

BAHAGIAN BANGUNAN DAN PEMELIHARAAN
KEMENTERIAN HAL EHWAL UGAMA
NEGARA BRUNEI DARUSSALAM

TAWARAN SEBUT HARGA

BIL. SEBUT HARGA: KHEU / BDP / 164 / 007 / 2025

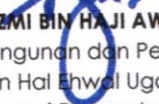
TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR WORKS FOR AIR CONDITIONING EQUIPMENT SYSTEM TO
ESTATE UNDER PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS FOR A PERIOD OF TWELVE (12) MONTHS

TARIKH TUTUP TAWARAN : 05 Mac 2025 Jam 12.00 PM

Syarat-syarat untuk mengikuti tawaran kerja sebut harga adalah seperti berikut :

1. Tawaran hanyalah dipelawa kepada syarikat / pemborong yang berdaftar dengan Kementerian Pembangunan
Kelas III & IV dan Kategori M01 SAHAJA di Negara Brunei Darussalam.
2. Tawaran-tawaran mestilah dibuat di atas borang-borang tawaran yang tercetak oleh Kementerian ini dan penerangan lanjut bagi mengikuti sebut harga bolehlah datang terus ke **Unit Penyelaras dan Pemantauan Projek, Bahagian Bangunan Dan Pemeliharaan, Bangunan Pasar Basah, Jalan Residency, BS8111, Kementerian Hal Ehwal Ugama, Negara Brunei Darussalam.**
3. Bagi Syarikat / Pemborong yang berminat untuk mengikuti tawaran sebut harga hendaklah mengikut proses-proses pembelian tawaran sebut harga seperti berikut:
 - i. Syarikat / pemborong hendaklah menyertakan salinan **Sijil Pendaftaran 16 dan 17** yang dikeluarkan oleh Bahagian Pendaftaran Syarikat-Syarikat, Jabatan Peguam Negara, Negara Brunei Darussalam dan juga menyertakan salinan **Sijil Pendaftaran Kontraktor Dan Pembekal, Kementerian Pembangunan, Negara Brunei Darussalam** yang masih sah laku.
 - ii. Syarikat / pemborong hendaklah membuat pembayaran **B\$5.00** di **Bahagian Kewangan, Tingkat 1, Kementerian Hal Ehwal Ugama** atau melalui **BIBD Online Payment** bagi pembelian tawaran sebut harga.
 - iii. Setelah membuat pembayaran dan mendapatkan **Resit Pembayaran** bagi pembelian tawaran sebut harga, syarikat / pemborong hendaklah **memuat turun (download)** dokumen tawaran sebut harga di **laman sesawang Kementerian Hal Ehwal Ugama: <https://www.mora.gov.bn/SitePages/Senarai%20Sebutharga.aspx>**.
4. Borang-borang tawaran sebut harga hendaklah diisi dengan lengkap dan memasukkannya ke dalam sampul surat yang bertutup rapi ("**Sealed Envelope**") dengan menyertakan Salinan **Resit Pembayaran, Sijil Pendaftaran 16 dan 17 dan Sijil Pendaftaran Kontraktor Dan Pembekal, Kementerian Pembangunan** serta menulis **Bilangan Tawaran, Nama Tawaran dan Tarikh Tutup** tanpa membubuh sebarang pengenalan atau identiti syarikat atau pemborong.
5. Semua tawaran hendaklah dimasukkan ke dalam

**Peti Kotak Sebut harga
Tingkat 1 Bahagian Kewangan,
Bangunan Ibu Pejabat
Jalan Menteri Besar
Kementerian Hal Ehwal Ugama
Negara Brunei Darussalam**
6. Tawaran yang diterima lewat dari tarikh dan masa yang telah ditetapkan atau tawaran yang tidak lengkap, tidak akan dilayan atau diterima dan ianya tidak sah.
7. Kerajaan Kebawah Duli Yang Maha Mulia Paduka Seri Baginda Sultan Dan Yang Dipertuan Negara Brunei Darussalam melalui Kementerian Hal Ehwal Ugama, Negara Brunei Darussalam, tidak akan terikat untuk memilih sebarang tawaran yang lebih murah atau yang difikirkan tidak munasabah.


