DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

MINISTRY OF HEALTH AND MASS MEDIA

RENOVATION OF MEDICAL GAS PLANT ROOM

TEACHING HOSPITAL – PERADENIYA

CONTRACT NO. THP/AD/13/2026

BIDDING DOCUMENT

Volume I

Section 01 – Instructions to Bidders
Section 02 – Standard Forms (Contract)
Section 03 – Conditions of Contract

Volume II – *(For the use as "Original" document)*

Invitation for Bid

Section 04 – Form of Bid and Qualification Information
Section 05 – Bidding Data and Contract Data
Section 06 – Specifications
Section 07 – Bill of Quantities
Section 09 – Standard Forms (Bid)

Volume III – *(For the use as "Copy" of document)*

Invitation for Bid

Section 04 – Form of Bid and Qualification Information
Section 07 – Bill of Quantities

ENGINEER

CENTRAL ENGINEERING CONSULTANCY BUREAU
NO.415,
BAUDDHALOKA MAWATHA,
COLOMBO 07.

EMPLOYEE

DIRECTOR,
TEACHING HOSPITAL
PERADENIYA.

OCTOBER 2026

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INVITATION FOR BIDS

INVITATION FOR BIDS (IFB)

MINISTRY OF HEALTH AND MASS MEDIA

RENOVATION OF MEDICAL GAS PLANT ROOM

TEACHING HOSPITAL – PERADENIYA

CONTRACT NO. THP/AD/13/2026

1. The Chairman, regional procurement committee**,** on behalf of the Ministry of Health, "Suwasiripaya", 385, Rev Baddegama Wimalawansa Thero Mawatha, Colombo 10, invites sealed bids from eligible and qualified bidders for the **"Renovation of Medical Gas Plant Room – Teaching Hospital, Peradeniya"**, Contract No: **THP/AD/13/2026** as described in document and estimated to basic cost of approximately Rs. **66.9 Million (Excluding VAT)**. **Construction period is 120 Days**.
   The Site is Located at the premises of Teaching Hospital, Peradeniya. Under this contract, Supply and Installation of Medical gas compressor plant and Medical Vacuum plant including connection to existing medical piping and all necessary ancillary work. For more information, please refer Specifications and Bill of Quantities. Bidders are advised to visit the site prior to price the bid. Work should be carried out without disturbing the day to day activities of the hospital.

2. Bidding will be conducted through **National Competitive Bidding Procedure**.

3. To be eligible for contract award, the successful bidder shall not have been blacklisted and shall meet the following requirements.

   - Grade – EM 02
   - Specialty –Medical Gas Systems (MG)

4. Qualification requirements to qualify for contract award include be eligible for contract award.

   - Average annual volume of construction work performed in the last five years shall be at least **Rs. 66.9 M**.
   - Experience in the construction of at least one contract of a similar nature and to a value of not less than or equivalent to the Works over 10 years. **Attach as an annex.**
   - The minimum amount of liquid assets and/or credit facilities as exclusive of any advance payments which may be not less than **Rs. 50.2 M**. Credit facility should be addressed to The Director, Teaching Hospital, Peradeniya and should be exclusive of this particular project.
   - Since the Cost Estimate of this procurement is above 5 million, the provisions of Public Contracts Act No:(03) of 1987 shall be applied

   Managerial / Technical

   Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years' Experience.

5. Interested bidders may obtain further information from Director, Teaching Hospital, Peradeniya Tel. No. 081-2388001 and can inspect the Bidding Document at the address given below from **09.00 hrs to 15.30 hrs.**

6. A complete set of Bidding Documents in English language may be purchased by interested bidders on the submission of a written application to the **Director, Teaching Hospital, Peradeniya,** from **28/10/2026** until **17/11/2026** from **09.00 hrs to 15.30 hrs or** download the bidding document browsing **www.peradeniya-hospital.health.gov.lk** . Upon payment of a non-refundable fee of **Rs. 15,000.00** to the **Shroff, Teaching Hospital, Peradeniya** or credited to account of the Director, Teaching Hospital, Peradeniya, holding account number **057100129025207** in the **People's Bank of Peradeniya.**

7. Bids shall be delivered to the address below**,** on or before **2026/11/18 until 10.30 am** late bids will be rejected. Bids will be opened soon after closing in the presence of the Bidders or Bidder's representatives who choose to attend.

8. Bid shall be valid up to **91 days** from Bid closing date **2026/11/18 to 2027/02/17** (Date) or any extended period requested by client.

9. All bids shall be accompanied by a "Bid security" of **One million Only (Rs. 1,000,000.00).** Bid Security shall be valid up to **119 days** from Bid closing date **2027/03/17** (date)

   The address referred to above is,
   Director,
   Teaching Hospital,
   Peradeniya.
   Tel. No. 081-2388001

Section - 4

FORM OF BID AND QUALIFICATION INFORMATION

FORM OF BID

RENOVATION OF MEDICAL GAS PLANT ROOM

TEACHING HOSPITAL, PERADENIYA

CONTRACT NO. THP/AD/13/2026

To: Director,
Teaching Hospital,
Peradeniya.

Gentleman,

1. Having examined the Standard Bidding Document - Procurement of Works (ICTAD/SBD/01-Second edition, January 2007 and Addendum 01 issued in October 2009 & Addendum 02 issued in February 2011) , Schedule for Conditions of Contract, Specifications, Drawings and Bill of Quantities and Addenda for the execution of the above-named Works, we the undersigned, offer to execute and complete such Works and remedy any defect therein in conformity with the aforesaid Conditions of Contract, Specifications, Drawings, Bill of Quantities and Addenda for the sum of Sri Lankan Rupees …… …….
(LKR Rs. .....) or such other sums as may be ascertained in accordance with the said Conditions.

2. We acknowledge that the Contract Data forms part of our Bid.

3. We undertake, if our Bid is accepted, to commence the Works as stipulated in the Contract Data, and to complete the whole of the Works comprised in the Contract within the time stated in the Contract Data.

