

SECTION IV

Contract Data

Contract Sub-Clause Number

Sub-Clause 1.1	Employer is: Director General, Department of Government Information, Address: 163, Kirulapone Ave, Colombo 05
Sub-Clause 1.2	Engineer is: Staff Engineer Officer (Refrigeration & Air Conditioning) Address: Department of Government Information, 163, Kirulapone Ave, Colombo 05 The work consists of Design, Supply, Installation and Commissioning of VRF Type Air Conditioning System for The Sound Studio of the Department of Government Information
Sub-Clause 1.4	Engineer's Duties and Authority The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub-Clauses of these Conditions: (a) consenting to the subletting of any part of the Works under Sub-Clause 4.4 (b); (b) approving an extension of the Time for Completion, and/or any additional payment under Sub-Clause 19.1 (Contractor's Claim), issuing variation orders under Sub-Clause 13.1 (Right to vary Employer's Requirement) & approving additional payment under Sub Clause 13.3

<p>Sub-Clause 4.1</p>	<p>Key Personnel</p> <p>Schedule of Key Personnel: Names with qualifications and experience to be written:</p> <p>a) Design 01 Nr. Mechanical or Building Service Engineer (Head Office) Chartered Engineer (Mechanical/ Building Service) with 8 years' experience and shall possess experience in Design, supply, installation and commissioning of Air Conditioning Systems.</p> <p>b) Contract Administration & Site Management 01 Nr. Technical Assistant (Full time at site) Qualified with min. NDT (Mechanical) with 03 years' experience or NCT (Mechanical) with 05 years' experience</p>
<p>Sub-Clause 4.2</p>	<p>Performance Security</p> <p>The Performance Security shall be five percent (5%) of the Initial Contract Price.</p> <p>The Performance Security shall only be from a reputed commercial bank operating in Sri Lanka or an agency acceptable to the Employer, using the form for Performance Security (Unconditional and on demand Guaranty) included in Section 5, Standard Forms.</p>
<p>Sub-Clause 8.1 Commencement of Work</p>	<p>The Start Date is amended and shall be 07 Days from the issue of the Letter of Acceptance.</p>
<p>Sub-Clause 8.2</p>	<p>Time for Completion</p> <p>The Time for Completion for the whole of Works shall be 14 weeks.</p>
<p>Sub-Clause 8.7</p>	<p>Liquidated Damages</p> <p>The Liquidated Damages for the whole work shall be (0.05) % of Initial Contract Price without Vat and other taxes per day.</p> <p>The maximum amount of Liquidated Damages for the whole work shall be ten percent (05%) of the Initial Contract Price.</p>
<p>Sub-Clause 11.1</p>	<p>Defects Notification Period</p> <p>Defects Notification Period is: 365 Days from Taking-over Certificate.</p>
<p>Sub-Clause 12.1</p>	<p>Tests after Completion</p> <p>First paragraph and Sub paragraphs (a), and (b) are amended, and should read as follows:</p>

	(a) The Contractor shall arrange all facilities and suitably qualified staff for the testing work.
Sub-Clause 13.7	Adjustments for Changes in Cost Contract is not subjected to price adjustment for fluctuation of prices.
Sub-Clause 14.1	Contract Price 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 price schedule summary.
Sub-Clause 14.3	Retention Money The limit of retention shall be five percent (5%) of the Initial Contract Price.
Sub-Clause 14.4	Issue of Interim Payment Certificates Payment terms: a. 20% Advance payment of contract sum against unconditional payable "On Demand" Bank Guarantee issued by Central Bank authorized commercial bank in SL. b. 50% of contract sum on arrival of complete material as progressive payment. c. 25% of contract sum on completion installing and commissioning. d. 5% retention money for 5 years defect liability.
Sub-Clause 18.2	Third Party Insurance This Amount of insurance per occurrence is amended as LKR 200,000.00 and shall be issued by a reputed institute acceptable to the Employer, operating in Sri Lanka, in acceptable form to the Employer.
Sub-Clause 18.4	Professional Indemnity Insurance The Contractor shall submit the Professional Indemnity Insurance from the commencement date till the end of defect liability period. The limit of indemnity of the professional indemnity insurance shall not be less than the 15% of the Initial Contract Price.
Sub-Clause 19.2 & 19.4	Failure to Agree Dispute Adjudicator The appointing entity for appointing the Adjudicator is the Construction Industry Development Authority(CIDA).