(Ar. HAJI AWANG AZMI BIN HAJI AWANG TAHIR)
Ketua Bahagian Bangunan dan Pemeliharaan
Kementerian Hal Ehwal Ugama
Negara Brunei Darussalam



**MINISTRY OF RELIGIOUS AFFAIRS
JALAN MENTERI BESAR, BERAKAS BB33910
NEGARA BRUNEI DARUSSALAM**

QUOTATION NO.: KHEU / BDP / 164 / 007 / 2025

**PROJECT : TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR
WORKS FOR AIR CONDITIONING EQUIPMENT SYSTEM TO ESTATE UNDER
PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS FOR A PERIOD OF TWELVE
(12) MONTHS**

CLASS : III & IV

CATEGORY : M01

CLOSING DATE : WEDNESDAY 05 MARCH 2025 NOT LATER THAN 12.00 PM

**SUBMISSION : PETI KOTAK SEBUT HARGA
TINGKAT 1 BAHAGIAN KEWANGAN
BANGUNAN IBU PEJABAT
JALAN MENTERI BESAR
KEMENTERIAN HAL EHWAL
NEGARA BRUNEI DARUSSALAM**



**TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR WORKS FOR AIR CONDITIONING EQUIPMENT
SYSTEM TO ESTATE UNDER PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS FOR A PERIOD OF TWELVE (12) MONTHS**

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* - *Buang jika tidak perlu*



TERMS AND CONDITIONS OF TENDERING (FOR QUOTATION WORKS)

1. Before tendering, the tenderer shall visit the site where the Works are to be carried out and shall also carefully examine the relevant Terms and Conditions of Contract, Drawings, Specification and all other accompanying schedules, etc.

If there is any ambiguity in or discrepancy between any of the documents, he / she should refer the matter to the Contract Administrator (C.A.), Building and Maintenance Section, Ministry of Religious Affairs. The C.A.'s decision shall be final and binding upon the Contract.

On tendering, the tenderer shall be deemed to have examined the documents referred to above and shall be bound by the terms and conditions therein.

2. Every tenderer must submit together all documents listed below and this requirement shall be strictly adhered to prior to any consideration :-

- (a) Copy of Receipt payment for the Quotation document from the Finance Section, Ministry of Religious Affairs.
- (b) Valid Tenderer's Registration Certificate from the Ministry Of Development.
- (c) Business Enactment Act Section 16 & 17.
- (d) The Tender Form **MUST be signed by the Owner, or the Director of Shareholder(s) of the Company** stating their post and stamped with the Company's Official seal as detailed in the Business Enactment Act Section 16 & 17 / or the tenderer's Registration Certificate from the Ministry of Development.
- (e) The address indicated must be detailed as in the Business Enactment Act Section 16 & 17 / and/or Tenderer's Registration Certificate from the Ministry Of Development. Any changes to the above must be officially referred to the Registrar of Companies and Business Names and a copy must be submitted to this department.

Tender documents must be duly completed, signed and dated written in **blue ink ONLY**. Any tender which is incomplete or unsigned will render the tender to be rejected.

3. (a) Tenders and documents in connection therewith as specified above , must be delivered to the place at or before the time specified.
- (b) In the case of the tender not being delivered by hand, the tenderer must arrange for his / her tender and other documents to be posted in time to reach the stipulated place by not later than the time stated.
- (c) In no case will the Government be responsible for any expense or loss incurred by a tenderer in the preparation of this tender.

Tenders shall remain valid for **3 MONTHS** from the final date for submission of the tenders and no tenderer may withdraw his/her tender within that period. The Government reserves the right to extend this period if deemed necessary provided that such extension of the tender validity period shall have the written consent of the tenderers.

4. The Government does not bind itself to accept the lowest and/or any tender and no reason will be given for rejecting any tender thereof.
5. Every correspondence to be given to a tenderer may be posted to the tenderer's address in the tender and such posting shall be deemed good and legally binding in service of such correspondence.
6. The tender shall be made on the basis of the rates in the tender documents being firm and not subject to any adjustment with variations in quantities.
7. The tender fee shall be **BS 5.00** . Payment shall be made at Finance Section, 1st Floor, Ministry of Religious or BIBD Online Payment.
8. No unauthorised alteration or use of 'correction pen' in the tender documents is allowed, or the tender may be rejected. Any errors are to be struck off and initialled.
9. Non-compliance with the above terms and conditions in any respect may render the tender liable to be rejected.
10. The tender must be done in the **OFFICIAL PRINTED** tender forms which is available from the **Ministry of Religious Affairs official website:** <https://www.mora.gov.bn/SitePages/Senarai%20SebutHarga.aspx>

The completed tender documents are to be lodged on or before 12.00 PM on 05 Mac 2025 in a sealed enveloped addressed to:-