4. We agree to abide by this Bid for the period of 91 days from the date fixed for receiving or any extended period and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

6. We understand that you are not bound to accept the lowest of any Bid you may receive.

Dated this..... Day of ..... 2026 in the capacity of..... Duly authorized to sign bids for and on behalf of .....

……
(IN BLOCK CAPITAL)

Signature : .....
Address : .....
.....
.....
Witness : .....
.....

QUALIFICATION INFORMATION

(To be completed and submitted by the Bidder with the Bid)

ICTAD Registration	
Registration number	*(Attach copies of relevant pages from the registration book) (if available)*
Grade	EM 2
Specialty	Medical Gas Systems (MG)
Expiry Date	
Blacklisted Contractors	
Have you been declared as a defaulted contractor by NPA or any other agency? (Yes/No)	
If yes provide details	
VAT Registration Number	
Legal status	*(Attach relevant status copies, as annex)*
Value of Construction works Performed in last 05 years	*(Attach certified copies of certificate of completion, etc. and other documents such as profit-loss and income expenditure statement)*
Year 2025	
Year 2024	
Year 2023	
Year 2022	
Year 2021	
Value of similar works completed in last 10 years (Indicate only the three largest projects)	1. Value Rs…… Year …….. 2. Value Rs……. Year ……. 3. Value Rs……. Year …….. (Attach certified copies of Letter of award & certificate of completion)
Credit Facility	(Attach, as annex)
Certificate issued by the Registrar of Public Contracts as per the Public Contracts Act No. 03 of 1987 (PCA 03) per the Public Contracts Act No. 03 of 1987 (PCA 03)	(Attach, as annex)

Qualification and experience of Key staff - Site & Head Office (Permanent, Contract Basis & Consultants)	Category, Experience and Qualifications	Required Nos.	Proposed by bidder (Name, experience and Qualifications)
	1.Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years Experience.	**01**	(Attach certified copies of key staff attached to the project)
Non- Collusion Affidavit	**(Attach, as annex)**		

Section - 5

BIDDING DATA AND CONTRACT DATA

G. BIDDING DATA

Instructions to Bidders

Clause Reference		
	The Employer is	
(1.1)	Name & Address:	**Director, Teaching Hospital, Peradeniya.**

This work consists of Improvement of Medical Gas Plant Room at Teaching Hospital, Peradeniya.

a. For more information, please refer the Bill of Quantities.

(1.2) Intended Completion Date is **120** Days from the Start Date.

(1.3) The office for collection of bid form is

Director, Teaching Hospital, Peradeniya.

The non-refundable Bid fee is **Rupees 15,000.00**

The Bid forms will be issued **until 17/11/2026**

(2.1) The source of funds is **Government of Sri Lanka**

(4.3) The Following information shall be provided in Section 4 for the bidder (if available)

- CIDA Registration
  - Registration number:
  - Grade
  - Specialty
  - Expiry Date
- VAT Registration number
- Construction program
- Legal status (Sole proprietor, partnership, company etc.)
- Total monetary value of construction work performed for each of the last five years;
- Experience in works of a similar nature and size for each of last five years;
- Major items of construction equipment proposed to carryout the contract; (if specified equipment be needed)
- Qualifications and experience of key site management and technical personnel proposed for the contract
- As the Estimation cost for the procurement exceeds the Rs.5 Million the bidder shall register at the registrar of Public Contact Sri Lanka at the time of Submission of Bids (PCA 3) and Forward the certificate.
- Any other

(4.4) Post qualification criteria:
The following minimum qualification criteria shall be met by the bidder to qualify for the award of contract.

- Average annual volume of construction work performed in the last five years shall be at least **Rs. 66.9 M**.
- Experience in the construction of at least one contract of a similar nature and to a value of not less than or equivalent to the Works over 10 years. **Attach as an annex.**
- The minimum amount of liquid assets and/or credit facilities as exclusive of any advance payments which may be not less than **Rs. 50.2 M**. Credit facility should be addressed to Director, Teaching Hospital, Peradeniya and should be exclusive of this particular project.
- Minimum persons with qualifications and experience

Managerial / Technical

1. Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years Experience.

(8.1) Content of Bidding Document
Content of the bidding document changed as follows to fulfill bidders requirement in submission of Bid.
The Bidding document consists of three volumes (Volume 1, Volume 2 & Volume 3) and comprise the documents listed below.

Volume I
- Section 1 – Instruction to Bidders
- Section 2 - Standard Forms (Contract)
- Section 3 - Condition of Contract

Volume II
- Invitation for Bids
- Section 4 - Form of Bid and Qualification Information
- Section 5 - Bidding Data and Contract Data
- Section 6 - Specifications
- Section 7 - Bills of Quantities and Technical Schedules
- Section 9 - Standard Forms (Bid)

Volume III
- Invitation for Bids
- Section 4 - Form of Bid and Qualification Information
- Section 7 - Bills of Quantities and Technical Schedules

(9.1) Employer's address for the purpose of clarification is;

Name : Director
Address : Teaching Hospital, Peradeniya.

Tel/Fax : 081-2388001

(11.1) The language of the bidding document shall be English.

(12.1) The Bid submitted by the bidder shall comprise the following:

(A) enclosed in the envelope marked as "ORIGINAL";
  (a) Volume II
  (b) Bid security or Bid-Securing Declaration as specified

(B) enclosed in the envelop marked as "COPY"
  (a) Volume III

(13.3) **Only VAT will be paid.**
VAT component shall not be included in the rates. The amount written in the Form of Bid shall be without VAT. However, VAT component shall be shown separately at the end of the BOQ.

(13.4) The Contract is subjected to price adjustment in accordance with Clause 47 of the Conditions of Contract.

(15.1) The Bid shall be valid up to 91 Days from closing date of Bid.

(16.1) Bid shall include a Bid Security using the form included in Section 9.

(16.2) Bid Security shall be;

- For an amount **Rs. 1,000,000.00.**
- Valid until 91 days from closing date of Bid.

Securities and guarantees issued by an agency acceptable to employer using the forms for bid security (unconditional guarantee) included in section 09 standard forms in favor of Director, Teaching Hospital, Peradeniya. The agencies acceptable to the Employer are :

- Commercial Bank operated in Sri Lanka approved by the Central Bank of Sri Lanka.
- Constructions Guarantee Fund

Alternatively, the Bidder can pay cash to Shroff of **Teaching Hospital, Peradeniya.**

No interests will be paid on cash deposits.

