



TENDER DOCUMENTS FOR

“Supply, Installation,
Commissioning, Training &
Acceptance of E-Power drive
Analyser and its accessories”

**TENDER NO. 439/GARC/EV/2022-23/
E-Power drive Analyser/27**

Annexure I Scope of Supply

Supply, Installation, Commissioning, Training & Acceptance of E-Power drive Analyser and its accessories

GARC- Chennai

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1. ELEMENTS TO BE SUPPLIED

1.1 Introduction

The scope of this tender includes the following elements, described in the corresponding TCCs:

S. No.	Scope of Supply (Refer TCC for details for package and Location of Supply)	Package
1	E-Power drive Analyser and its accessories	6EVL

The description of the equipment to be installed is included in the Annexure IV TCC.
A complete list of derivable in table format shall be included in “Form d2 Detailed
Technical Specifications”

2. RESPONSIBILITIES

The Bidder shall have total responsibility for the process including all phases of design, manufacture, assembly and functional testing of the equipment, shipment, installation, integration of systems, training and system checking for all the elements listed in the current document.

The Bidder is requested to take into account all information provided in the Tender Document and its Annexures. The Offer shall be suitable to the requirements listed in the complete document.

The Bidder is requested to fill "Form d2" with the detailed specifications of his proposal, as well as "Form d0" listing the specifications offered against the requirements of the tender. If any proposed specification deviates from the Minimum Requirements, the Bidder shall fill a proforma in "Form d1".

GARC will evaluate each equipment under the Scope of supply technically and financially separately. It is at the discretion of GARC to award final order separately for each equipment or combining the equipments to the successful Bidder as per the Annexure V "Evaluation Parameters", for the equipment/s as listed above.

The Successful Bidder for this tender is also responsible for:

a. Responsibilities over the equipment manufactured by Technical Partners

The Bidder shall take full responsibility over the equipment supplied under this tender that is manufactured by any of his Technical Partners. The Bidder is required to submit all the information requested across the tender for the Technical Partners.

b. Integration responsibilities

The Bidder is fully responsible for all the supplied equipment and its integration

1.1 Documentation shall be delivered in two Hard Copies and in two Soft Copies (CD or DVD format) Software

GARC requires system upgrade with the latest software version free of cost (even if new software requires latest platform) within a period of five years after commissioning, if any. The referred system upgradation shall be applicable in the event of:

- Critical releases on the software
- New Operating System adoption
- Accumulation of minor upgrades in the software

If Hardware upgradation is required in order to achieve the software upgradation, this will also be included free of charge. This includes, as an example, the Computer, connections and communication cards.

The supplier is also responsible for completing the tests for commissioning the upgraded software.

1.2 Calibration

Each equipment shall be supplied with all the required calibration certificates.

All measuring devices shall be calibrated and NIST traceable calibration certificates shall be available at the time of pre-acceptance/delivery, and shall be included in the documentation delivered by the supplier for each equipment.

Calibration plan shall be included.

Arrangement of calibrated material for the pre acceptance and final acceptance is the responsibility of the equipment supplier. Calibration tools and plan need to comply with International Standards and Accreditation (NABL/ISO 17025).

1.3 Climatic Conditions

The supplier is responsible for the required performances to be reached under the climatic conditions appearing in Annexure II Sites Description, except when explicitly stated that the equipment will be installed in an acclimatized environment. If no explicit statement is done on the availability of acclimatization, and operating conditions are specified, the most restrictive between those and the general climatic conditions of the Centre shall be taken into account.

1.4 Health & Environmental Requirements

All above equipments must meet the Environmental, Health and Safety aspects (CE or equivalent). Certificates shall be included in the Documentation. If hazardous material is used please provide MSDS (Material Safety Data Sheet)

1.5 Documentation

At the time of equipment delivery, the supplier is required to provide at least a manual in English containing: description of the equipment with detailed drawings, instructions on the operation of the system, detailed software control commands, safety organs/disturbances and possible causes, and full maintenance details.

Calibration certificates shall be included in the documentation.

One set of Documentation shall be delivered in Hard Copies and Soft Copies (CD format)

1.6 Installation

The Supplier shall deploy an Implementation Team with demonstrable skills and experience in order to achieve the requested quality of Installation.

The work plan proposed by the Bidder for the implementation of the equipment needs to justify that it will be suitable for achieving the installation of the Scope of Supply

The target date of commissioning and acceptance shall be as follows:

GARC
September 2023

The work is to be completed within stipulated time from the date of award of contract by way of Letter of Acceptance, as mentioned in the milestones appearing above.

Bidder is required to submit a detailed timing plan that shall include all phases of design, manufacture, installation and commissioning for GARC. This implementation plan shall be included in document "Form d6 - Description of Approach, Methodology, Work and Training Plan".

The Bidder is also required to deliver, together with its Offer, a detailed implementation layout indicating the placement of their equipment along with the existing set-up in the emission room. This layout shall be according to the Site Layout appearing in "Annexure II Sites Description, Attach. A", and shall be provided as per "Form d6 - Description of Approach, Methodology, Work and Training Plan".

1.7 Pre-acceptance and Acceptance Tests

A pre-acceptance of the equipment to be supplied shall be performed at Bidder's cost in the presence of GARC representatives. These tests shall be carried out at the Supplier's site, as per "Annexure VI - Acceptance Criteria"

Demonstration of the performance of the supplied equipment as per the performance standards and automotive test standards defined in "Annexure IV - TCC" will be performed as per tests described in "Annexure VI - Acceptance Criteria".