TENDER / QUOTATION (QTN) BOX

PETI KOTAK SEBUT HARGA
TINGKAT 1 BAHAGIAN KEWANGAN
BANGUNAN IBU PEJABAT
JALAN MENTERI BESAR
KEMENTERIAN HAL EHWAL
NEGARA BRUNEI DARUSSALAM



The top part of the sealed envelope must be written stating the following :-

Quotation No. : KHEU / BDP / 164 / 007 / 2025 Quotation Closing Date : 05 Mac 2025
Project Title : **TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR WORKS FOR AIR CONDITIONING EQUIPMENT SYSTEM TO ESTATE UNDER PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS FOR A PERIOD OF TWELVE (12) MONTHS**



BUILDING AND MAINTENANCE SECTION
MINISTRY OF RELIGIOUS AFFAIRS
NEGARA BRUNEI DARUSSALAM

Quotation For : TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR WORKS FOR AIR CONDITIONING EQUIPMENT SYSTEM TO ESTATE UNDER PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS FOR A PERIOD OF TWELVE (12) MONTHS

Quotation No. : KHEU / BDP / 164 / 007 / 2025 Closed on : 05 Mar 2025 Receipt No. : _____

PART A - AGREEMENT

1.0 On behalf of _____ I, the undersigned, agree to carry out the above Works / Service / Supply * for a sum of B\$ _____ (Brunei Dollars)

(or),

At Schedule of Rates attached subject to the adjustment percentage of an additional (+) / a deduction (-)* _____ % with an approximate Maximum Contract Sum as stated in PART C - APPENDIX Item 6.0.

And,

within the Contract Period 12 Days / Weeks / Months * in accordance with the terms and conditions below below.

2.0 Owner / Director*'s : _____
Signature & Name (_____)
IC No. : _____

2.1 Signature & Name of : _____
Witness (_____)
IC No. : _____

2.2 Company Address : _____

| |
|---|
| B |
| |

2.3 Tel. No. : _____ Fax No. : _____
2.4 Date : _____ Email : _____

Note : An asterisk * indicates text that is to be deleted as appropriate



PART B - TERMS OF QUOTATION

1.0 BASIS OF QUOTATION, OVERALL OBLIGATIONS AND ADMINISTRATION

1.1 Overall Obligations of the Government:

- 1.1.1 To provide access at proper times for the Contractor to do his work.
- 1.1.2 To provide all information and facilities stated in this Contract to enable the Contractor to do his Works.
- 1.1.3 To pay the Contractor as provided in this Contract.
- 1.1.4 To assign a Contract Administrator to administer this Contract.
- 1.1.5 May take out or renew collateral warranty and insurance as referred to in Clause 1.2.3 and Clause 1.2.4 below if the Contractor fails to do so.

1.2 Overall Obligations of the Contractor:

- 1.2.1 To finish the Works to the quality standards provided in this Contract within the Completion Date(s) and Contract Period provided in this Contract.
- 1.2.2 To cooperate with all other Contractors working on the project and not to disrupt them or cause damage to their Works.
- 1.2.3 To provide a collateral warranty containing a similar obligation as under this Contract directly to a third party if requested by the Contract Administrator.
- 1.2.4 To provide and maintain valid Contractor's all risks insurance policy at all times.

1.3 Instructions, Certifications & Job Orders

- 1.3.1 The Contract Administrator can issue instructions and certifications including Job Orders to the Contractor on anything relating to the Works.
- 1.3.2 All instructions, certifications and Job Orders must be in writing, dated and clearly identified as Contract Administrator's Instructions, Certifications and Job Orders.
- 1.3.3 For each Job Order, the Contract Administrator must state a commencement date and a reasonable date for its completion and the Contractor must complete each Job Order by that completion date.
- 1.3.4 The minimum and maximum of any one Job Order to be issued as stated in the Appendix Item 5.0 and the maximum to be issued must be capable of being carried out and completed within the Contract Period.
- 1.3.5 The Contractor must comply with all instructions, certifications and Job Orders issued by the Contract Administrator.
- 1.3.6 The Contract Administrator may arrange others to complete the Works if the Contractor fails to comply with Clause 1.3.5, and the Contractor shall pay for all extra costs incurred.