(17.0) Pre Bid meeting will be held at Directors Office, Teaching Hospital, Peradeniya at 10.30 hrs on 03/11/2026.

(19.2) a The Employer's address for the purpose of Bid submission is:

Teaching Hospital, Peradeniya.

(19.2) b Contract Name: **Renovation of Medical Gas Plant Room – Teaching Hospital, Peradeniya**

Contract No. : **THP/AD/13/2026**

(20.1) The deadline for submission of Bids shall be 10.30 hrs on 18/11/2026.

(34.0) The amount of **Performance security is 5% of the Initial Contract Price**.

The form acceptable is sample format which is in volume I – Section 2, Standard Forms.

Securities and Guarantees issued by an agency acceptable to employer using the forms for Performance Bond (Unconditional Guarantee) included in Volume I- Section 2, standard forms. The agencies acceptable to the Employer are

- Commercial Bank operated in Sri Lanka approved by the Central Bank of Sri Lanka.
- Constructions Guarantee Fund

Alternatively, the Bidder can pay cash to shroff of the **Teaching Hospital, Peradeniya.**
No interest will be paid on cash deposits.

(35.1) The advance payment security is 20% of the initial Contract price excluding provisional sum.

Securities and Guarantees issued by an agency acceptable to employer using the forms for Advance Payment Bond (Unconditional Guarantee) included in volume I – Section 2, Standard Forms. The agencies acceptable to the Employer are

- Commercial Bank operated in Sri Lanka approved by the Central Bank of Sri Lanka.
- Constructions Guarantee Fund

(36.0) IESL is the authorized agent for appointing an adjudicator.

CONTRACT DATA

(Please note that the Clause nos. given hereunder is that of Conditions of Contract)

(1.1) The Employer is

Name : Director
Teaching Hospital, Peradeniya.

Address : **Teaching Hospital, Peradeniya.**

(1.1) The Engineer is

Name : **The General Manager**

Address : **Central Engineering Consultancy Bureau**
: No.415, Bauddhaloka Mawatha,
: Colombo 07.

Name of Engineer's Representative: **Additional General Manager (Special Project-1)**

(1.1) The Works mainly consists of

Works mainly consists of Supply and Installation of Medical gas compressor plant and Medical Vacuum plant including connection to existing medical piping and all necessary ancillary works for Teaching Hospital, Peradeniya.

a. For more information, please refer the Bill of Quantities.

(1.1) Site is located at **Teaching Hospital, Peradeniya.**

The Start Date shall be **fourteen (14) Days** from the Letter of Acceptance.

(8.1) Schedule of other contractors : None

(9.1) Schedule of Key Personnel:

Minimum persons with qualifications and experience to be defined,
Managerial / Technical

1. Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years Experience.

(13.1) The minimum insurance cover shall be:

(a) The minimum cover for insurance of the Works and of Plant and Material is **110% of the Initial Contract price.**

- The maximum deductible for insurance of Works and of Plant and Material is **5% of initial Contract price.**

(b)

- The minimum cover for loss or damage to Equipment is "**Cost of equipment**"
- The maximum deductible for insurance of Equipment is **5% of the minimum cover for equipments**

(c) The minimum cover for personal injury or death:

- For third party and employees of the Employer and other persons engaged by the Employer in the Works is **Rupees Five Hundred Thousand** per event. Number of events unlimited.

(d)

The minimum cover for insurance of other property (other than the site):

- Five Hundred Thousand

(13.2)

(a) The minimum cover for personnel injury or death,
  - For the Contractor's workmen is Rs. **500,000.00** per event. Number of events unlimited.
  - Contractor's employee's other than workmen is Rs. **500,000.00** per event. Number of events unlimited.

(17.1) The Intended Completion Date for the whole of Works shall be **120 Days from the Start Date.**

(21.1) The Site Possession Date shall be **Fourteen (14) Days** from Letter of Acceptance.

(27) The Contractor shall submit a realistic Construction Programme made out from MS Project software for the Works within **Seven Days** of delivery of the Letter of Acceptance. Critical path/paths must be clearly shown in the programme. Soft copy must be submitted to the Engineer at the time of submission of hard copy of construction programme.

The period between Programme update is **30 Days**. But Contractor shall submit a revised programme whenever the previous programme is inconsistent with actual progress.

The amount to be withheld for late submission of an updated Programme is **2% of the Initial Contract Price.**

(35.1) The Defects Liability Period is **365 Days**.
During the Defect Liability Period Contractor shall carry out all the required preventive and corrective maintenance works of the works free of charge.

(39.2) Engineer may order variations up to a total cumulative bill value including variation not exceeding 110% of initial contract sum

(40.2) In fixing the appropriate new rates, mark up for overheads & profits shall be limited to maximum of 16% of the "Basic Cost" of such items. The Basic cost means cost of materials, labour and equipments.
In fixing such "Basic cost" the Engineer shall use the rates for labour as given below and prices for materials and equipments shall be used the prevailing market prices."

Category	Rate (Rs)
Skill Labour	4,250.00
Labour	3,250.00

(47.1) Price adjustments not applicable.

(48.1) The retention from each payment shall be **Ten percent** of the certified work done.
The limit of retention shall be **Five percent** of the Initial Contract Price.

(48.3) Not applicable.

(49.1) The liquidated damages for the whole of the Works shall be **0.05% of the Initial Contract Price per Day.**

The maximum amount of liquidated damages for the whole of the Works shall be **Ten percent** of the Initial Contract Price.

(52.1) Performance Security shall be provided to the Employer no later than the date specified in the letter of Acceptance and shall be issued to an amount to Five percent of the Initial Contract Price in the form of an unconditional guarantee acceptable to The Employer. The Performance Security shall be valid unit a date **28 Days** beyond The issuance of final certificate under sub clause 55.
A Performance Security equivalent to the remaining value of the total maintenance Cost shall be maintained by the Contactor during the full maintenance period.