SECTION VI

EMPLOYER'S REQUIREMENTS

SAMPLE DOCUMENT

1. GENERAL

Work Scope For Design, Supply, Installation And Commissioning Of Vrf/ Package Type Air Conditioning System For The Sound Studio Of The Department Of Government Information, 163, Kirulapone Ave, Colombo 05

PART 01

1.0 INTRODUCTION

1.1 The scope of the work covers the design, supply, installation and commissioning of VRF type air conditioning system for the Sound Studio of the department of government information, 163, kirulapone ave, Colombo 05

1.2 SCOPE OF WORK

The scope of the work covers the design, supply, installation and commissioning of air conditioning system. All components permanent and of temporary nature to successfully supply, install, test and commission the project shall be provided by the contractor.

1.3 REGULATIONS, CODES OF PRACTICE, SHOP DRAWINGS ETC.

1.3.1 All work shall be carried out in keeping with the rules and regulations of the relevant local authorities and ASHRAE. The minimum capacities, and plant lay out, given in the specifications, drawings and bills of quantities will serve only as a guide line. The contractor will be totally responsible for the ability of the system to achieve the conditions set out in these specifications, and as such will have to provide shop drawings, where necessary, for the approval of the Engineer.

1.3.2 The equipment supplied shall comply with the standards set out in these specifications, but will, in no way, be limited to this list. Any other specifications suggest will be considered provided they are no less onerous.

1.4 SUBMISSION FOR APPROVAL

1.4.1 The Contractor shall submit the following for the Engineer's approval.

- a. Selection Data/Equipment Data
- b. Samples of Materials, component and Fixtures and Equipment
- c. Design analysis and calculations
- d. Detail and/or shop drawings

1.4.2 Selection data shall be submitted and shall consist of engineering selection tables provided by the manufacturer. The Contractor shall indicate in these, the items selected and their designation for cooling equipment. It shall be made quite clear as to which factors have been taken in to account by the manufacturer to correct the listed gross capacity into the net capacity required, due to extreme outside temperature, altitude, enthalpy of entering and leaving air, fan required, fan static pressure, fan RPM, fan motor and temperature differential between supply air entering and return air leaving the room.

1.5 ELECTRICAL WORK

All equipment shall be installed in accordance with the relevant British Standards or equivalent to the approval of the Engineer.

1.6 GUARANTEES

1.6.1 The contractor will guarantee that all the air conditioning equipment supplied and installed by them when operated in accordance with the given instructions shall have minimum capacities not less than those given in these specifications and drawings.

1.6.2 It should be proved that certain equipment fails to achieve the minimum performance specified, and then the contractor will carry out any up grading or modifications at his own cost.

1.11 MINIMUM CAPACITIES

The minimum capacities have to be as stated in the associated bill of quantities. Capacities of all indoor units shall be achieved when operating with an air on coil condition of 27/19 DBC/WBC, & outdoor units with an air on condenser coil condition of 35 DBC. The capacities of the outdoor units shall be corrected for tube length & location of indoor units in respect to that of the outdoor units.

1.12 ELECTRICAL INSTALLATION

1.12.1 The contractor shall undertake all the electrical work connected to the A/C system. The electrical work will conform to those set out in the BS 7671:1989.

1.12.2 The system electrical power supply 3 phase, 4 wire, 50Hz, 400V will be terminated on isolators close to outdoor units and 13A socket outlet close to indoor units. It will be the responsibility of the contractor, to provide all the distribution and motor control equipment, as pertaining to the A/C system, and make all connections downstream from this point. The motor

control panel shall be of the modular type incorporation short circuit and over load protection along with the contactors, timers as required to meet industry standard.

1.12.3 Timers shall be incorporate, as directed by the engineer to control the operating periods of the motors, fans etc.

1.12.4 The controls will have the same specifications as set out in the electrical specifications. All equipment used shall be from a single manufacturer to ease future maintenance. All cable entrances to the main control panel and all other panels will be fitted with standard cable bushing to render the transition of the cable into the panel both dust and water proof.

1.12.5 Samples of all electrical equipment to be used shall be submitted to the engineer, for approval prior to their incorporation in the works.

