the following components and subsystems:

- 2x 440V 400Hz Static Frequency Converters (SFCs) (capable of 40kVA continuous full load with the ability to handle high current inrush of the load);
- 2x 440V Power Distribution Switchboards (with both 2x440V and 5x115V circuit-breaker protected outputs);
- Installation aides for all contracted equipment including the provision of isolation transformers (where identified), cabling and vibration mounts
- Pre-moulded MIL-STD cabling for the parallel operation and synchronisation of units shall be provided by the Supplier
- MIL-STD cable connectors, sockets, boots and other peripherals

The configuration of the above equipment shall be as two individual but paired-units. That is, one SFC shall supply the requisite power output to one corresponding SWBD only. Variations to this configuration will be reviewed by BAESAM for the suitability of the HCFP.

In addition to the provision of the 400Hz PDS, the Supplier shall also develop and deliver simulation reports/output datasheets based on:

- Varied operational loads, configurations and load inrush current (6x FLC); and
- Performance output during three key operational modes (topical, sub-tropical and arctic);

The Supplier shall provide operational manuals, troubleshooting documentation and datasheets. These packages will support the following activities:

- On-board and land based training; and
- End to end integration testing at a land based test site.

The 400Hz PDS Supplier shall perform all activities necessary to manage, design, develop, construct, integrate and test prior to delivery and acceptance by BAESAM. The Supplier shall be capable of supporting the installation and set-to-work of the equipment (where requested) during planned schedule activities.

The Supplier shall make available all test results, user manuals, reports and/or specifications related to operation of the equipment, Certification of Compliance and Acceptance. Certificate/s of Compliance shall be provided for all Standards referenced in the Technical Equipment Specification (to be provided).

The Supplier shall ensure the units to be capable of synchronisation and parallel operation and load sharing with other like-equipment of the same rating and characteristics.

The Supplier shall ensure the optimal size and weight of the supplied equipment is to be achieved.

The Supplier will be responsible for the creation and adherence to a detailed schedule which will be embedded as part of the overall HCFP schedule. The schedule will be tracked and provide confidence to BAESAM and the end customer that the Supplier will meet its requirements for both material and labour to complete the work scope. The current plan is for the Supplier to be responsible for storing all procured material offsite, delivering directly to the BAESAM shipyard or land based test site only when required under the agreed schedule.

BAESAM and the Commonwealth of Australia is committed to maximising Australian Industry Capability as part of the Project. The successful Supplier will be required to provide a detailed plan for how they intend to support this requirement. In doing so, the Supplier shall detail their onshore and offshore manufacturing and testing capabilities; and their ability to deliver the entire SOW as detailed within this proposal.

The Supplier shall disclose how much of the entire SOW will be completed by Australia-based entities or third-parties. Conversely, for Non-Australian entities, the Supplier shall detail any portion of the SOW that cannot be completed or transferred to Australia-based entities.

4. PRE-QUALIFICATION QUESTIONNAIRE (GENERIC)

1. Does your website provide a detailed description of your Company's capability? If yes, provide the appropriate link.
2. Are you an Australian registered company? If yes, provide your ABN details.
3. Are you an Indigenous company and registered with Supply Nation? If yes, provide a link to your profile on the Supply Nation Website or other supporting evidence.
4. Do you have a Reconciliation Action Plan (RAP) in place? If yes, please attach evidence.
5. How many Indigenous/Aboriginal/Torres Strait Islanders are employed within your organisation? Stipulate whether the employees are Full Time or Part Time.
6. Provide details of the company's management organisation structure and full time headcount. Attach evidence/organisation structure.
7. State level of Professional Indemnity, Product and Public Liability and Work Cover Insurance coverage.
8. Please state what quality certification and accreditations you hold? Please attach evidence.

9. Do you hold Defence Industry Security Program (DISP) Membership? If yes, please state what membership level you hold. Refer to the [DISP Webpage](#) on information regarding DISP Membership and how to apply. DISP membership is a requirement for all contracts
10. On Time Delivery – Are you able to consistently provide on time guarantee service to agreed time frames?
How do you self-evaluate and analyse your performance? Please provide any data / reports you have examples of?

5. PRE-QUALIFICATION QUESTIONNAIRE (SPECIFIC TO THE REQUIREMENTS)

1. Provide an outline of prior experience in the design, development, construction, integration, testing, delivery, installation and certification of Platform Systems for the use in military applications.
2. Provide an outline of prior experience in the design, development, construction, integration, testing, delivery, installation and certification of Power Distribution System specifically Static Frequency Converter units and other Power Distribution Equipment.
3. Provide an outline of prior experience in the design, development, construction, integration, testing, delivery, installation and certification of equipment for military applications with conformance to U.S Military Standards and Specifications
4. Provide an outline of prior experience in the design, development, construction, integration, testing, delivery, installation and certification of Power Electronic Equipment conformant to MIL-STD-1399-300B-1, MIL-STD-167, MIL-STD-461 and MIL-S-901.
5. Provide an outline of prior experience in the design, development, construction, integration, testing, delivery, installation and certification of Power Electronic Equipment capable of synchronisation and parallel operation to achieve system redundancy.
6. Describe at a high-level your approach to resolving combat system and platform integration issues, including resolving issues with respect to Space, Weight and Power-Cooling (SWaP-C) and integration with the Combat Management System.
7. Provide an outline of prior experience in development of simulations and stimulations for on-board/land based training and integration activities for military-grade, high-power frequency conversion units.
8. Provide an outline of prior experience and available facilities to ensure conformance to testing requirements as per military standards and specifications.
9. Confirm that your organisation has the capability and a clear understanding of the complexities of the High Level SOW provided in the Expression of Interest advising any areas of non-compliance.
10. Provide details of how your company can support BAE Systems Australia - Maritime's commitment to support AIC. Detail if the labour to complete the SOW will be provided by Australian permanent residents.

11. Will your company require engaging in any joint ventures or alternative contracting models to complete the SOW? Details to be provided.
12. Provide details of your company's management organisation structure along with providing a proposed organisation structure that would be utilised to support your offering to complete the SOW.
13. Please provide details on how your company maintains compliance with Export Control Regulations that may apply to your business. These Export Control Regulations may include, but are not limited to:
 - Australian Export Control Laws and Regulations
 - UK Export Control Regulations
 - US international Traffic in Arms Regulations (ITAR)
14. Have you updated your ICN company profile with the your trading name, contact details, website, ABN, number of employees, annual turnover, export details (if applicable) and ANZSIC codes? This information will be used in assessing this EOI.
15. Does your company comply with all relevant Anti-Slavery, Anti-Bribery, and Corruption legislation in your jurisdiction? Please provide a copy of your relevant policies and include details of the relevant legislation.
16. Do you have a clear understanding of the requirements for providing ASDEFCON CDRL data items, ILS and OQE documentation? Please provide examples of experience.
17. Stipulate any further competitive discriminators currently not identified including how your organisation would collaborate as a team sharing data, schedules and resources if required to ensure best for program outcomes are achieved.

Closing date for Expression of Interest:

19th of December 2022