(55.2) Contractor shall enter in to the maintenance agreement with the Employer as per the Contract before the expiring of Defect Liability Period and failure shall be considered Of a breach of contract.

(58.1) Schedule of Operating and Maintenance Manuals. – As built drawings and operation manuals shall be submitted within 14 days after completion of each activity

(60.1) The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is **Twenty Five percent** of Balance work according to the Initial Contract Price.

(63.7) The attendance fee payable to the contractor on nominated/specialized sub contract work shall not exceed 8%

SECTION 6

SPECIFICATIONS

SPECIFICATIONS FOR MEDICAL GAS SYSTEM

GENERAL TECHNICAL SPECIFICATION

1.0 GENERAL

1.1 INTRODUCTION

This section consists of the general rules that apply to the design, manufacture, shop testing, delivery to site, erecting, commissioning, site testing, maintaining and handing over the material, equipment plant and services required for Renovation of Medical Gas Plant Room – Teaching Hospital, Peradeniya.

The sub contractor for Piped Medical Gas system shall be a reputed local company having experience in planning, engineering, supplying, installing, testing, commissioning and maintenance of similar type of piped medical gas system at least for last five (05) years.

The manufacturer of the Piped Medical Gas equipment shall have at least ten (10) years experience in the design and manufacture of similar type equipments.
The make of Piped Medical Gas system offered shall have satisfactory service record in Sri Lanka at least for last five (5) years.

The Bidder shall attach documentary evidence of the above and completed technical schedule for consideration. Failure to complete the technical schedule and attachment may be considered as incomplete offer during evaluation.

1.2 Applicable Standards

The products and work shall comply with the Health Technical Memorandum 02-01 and British Standards for Medical Gas System.

1.3 Guarantees

(a) All equipment, materials and workmanship shall be guaranteed for a period of one year, beginning with the date of acceptance of the works in writing.

(b) The contractor's warranty shall include at least 4 preventive maintenance inspections of the system to repair and replace any items found to be defective during this one year period.

1.4 Required Submittals along with the Offer

(a) Data on products offered for the installation.

(b) Lists of recommended spares & consumable for one year period.

1.5 Engineer's Drawings

(a) The Engineer's Drawings, plans are intended to be diagrammatic. They are not intended to show every item in its exact location, the exact dimensions or all the details of the equipment proposed to ensure that the equipment would fit in the available space.

(b) Installations shall be within the limitations imposed by the architectural, structural, electrical and plumbing requirements with adequate space for maintenance.

2.0 PRODUCTS

2.1 General

(a) All products shall be first-line quality of grade and type shown on the drawings and specifications or equivalents accepted by the Engineer in writing.

(b) All products shall be in current production with no notice having been given that this product is to be drastically changed, modified or discontinued from production.

(c) The Contractor, by submitting, certifies that equipment being proposed is proper for the application intended and that it has the capacity called for.

2.2 Complete System

All products, materials and accessories shall be furnished and installed as required for a complete system ready for Employers beneficial use.

3.0 EXECUTION

3.1 Workmanship

(a) All work shall be performed by competent mechanics using proper tools and equipment to produce first-quality work. All work shall be neatly installed, accessible for maintenance and complete with all accessories required.

4.0 TECHNICAL LITERATURE

On completion of work the successful bidder is required to provide all technical literature of machinery/ systems, including service/ maintenance/ operational manuals in English

PARTICULAR SPECIFICATION

1.0 SCOPE OF WORK

1.1 General

This contract is for the Renovation of Medical Gas Plant Room – Teaching Hospital, Peradeniya.

1.2 Location of Site

The site is located in Teaching Hospital, Peradeniya.

1.3 Scope of Contract

Supply and installation of the following equipment accordance with the requirement of HTM 02 - 01 & British Standards for Medical Gas System.

(i) Removing the existing Compressor plant and Vacuum plant
(ii) Supply and installation of A Triplex Medical Air Compressor plant of capacity 2500 l/min.
(iii) Supply and installation of A Triplex Medical vacuum plant of capacity 2500 l/min.
(iv) Supply and installation of Central Alarm Panel

1.4 Tests on Completion

All equipment shall be carefully inspected and tested at the site after erection to show that they operate satisfactorily and meet the requirements of HTM 02-01. These tests shall be carried out in the presence of the Engineer and shall be to his satisfaction.

2.0 TECHNICAL SPECIFICATION

2.1 Medical Compressed Air System

Compressed air for medical use shall be produced at a central compressed air plant located in the medical gas room. The system shall be in compliance with the current HTM 02-01 and C11 standards.

The central compressed air system shall consist of **three numbers** oil free type medical air compressors of capacity minimum 2500 l/min each.

The three compressor units shall be connected to a single tank or shall be of the receiver mounted type complete with filter assembly, silencer, safety valves, after coolers, isolation

valves and non-return valves. Air shall be drawn into the compressor via filters and compressed to a pressure of 13 bars before being stored in the receiver tank. On demand compressed air will flow from the storage tank through an after cooler dryer, fine, bacterial filters and air regulator to reduce to a constant 7 bar pressure. The air supplied to the distribution pipe shall be completely clean, dry and bacterial free.

The operation of the compressors shall be automatic and shall be arranged for alternate operation and parallel operation depending on the demand. The pressure settings shall be as stipulated in HTM 02-01.

2.1.1 Air Compressors

The air compressors shall be of the electrical motor driven type 3 phase 400V, 50Hz. It shall be suitable for continuous running on-load and start/stop operation. It shall be capable of producing compressed air at 13 bars before being cooled and stored. The compressor motors shall be of the totally enclosed fan cool type constructed to BS 2613 and 2960 with Class F insulation.

2.1.2 After Cooling

After coolers shall be of air blast type with direct drive motors. Each after cooler shall be fitted with an automatic drain and manual by-pass valve.

2.1.3 Receiver

The air receiver shall be constructed to BS 5169 or similar with test certificates provided to the user. It shall be complete with relief valve, fusible plug conforming to BS 6759, pressure gauge and automatic drain with manual by-pass valve.