2.0 QUALITY, HEALTH, SAFETY AND ENVIRONMENT

2.1 Quality

- 2.1.1 The Contractor must do his Works based on the documents referred to in this Contract and other instructions and information given to him by the Contract Administrator.
- 2.1.2 If any of the Works is not done according to this Contract or if there is any other breach of this Contract by the Contractor, the Contract Administrator shall inform the Contractor of the shortfall(s) in writing. The Contractor must rectify the shortfall(s).
- 2.1.3 If the Contractor does not rectify the shortfall(s), the Contract Administrator may arrange others to rectify the shortfall(s). The Contract Administrator can also certify either:
 - (a) The cost of rectifying such shortfall(s); or
 - (b) The reduced value of the completed Works due to such shortfall(s)as provided in the Payment Certification Clause.
- 2.1.4 The Contract Administrator can continue to do this throughout the project and during the Defects Liability Period (as stated in the Appendix Item No. 3.0) after the Contract Administrator confirms the Works is complete as provided in the Completion Clause.

2.2 Health, Safety And Environment

- 2.2.1 The Contractor must keep the site clean and safe at all times.
- 2.2.2 The Contractor must comply with all laws and regulations relating to Health, Safety and Environment Act, if any.

3.0 TIME OBLIGATIONS

3.1 Starting, Progress and Finishing

- 3.1.1 If not stated in this Contract, the Contract Administrator will inform the Contractor when to start work in writing. The Contractor shall not be entitled to claim for any loss or damage caused by any delay of possession of site.
- 3.1.2 The Contractor must progress with the Works in a regular and diligent manner.
- 3.1.3 The Contract Administrator can instruct the Contractor to stop and restart at any time.
- 3.1.4 The Contractor must finish all the Works within the Completion Date(s) stated in this Contract or as instructed by the Contract Administrator.



3.2 Adjusting Time for Completion

- 3.2.1 If the Government or Contract Administrator or anyone within either of their responsibility or control (which includes other Contractors on site), or anything beyond the Contractor's control, disrupts the Contractor from finishing within the completion period, the Contract Administrator must assess the impact of this disruption on the Contractor's Works.
- 3.2.2 If any Completion Date(s) is affected the Contract Administrator must adjust the Completion Date(s).
- 3.2.3 This must be done in a written certificate clearly identified as Extension of Time Certificate.

3.3 Completion

- 3.3.1 When the Contractor practically completed all the Works, he shall inform the Contract Administrator stating he has completed.
- 3.3.2 The Contract Administrator must decide when the Works has actually practically completed by the Contractor.
- 3.3.4 The Contract Administrator must decide when all obligations of the Contractor are fully discharged.
- 3.3.5 This decision must be in a written certificate clearly identified as a Final Completion Certificate.
- 3.3.6 This must be done after the end of Defects Liability Period (as stated in the Appendix Item No. 3.0) or when the Contractor has rectified all the shortfall(s) including Works that is not according to this Contract and any other breach of Contract by the Contractor identified by the Contract Administrator, whichever is later.

3.4 Delayed Completion

- 3.4.1 If the Contractor does not finish by the date stated in the Contract or Job Order, he shall pay Liquidated and Ascertained Damages due to the delay to the Government as provided in the Payment Certification Clause.
- 3.4.2 Liquidated Damages is calculated for delay between when the Contractor should have completed the Works and when he actually completed the Works.

4.0 VARIATIONS TO WORK

- 4.1.1 The Contract Administrator can issue instructions to vary the Works to be done.
- 4.1.2 If the Contract Administrator instructs the Contractor to vary any of the Works and there is a financial impact, the Contract Administrator must certify the value of the variation work as provided in the Payment Certification Clause.
- 4.1.3 The Contract Administrator must value the variation work using the Summary of Works rates and/or adjusted Schedule of Rates. If neither are available then using fair market rates.
- 4.1.4 This shall be done in a written certificate clearly identified as Variation Order certificate.

5.0 PAYMENT CERTIFICATION

5.1 Claims and Payment Certificate

- 5.1.1 The Contractor must submit a claim for the Works done before any payment certificate can be issued.