1.13 ADDITIONAL INFORMATION

1.13.1 All drawings are indicative of the system required. The contractor shall ascertain for himself that the equipment offered by him can be installed in the locations indicated.

1.13.2 The contractor shall make certain that the equipment offered by him will operate as indicated in the attached schematic.

1.13.3 The contractor shall obtain the engineer's approval for the indicated ranges of all instruments to be incorporated in the project, prior to their use in the works. This is applicable to all thermometers, pressure gauges, ammeters, etc.

1.14 TESTING AND COMMISSIONING

1.14.1 The contractor shall commission and test the installation for a minimum period of seven (7) days to indicate to the engineer that the equipment installed achieves the end user requirement.

1.15 MAKES OF EQUIPMENT OFFERED

Makes of equipment offered shall have been commonly used in Sri Lanka and having a local agent possessing adequate workshop facilities, experienced technical personnel operating in Sri Lanka for a minimum of five years.

PART 2

DETAILED TECHNICAL SPECIFICATION

2.0 SCOPE

2.0.1 This section specifies the detailed requirements of the design, supply, installation and commissioning of VRF type air conditioning system for the Sound Studio of the department of government information, 163, Kirulapone ave, Colombo 05

WORK SCOPE

1. Under the work scope of this bid, bidders shall undertake following specific jobs: -
 - a. Visit the location in liaison with Department of Government Information and calculate required cooling load (relevant drawings will be forwarded). Bidders, to forward detailed cooling load calculations with the quotations.
 - b. Design package type AC system according to calculated cooling load complying with ASHRAE 90.1 standards.
 - c. Conducting a power point presentation at Department of Government Information, Colombo 5 individually to the Technical Evaluation Committee and representative of Department of Government Information.
 - d. Successful bidder to supply, install and commission the AC system within 14 weeks
2. All equipment, accessories and materials associated with this AC work shall be brand new, manufactured within three years of period by date of closing of bidding and supplier shall ensure that each individual equipment and/ or the plant of the system has been tested and certified by the manufacturer before delivery.

SYSTEM DESIGN REQUIREMENT

3. AC Air conditioning system shall be designed based on following operating conditions.
 - a. Outdoor air temperature
 - i. Maximum ambient temperature - 40 °C
 - ii. Annual average ambient temperature - 30 °C
 - iii. Maximum relative Humidity - 90 %

- iv. Air quality - Polluted air
- b. Power system parameter
 - i. Electricity power supply 400V/50Hz/3Phase
 - ii. Neutral is effectively earthed at substation
 - iii. System fault level is 25kA
- c. Plant is to be installed and operated at the Sound Studio premises of the Department of Government Information.
- d. Indoor condition
 - i. Room dry bulb temperature - 20 - 23 °C
 - ii. Relative Humidity - 30 - 45%
 - iii. Air motion at occupied zone height - 2.5 (m/s)
 - iv. Air Filtration (MERV) - 6-8
 - v. Noise Level - 25 - 30 dB (A) at occupancy level

INSTALLATION WORK

4. All installation work such as plant installation, ductwork, plumbing and electrical installation; the contractor shall do complying with manufacturer recommendations. Moreover, followings shall be highlighted.

- a. AC plants shall be installed on a concrete plinth not less than 100 mm high with accurate leveling. Proper vibration suppression should be installed between equipment mounting and concrete plinth to minimize vibration.
- b. Adoption of fine workmanship and usage of high-quality material are compulsory. All mechanical, electrical and civil works associated with the installation work shall be done by the contractor up to the satisfactory level of the client.
- c. All equipment and material transport and handling shall be done by the contractor.

5. The contractor shall be responsible for any damage resulting from performance of the work and employer reserve the right to deduct the cost of any remedial work required in the event that the contractor is not capable of correcting any such damage.

6. Personnel assigned to the site shall obtain entry permits liaison and observe/ obey the policies and procedures for the place of work regarding security, safety and access.

TESTING AND COMMISSIONING

7. After completion of installation work, contractor shall test and commission air conditioning system complying with the manufacture instructions. When the unit is under running condition,

contractor shall perform recommended tests at the presence of technical committee appointed by Department of information. All instruments and tools required for testing shall be supplied by the contractor.

SAMPLE DOCUMENT