2.1.4 Filter/Dryer Assembly

Shall comprise two independent sub-assemblies either of which may be selected as duty whilst retaining the second assembly as "stand-by". This shall be provided upstream of the air dryer and shall be capable of handling air which is super-saturated with water at the compressor operating pressure. The separator shall be fitted with a moisture (and oil as appropriate) trap having an automatic drain, with manual by-pass to remove the fluids. The separator, trap and filter assembly shall remove the oil and water droplets and all oil mists. The filter shall have an efficiency of not less than 95%, when tested with test dust no. 2 in accordance with BS 2831.

2.1.5 Air Dryer

Air dryers shall be provided to obtain a dew point of minus 17°C at the line pressure of 7.2 bar (or a dew point of minus 40°C at atmospheric pressure) on the effluent air.

These shall be of either silica gel or activated alumina. They shall be contained in two column constructed to BS 5169 for Class III or BS 1500 Class III with one column in operation while the other is being regenerated. The controls shall ensure automatic depressurization of the re-activated column to prevent shock on change-over.

The dryer columns shall be preferably designed so that they can be filled and drained of desiccant without disturbing the connecting pipe work. The purge air drain shall be fitted with a silencer and run into a tun-dish connecting onto a gully. A similar arrangement should be provided to collect the fluids discharged from the trap on the upstream filter assembly. The arrangement shall be such that each dryer and filter assembly can be isolated for maintenance purposes without in any way restricting the full supply of air to the distribution system.

2.1.6 Dryer Final Filter Assembly

A filter shall be installed downstream of the air dryer. This filter when tested by the sodium flame test in accordance with BS 3928 should have a penetration not exceeding 0.5% over the range of flow up to the full capacity of the dryer.
A coarse pre-filter shall be installed if necessary.
Each dryer and filter assembly shall be rated for continuous use of the full free air delivery (F.A.D.) capacity of the compressor with the air at 100% relative humidity, at the pressure and temperature at which it is designed to leave the after cooler. Each dryer shall be designed to provide desiccant bed life not less than two years on continuous full load so that the normal installation, which consists of two complete and independent dryer/filter assemblies would be capable of providing four years of continuous full load service if the two systems are used on a "duty" and "standby" basis.

Each of the two sets shall be fitted with a safety valve conforming to BS 1123 and a 100mm diameter pressure gauge conforming to BS 1780. The gauge shall be marked with a signal blue band in the working range.

2.1.7 Bacterial Filters

Duplex bacterial filters shall be fitted upstream of the final pressure regulator with appropriate isolation valves. The filters should provide particle removal to 0.01 mg per m^3 and DOP penetration of less than 0.0001%.

2.1.8 Compressor Control System

The control assembly for each compressor shall be in three compartments. Each outer compartment shall contain the controls for one compressor and its associated equipment. The center compartment shall contain an incoming MCCB, the duty selector switch to cater to both units, and the limited amount of wiring and accessories common to both sets. Steel bulkheads shall be provided to minimize the risk of the spread of fire from one compartment to the next. Warning notices indicating the presence of medium voltage shall be attached to

each compartment as necessary to conform with the Institution of Electrical Engineers (I.E.E.) Regulations for the Electrical Installations and standard alarm facilities as recommended.
Each compressor plant shall be supplied from a separate sub-circuit to a load breaking isolating switch and interlocked with its cover. Auxiliary apparatus and associated circuits shall be protected by H.R.C. fuses mounted within the enclosure.

Each motor shall have its own starter which should be rated for "frequent duty" in accordance with BS 587 and fitted with thermal overload protection. The starters shall be of automatic type so that, the compressors shall be arranged for alternate duty and standby operation automatically. The standby compressor shall also operate automatically during periods of peak demand or in the event of a duty compressor failure. A running hour recorder shall be provided for the compressors and pumps. All three phase motors shall have single-phasing preventors. Motor starters shall be direct-on-line or star delta as appropriate. The starter should allow automatic re-start after an interruption to the power supply.

An industrial grade ammeter to BS 89 shall be connected in the yellow phase connection to each main motor. The full load indication of the ammeter shall be not less than 80% of its full scale deflection.

A hand/auto switch shall be provided for each compressor assembly so that each set may be run continuously under hand control. A lamp, on the appropriate panel and suitably labeled, shall indicate when the compressor is operating under these conditions. When any compressor is operated under hand control the alarm system shall indicate this.

The pressure switch settings shall be adjustable so that the operating range can be fixed over a reasonable band, and any compressor can be made the duty one by means of the duty selector switch.

Control coils shall be designed for phase/neutral connection.

All indicating lamps shall be under-run so as to ensure a lamp life of at least one year.

All wiring shall be numbered.

An indestructible wiring diagram shall be fixed inside the panel.

2.2 Medical Vacuum System

The Medical vacuum system shall consist of **three numbers** oil free type medical air compressors of capacity minimum 2500 l/min for each pump. The medical vacuum system shall be designed to maintain a vacuum of not less than 400 mm Hg below a standards

atmospheric pressure of 760mm Hg (ie. An absolute pressure of approximately 360 mm Hg) in the pipe line at remote terminal unit.

Bacterial filters shall be provided in parallel between the drainage traps and the reservoir. The arrangement and capacity of the filters shall be such that one filter may be serviced without interrupting or restricting the vacuum service as a whole. The filters shall have a penetration not exceeding 0.05% when tested by the sodium flame test in accordance with BS 3928. Proper arrangement shall be made for safety when changing the filters.

A drainage trap shall be installed between the filters and the pipe line. The bowl of the trap should be sterilizable. The trap bowl should be transparent or be fitted with a transparent window. The trap and filter may be combined.

The exhaust gases shall be discharged outdoors, above roof level of the plant room house away from windows and other air intakes. The filters shall prevent the risk of contamination arising from the discharge from the pump. A “hazard” warning should be displayed in a prominent manner near the discharge point.

The vacuum system shall be operated by three identical air cooled, oil lubricated rotary sliding vane pumps complete with contracts, valves, bacterial filters, safety devices, silencers etc., mounted on a horizontal receiver vessel in a package configuration and each vacuum pump shall be driven by a 3/50/400V TEFC electric motor with Class F insulation as a minimum.