2. EXCLUSIONS

GARC will provide electrical supply (via local isolators), water, calibration gases, fuels and compressed air to enable the equipment commissioning. It will be the responsibility of the each equipment supplier to make all the connections from these service points to the equipment.

During all the stages works, like installation, testing and commissioning and until the stage of acceptance, the electricity and water shall be supplied by GARC on chargeable basis as per clause 12.1.2 of the GCC.

General Information on Building and Available Utilities is explained in "Annexure II Sites Description and Available Utilities".

3. WARRANTY, TECHNICAL SERVICE AND MAINTENANCE

The requirements for the Service Support are:

3.1 Service Support

The Bidder is required to have a service support set up in India with sufficient trained manpower.

The Bidder shall commit a maximum response time of 24 hours, which means that in case of any breakdown within 24 hours, the Bidder's personnel should reach the site, assess the cause of the breakdown, take necessary action to resolve the issue and submit the corrective actions schedule.

The Bidder is requested to fill the corresponding part of "Form d4) Service Support".

3.2 Warranty

The Bidder shall be required to provide a comprehensive warranty of two years from date of final acceptance, for equipment supplied under this tender, including the following:

- The Bidder shall commit cumulative down time not exceeding 300 natural hours a year including the time required for preventive maintenance and irrespective of the working hours.
- Any preventive maintenance and / or repair for breakdown shall be carried out by the Bidder at his own cost. No charge on this account (including cost of calibration, spare parts, wear parts, consumables to be changed during maintenance, travel and accommodation expenses, etc.) will be borne by GARC.
- The preventive maintenance will be carried out by manufacturer's personnel, at a frequency specified by the Bidder at time of Technical Bid Submission. Preventive maintenance by agent / dealer of the manufacturer of the equipment shall not be acceptable.
- Every six months, the manufacturer's representative will be required to inspect the equipment and submit a report on overall health & maintenance status of the equipment.

As required in the conditions above, the Bidder shall include under the Warranty conditions both preventive and corrective maintenance during the Warranty period. This includes all scheduled preventive maintenance, as well as assistance in case of breakdown, not limited to the scheduled visits, but committing to the 24 hours response time after breakdown is reported, independently from the cause of the breakdown. Both spare parts and labour shall be covered by these conditions in case of breakdown happening due to normal use of the facilities, and in no case GARC shall not be charged for labour costs associated to any kind of breakdown during this Warranty period.

The Bidder is requested to fill the corresponding part of "Form d4) Service Support", explicitly stating his agreement with each and all of the above conditions.

3.3 Annual Maintenance Contract (AMC)

The AMC for the three following years after Warranty expires shall be quoted year-wise separately. During this period the Bidder shall comply to all the terms and conditions as

mentioned above in the warranty with a difference that the spare parts cost during this period shall be borne by GARC.

The Bidder is requested to fill the corresponding part of "Form d4) Service Support", explicitly stating his agreement with each and all the above conditions.

The Bidder is also required to state, in Form d4) Service Support, what percentage of the "Total Price of the Package" appearing in Form e) of Financial Bid, would represent the cost of the quoted AMC for one year, including all the terms and conditions required in this chapter. This information is for reference purposes, and the Bidder is reminded that AMC cost shall not be included in the "Total Price of the Package", and he shall not include any price in any Form of the Technical Bid.

3.4 Spares, Consumables & Wear Parts

The Bidder is required to have critical / essential spare parts stored in India. The Bidder shall be required to provide a list of critical / essential spare parts (not consumables) without prices (to be included in "Form d4) Service Support"), and with their unitary prices along with the Financial Bid. These prices shall be quoted on yearly basis for 5 years period.

4. TRAINING & OPERATIONS SUPPORT

4.1 Pre-acceptance training (At site level)

Two training courses for each equipment shall be included in the Offer. These two courses will happen at Supplier's site during pre-acceptance tests.

- Operational training shall include basics and functioning of the system, system design and the flow schematics, system functions and parameterisation, operation and trouble shooting,
- Maintenance training shall include maintenance of the system and Utilities interface.

Operational training shall be based on the same kind of system (software release and functions) to be supplied to GARC. Maintenance training shall be based on the same actual equipment to be shipped and installed at GARC premises.

The Offer shall include the full training costs described above for each equipment, irrespective of number of persons from GARC to be trained (typically 3 persons), and duration (shall be atleast 1 week for both courses).

Travelling, boarding, lodging and incidental costs will be borne by the Successful Bidder. **The break up of such expenses per person shall be submitted to GARC, separately in the financial bid envelop.**

4.2 Installation and commissioning training

During Acceptance of the equipment at GARC site, GARC team (Both Technical/Maintenance) shall be trained on the job. As the part of installation and commissioning training, the Maintenance team of GARC shall be trained by the bidder on the installation procedures, and commissioning. The operational team shall also be trained on the commissioning of the facilities and on the actual job that proposed to be executed with such facilities. This training shall not be shorter than 3 weeks for each course for operational/maintenance team.

4.3 Operation Support

The Bidder shall be required to provide operation support during the Warranty period. During this period the Bidder shall deploy at least one resident engineer from the Supplier's Company at the GARC centre to assist the GARC team in operation of the equipment.

Bidder to provide test related and operation support for atleast two initial customer projects.