Vacuum pump inlet filters shall be fitted to prevent foreign bodies from entering the pump and the exhaust shall incorporate oil separators to minimum oil loss.

Pipe work shall incorporate non-return valves to protect both the vacuum system and receiver vessel from pressurization due to inadvertent pump reversal.

The receiver vessel shall be constructed and tested to BS 5169, Class 111 and incorporate an inspection access panel and manual drain. Isolating valves shall be provided so that the plant may be used while work on the reservoir is in progress. The capacity of the reservoir shall be determined in accordance with the recommendations of HTM 02-01 and shall be such as to ensure that the number of stop/start cycles does not exceed 30 per hour.

The control panel and electrical installation shall conform to current IEE Regulations and Standard alarm facilities as recommended. The standby pump shall operate automatically during periods of peak demand or in the event of a duty pump failure. The pumps shall be provided with a timer controlled automatic change-over system to ensure both pumps are kept in regular use. The range of the timer shall be adjustable between 0-30 minutes. A running hour recorder shall be provided for each pump.

The vacuum pump package shall be designed to enable isolation of any one component for maintenance purposes without interrupting the system operation.

Motors above 5 kW rating shall be provided with star delta starters.

The vacuum pumps shall be mounted on anti-vibration mounts properly selected by the equipment supplier to minimize transfer of noise and vibration to the structure of the building.

A vacuum gauge at least 100 mm diameter, complying with BS 1780 shall be fitted of the receiver or control gear. It shall be calibrated 0-760 mm Hg (or 0-1000 mb) and indicate 0 at atmospheric pressure. The gauge shall be marked with a signal blue band in the working range.

The plant shall be supplied with one year's supply of oil and spare control system fuses.

2.3 Electricity Supply to Medical Gas Installation

All electrical works required in connection with the medical gases system shall be carried out under this section of the works and shall be allowed for in the quoted rates. The wiring shall be in PVC insulated copper cable enclosed in rigid PVC conduit. The conduit shall be concealed in ceiling voids & ducts where available and in the building fabric except in the plant rooms where they shall be exposed. In other areas (operating theatre etc.) all surface wiring shall be carried out in surface PVC casing.

All electrical works shall be carried out in accordance with the IEE Wiring Regulations.
All electrical drawings shall be approved by the Engineer.

2.11 Earthing

Pipe lines should be bonded to the consumer's earth terminal as required by Regulation D10 of the IEE Regulations. This bonding should be made as near as possible to the point at which the pipe line enters building from the plant. The size of the bonding conductor should be in accordance with Table D.2M of the Regulations. The pipe lines should not themselves be used for earthing the electrical equipment.

Flexible connections in the fixed pipelines should not normally be used but if they are specially approved they should be similarly bonded.

2.12 Spares and Tools

The Contractor shall also supply a set of recommended spares required for the trouble free operation of the system for a period of 2 years from completion of the maintenance period

of one year. Five sets of required tools shall also be supplied at the time of handing over of the system.

3.0 TESTING AND COMMISSIONING

The formal commissioning procedure should be completed in accordance with the Hospital Technical Memorandum No. 17 - Commissioning of Engineering Services.

Tests and checks shall be carried out in the presence of the Engineer at times to be agreed with the Engineer.

4.0 MAINTENANCE MANUALS AND TRAINING

The Contractor shall be required to provide complete as-fitted drawings, circuit diagrams valve charts and maintenance instructions. Further, necessary training shall be provided to related hospital staff.
Complete maintenance manuals shall be supplied and handed over at the time of satisfactory testing and taking over of the installation.

SECTION - 07

BILL OF QUANTITIES

PREAMBLE TO THE BILL OF QUANTITIES

1. The Conditions of Contract, the Specifications are to be read in conjunction with the Bill of Quantities.

2. The cost of complying with all conditions, obligations and liabilities described in the Conditions of Contract and the Specifications and the Bill of Quantities **including all overhead charges (excluding VAT), profit and Preliminaries** and carrying out the work as described shall be deemed to be spread over and included in the prices or sums stated by the Bidder in the Bill of Quantities. VAT should be separately added.

3. If the Bidder failed to price any Items in the Bill of Quantities, then the cost of the work under such Item shall be held to be spread over and included in the prices given against other Items of work.

4. When trade names, brand and/or catalogue numbers are referred to, sole preference to any material or equipment is not intended. Any other material or equipment may be used, provided that the characteristics of type, quality, appearance, finish, method of construction and/or performance is equal to or superior to specify.

5. Whenever the method of measurement is not clear from documents available, the principles as given in the Sri Lanka Standard 573, 1999, Method of Measurement of Building Work shall be applicable.

6. All items of work shall comply exactly with the Contract unless otherwise approved by the Engineer and the rates and sums inserted in the Bill of Quantities shall be deemed to apply to the work as specified. If, for his convenience or reasons of availability, the Contractor proposes and the Engineer approves the use or provision of alternative items, materials or method of working, or equivalent or superior quality to those specified in the Contract, the rates and sums inserted in the Bill of Quantities shall not in any case be increased as a result.

7. The quantities set out in the Bill of Quantities are provisional and cover the approximate scope of the work which is anticipated to be performed by the Contractor. The actual quantities used for final measurement purposes will be determined by the Engineer by measurement of the work completed by the Contractor.

8. Where, for his own purposes or due to his own default, the Contractor carries out the Works in such a manner that the quantity of any Item of work in particular component to be measured for payment purposes differs from that directed by the Engineer, then payment shall be made according to the lesser of the actual quantity and that directed. An excess quantity in one part of the component shall not, however, be allowed to offset a deficit elsewhere in the same component for measurement purposes.

9. Where the determination for payment purposes of the quantity of any Item of work depends upon the measurement of existing features or ground levels and the like, then prior to carrying out any operations which might affect such measurement, the Contractor shall first take such levels and measurements as the Engineer may direct and, after the Engineer has had the opportunity to check the same, they shall be certified as agreed by both the Engineer and the Contractor.

10. In the event that the Contractor fails to observe the above procedure, the Engineer shall determine the quantity to be assumed for payment purposes using the best information available to him, and his decision in the matter shall be final.

11. Selected Bidder shall comply with the arrangement of work in the buildings and be ready to work part by part as required by the Authorities of Teaching Hospital, Peradeniya.

12. Rates in Bill of Quantities shall include all necessary material for supply, installation and testing & commissioning of medical compressor gas plant and Medical Vacuum plant and necessary materials such as cables, PVC conduits, PVC sunk boxes etc and labor required to complete the electrical installation to good working order.

13. Except where specifically stated, all costs associated with provision of all holes, openings, chases and ducts in other builders' work required for installation and make them good, shall be included in the rates.

14. The Bills of Quantities should therefore, be priced to reflect all factors that would affect the bid and the progress of the works.

15. All electrical accessories should comply with relevant BS/IEC standards. For electrical accessories, manufacturer's guarantee should be produced if necessary.

16. The wiring installation shall comply with the requirements of IEE Wiring Regulations, latest edition.

17. Bidder should pay special attention to the work to be carried out, causing minimum disturbance or hindrance to the normal functions and activities of the users of the Teaching Hospital, Peradeniya.

18. Screens should be provided to prevent dust escaping from working areas.

19. Metric units are used throughout the Bill of Quantities for measurement purposes unless otherwise indicated. Abbreviations used in the Contract are as follows: -

mm	-	Millimeter
m	-	Linear meter
kg	-	Kilogram
m^2	-	Square meter
m^3	-	Cubic meter
nr	-	Number
Rs.	-	Sri Lankan Rupees
Cts.	-	Cents
P. S.	-	Provisional sum
L. S.	-	Lump Sum

RENOVATION OF MEDICAL GAS PLANT ROOM AT TEACHING HOSPITAL- PERADENIYA

Bill of Quantities

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
				Rs. Cts.	Rs. Cts.
	MEDICAL GAS PLANT ROOM				
	The manufacturer of the equipment shall have at least ten (10) years' experience in the design and manufacture of same type of equipment's	***Note***			
	The make of equipment's offered shall have satisfactory proven service record in Sri Lanka at least for last five (5) years	***Note***			
	Allowed for all cost of supply including CIF, CID, PAL, clearing charges, transport charges, erection, factory testing, site testing, commissioning as per specification and drawings and profits etc.	***Note***			
	Allowed for cost of providing security bonds, guaranties, insurance of personnel, property, material against accidents, damage, trespass or theft.	***Note***			
	Allowed for the cost of all temporary works such as scaffolding etc. associated civil and electrical works related to the installation of Machine Room Elevator System such as drilling of suitable holes in walls, breaking of any parts of walls and finishing works of the same such as plastering, painting, etc. electrical power / control wiring, services connections, etc.	***Note***			
	Bidder shall fully complete the Technical Schedules attached in respect of these items. Manufacturers' technical broachers for identifying the proposed items, shall be submitted. Submission of Bidding Document without completion of Technical Schedule and supporting documents may be liable for rejection of the Bid.	***Note***			
	The Contractor shall submit the following information on the items/equipment/fittings/ quoted together with the bid and all models/numbers shall be marked in the same documents.	***Note***			
	1. Make				
	2. Mode No				
	3. Technical data (Original product catalogue)				

	4. Country of Manufacture				
	5. Works Programme				
	All the equipment and accessories shall be manufactured and assembled in USA, EU or Japan				
	The products and work shall comply with the Health Technical Memorandum 02-01 Part A and Pard B and British standards for Medical Gas system.				
	Medical Air Compressor Plant				
	Supply and Installation of **Triplex Medical Air Compressor Plant** with a minimum capacity of **2500 l/min FAD**, at a pressure of **10 bar**. System with consist of **3 Nos** of compressors **(2 duty and 1 standby)** complete with dryers, filters, accessories, etc. and operate with **230/400V AC,50Hz** power supply and regulate the pressure t connect to the **4 bar** and **7 bar** pipe system. The capacity of the receiver tank should be **1800 l** and it should be facilitated with all precautions for high pressure vessel applications.				
1.0	(a) Supply Cost	1.0	nr	……..	……
2.0	(b) Installation Cost	1.0	nr	……..	……
	Medical vacuum Plant				
	Supply and Installation of **Triplex Medical Vacuum Plant** with a minimum capacity of **2500 l/min** (Each pump will be sized provide the systems full design flow) when pump operating at a vacuum of **475mmHg** and **450mmHg** at the plant pipeline connection. It shall operate with **230/400V AC,50Hz** power supply and connecting to the piped vacuum system. The minimum capacity of the receiver tank shall be **3000 l (1500 x 2**). The rate shall include for all necessary valves, bacteria filters, vacuum indicators, pressure controllers, vacuum relief valves, etc. And all necessary fixing materials.				
3.0	(a) Supply Cost	1.0	nr	……	……
4.0	(b) Installation Cost	1.0	nr	…….	…….
	Supply and installation of central alarm panel				
5.0	(a) Supply Cost	1.0	nr	…….	……..
6.0	(b) Installation Cost	1.0	nr	……	……..

7.0	**Supply and installation of Earthing System**	1.0	Item	……	……..
8.0	Dismantle and remove the existing medical air compressor and vacuum plants, including all associated equipment and accessories, and hand over to the hospital along with a complete inventory list.	1.0	Item	……..	……..
	Modification of Existing Power System				
9.0	Modify the existing electrical power supply system as required to accommodate the proposed equipment and installation. The work shall include all necessary alterations, extensions, connection and all necessary accessories.	1.0	Item	……..	……
10.0	**Modification of Existing Power System**		**Pro. Sum**		**1,000,000.00**
11.0	Testing and commissioning.	1.0	Item	……..	…….
	Total cost of Medical Gas Plant Carried to main Summary				**…….…….**

RENOVATION OF MEDICAL GAS PLANT ROOM AT TEACHING HOSPITAL-PERADENIYA

BILL OF QUANTITIES

MAIN SUMMARY

Bill No	DESCRIPTION	AMOUNT Rs Cts
A	**MEDICAL GAS PLANT ROOM**	**…….**
(a)	**Basic Cost Estimate (BCE) (Sub Total 1)**	**…….**
(b)	Less: Provisional Sum	**1,000,000.00**
(c)	Sub Total II (a-b)	**…….**
(d)	Less: Discount if any (.....%)	**…….**
(e)	Sub Total III (c-d)	**…….**
(f)	Add : Provisional Sum (b)	**1,000,000.00**
	TOTAL BID SUM WITHOUT VAT	**…….**

Total Bid Sum to be taken in to Form of Bid (Page No. 05) in words Rupees: ..…..……...……

..……...……...……..…….

……. only.

Amount of V.A.T.(Prevailing VAT) for the Total Bid Sum :- Rs. ……..……

Bidder's VAT Registration No: ……...…….…….……..

…….

Signature of Bidder

Name and Address of Bidder:

……

……

……

Date……

……

Signature of Witness (1)

Name and Address of Witness (1)

……....

……....

……....

Date……

…….

Signature of Witness (2)

Name and Address of Witness (2)

…….

…….

…….

Date……

TECHNICAL SCHEDULE

SCHEDULE 8 - TECHNICAL SCHEDULE

Bidder shall fully complete the Technical Schedules. Manufacturer's technical broachures identifying the proposed items shall be submitted. Submission of bid without completion of technical schedules and supporting document may be liable for rejection of bid.

	Description	As Specified	As Offered	Remarks
1.0	**Compressed Air Plant - MA4 and SA7**	Triplex		
	Make			
	Model			
	Country of Manufacture	UK / Germany		
	Capacity of receiver tank / tanks - L	1800		
	No. of Pumps	3		
	Flow rate l/min	2500		
	Pressure	10 bar		
	Pump type	Screw type		
	Electrical Rating			
	Plant configuration length x wide x height			
	Minimum spacing from wall			
	No. of vessels			
	Vessel capacity (litres)			
	Service connection			
	Noise level (dBA)	95dBA or below		
	Product catalogue			
2.0	**Medical Vacuum Plant**	Triplex		
	Make			
	Model			
	Country of Manufacture	UK / Germany		
	Capacity of receiver tank / tanks - L	3000		
	No. of Pumps	3		
	Flow rate l/min	2500		
	Pressure	475mmHg and 450mmHg		
	Pump type			
	Electrical Rating			
	Plant configuration length x wide x height			
	Minimum spacing from wall			
	No. of vessels			
	Vessel capacity (litres)			
	Service connection			
	Noise level (dBA)	95dBA or below		
	Product catalogue			
3.0	**Central Alarm Panel**			
	Make			
	Model			
	Type			
	Country of Manufacture			

SERVICE AND MAINTENANCE AFTER FREE MAINTENANCE PERIOD FOR RENOVATION OF MEDICAL GAS PLANT ROOM

Annual fee for providing **comprehensive maintenance service**.

The work shall include the sending of Contractor's personnel **once every two months during normal working hours of a normal working day** to inspect, clean, oil, grease and replacement of spares where necessary, adjust the machinery and equipment and attending to emergency call back service immediately the owner notifies the contractor.

The amount quoted for servicing and maintenance shall include the cost of supply of all replacement spares, necessary oil, grease and cleaning materials. **These prices will be considered for bid evaluation to arrive at a final evaluated bid price discounting to present value at the rate of 10% per annum.**

Total per annum
(After free maintenance period)

1st year Rs. .....
2nd year Rs. .....
3rd year Rs. .....
4th year Rs. .....
5th year Rs. .....

The bidder shall supply a sample of his proposed service and maintenance contract document.

(Signature) ..... (Signature).....

(Name) ..... (Name) .....

Section - 9

STANDARD FORMS (BID)

- *Bidders shall submit the completed Form of Bid Security/Bid Securing Declaration as appropriate in compliance with the requirements of the bidding documents.*

FORM OF BID SECURITY

……. ……..……

[Insert issuing agency's name and address of issuing branch or office]

Beneficiary: Director, Teaching Hospital,
Peradeniya.

Date: …… [Insert (by issuing agency) date]

BID GUARANTEE NO.: …….. [Insert (by issuing agency) number] We have been informed that …… [*Insert (by issuing agency) name of the bidder*](Hereinafter called "**the Bidder**") has submitted to you its bid dated …… [Insert (by issuing agency) date](Hereinafter called **"the Bid**") for execution of **"Renovation of Medical Gas Plant Room – Teaching Hospital, Peradeniya", (Contract No: THP/AD/13/2026)** under Invitation for Bids No. …….. ("**The IFB**").

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we …….. *[Insert name of issuing agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ……. *[Insert amount on figures]* …… *[insert amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

(a) has withdrawn its Bid during the period of bid validity specified; or
(b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
(c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails to refuses to execute the Contract Form, if required, or (ii) fails to refuses to furnish a Performance Security, in accordance with the ITB.

This Guarantee shall expire:

(a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the bidder and the Performance Security issued to you by the Bidder; or
(b) If the Bidder is not the successful bidder, upon the earlier of
(c) Our receipt of a copy of your notification to the Bidder that the bidder was unsuccessful, otherwise it will remain in force up to 28 days beyond the validity of the bid. *(……..)*

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

…….
[Signature of authorized representative(s)]

Check List for Bidders

Bidders are advised to fill the following table:

ITEM	ITB Clause	Yes (tick)	REFERENCE
Form of Bid			
Addressed to the Employer?	**18**		
Completed?	**18**		
Signed?	**18**		
Bid securing Declaration form (if required)			
Properly filled and singed	**16**		
Bid Security (if required)			
Addressed to the Employer?	**16**		
Format as required?	**16**		
Issuing Agency as specified?	**16**		
Amount and currency as requested?	**16**		
Validity 28 days beyond the validity of Bid ?	**16**		
Qualification Information			
All relevant information completed?	**4**		
Signed?	**4**		
Addendum			
Contents of the addendum (if any) taken in to account?	**10**		
BID package			
All the documents given in ITB Clause 12 enclosed in the original and copy?	**12**		
ITB Clause 19 followed before Sealing the Bid Package?	**19**		