5.2 Contents of Payment Certificate:

- 5.2.1 The payment certificate must include the following:
Add the following:
- (a) Cumulative value of the Works done. This is valued based on Summary of Works rates and/or adjusted Schedule of Rates, if any. If none, then valued based on fair market rates.
 - (b) Value of variation work properly instructed by the Contract Administrator and properly done by the Contractor.
- 5.2.2 Deduct the following:
- (a) Liquidated and Ascertained Damages which is calculated for delay between when the Contractor should have completed the Works and when he actually practically completed the Works.
 - (b) The value of any shortfall(s) due to Works done according to this Contract or due to any other breach of this Contract by the Contractor which the Contract Administrator has informed the Contractor. If the Contractor does not rectify the shortfall(s) the Contract Administrator can certify either:
 - (i) The cost of rectifying such shortfall(s) by others; or
 - (ii) The reduced value of the completed Works due to such shortfall(s) as stated in the Appendix.
 - (c) A percentage of the sum of total additions above will be retained (as the Retention Sum) and released after the end of Defects Liability Period or when the Contractor rectified all the shortfall(s) including Works that are not done according to this Contract and any other breach of contract by the Contractor identified by the Contract Administrator.



- (d) The Net Amount Payable is the amount the Government must pay to the Contractor. This is calculated by:
- (i) Adding the total under additions above;
 - (ii) Deducting the total of all deductions above; and
 - (iii) Deducting the cumulative amount certified previously.
- (e) The Contract Administrator may deduct any monies owed by the Contractor to the Government under this Contract or any contract(s) from the Contractor's payments.

6.0 TERMINATION OF CONTRACT

6.1 If the Contractor:

- (a) Suspends the Works before completion without any reasonable cause; and/or
- (b) Fails to proceed with the Works within the time stated in the Contract Administrator's Instructions; and/or
- (c) Fails to comply with the Contract Administrator's Instructions;

for fourteen (14) days after a notice sent to the Contractor, the Contract Administrator can determine this Contract by a written notice.

6.2 If the Contractor:

- (a) Becomes bankrupt; or
- (b) Goes into liquidation; or
- (c) Has offered or given or agreed to give to any person any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any action in relation to the obtaining or execution of this Contract with the Government, or for showing or forbearing to show favour or disfavour to any person in relation to this Contract or any other contract with the Government or the like acts shall have been done by any person employed by the Contractor or acting on his behalf (with or without the knowledge of the Contractor), or if, in relation to this Contract or any other contract with the Government, the Contractor, or any person employed by the Contractor or acting on his behalf shall have committed or abetted to commit an offence under the Prevention of Corruption Act (Chapter 131) or section 161, 162, 163, 164, 165, 213, 214 or 215 of the Penal Code (Chapter 22).

this Contract is terminated by a written notice.

- 6.3 In either (6.1) or (6.2) above, the Contract Administrator may complete the Works by other ways and the Contractor shall pay for all extra costs incurred.

6.4 Termination For Convenience

- (a) The Government may at any time, give the Contractor a written notice to terminate the employment of the Contractor under the Contract and the Contractor shall immediately or upon such other date as specified in the written notice:
 - (i) cease all works under the Contract, which shall include, but be not limited to such work for the purpose of protecting, making safe or tidying up such part of the works as may already have been executed, or may be in the course of execution.
 - (ii) vacate the site, remove all his plant, tools, equipment, goods and unfixed materials which have not been paid by the Government and handback possession of the site to the Government.
- (b) In the event of termination under this Clause, Contract Administrator shall certify the amounts payable to the Contractor and the Contractor shall provide all reasonable assistance to the Contract Administrator. In the event that the Contractor does not submit the necessary information required, the Contract Administrator shall make his certification on the information available. The amount certified shall be paid by the Government less any sums previously paid or due to or recoverable by the Government from the Contractor.



PART C - APPENDIX

| | | |
|-------------------|---|---------------------------------------|
| <p>1.0</p> | <p>Completion Date:</p> <p>(If not stated, to be instructed by the Contract Administrator. If more than one completion period, identify the scope of Works for each completion period)</p> <p>For Term Contract, the Contract shall ends when the following conditions are met:</p> <p>(a) The actual expiration of the Contract Period; or</p> <p>(b) The limit of the Approximate Maximum Total Value of All Job Orders have been reached;</p> <p>Whichever of the above comes first but subject to Clause 3.2 and Clause 4.0.</p> | <p>_____</p> |
| <p>2.0</p> | <p>Liquidated and Ascertained Damages (LAD):</p> <p>(If none stated, then the Contract Administrator may certify a reasonable sum as compensation for delay)</p> <p>$\frac{\text{Total Contract Sum}}{\text{Total Contract Period (No. of Days)}} \times 15\%$</p> | <p>B\$ _____ per day</p> |
| <p>3.0</p> | <p>Shortfalls / Defects Liability Period:</p> <p>(If none stated, SIX (6) MONTHS from the date of completion)</p> | <p>_____ Months</p> |
| <p>4.0</p> | <p>Retention Sum:</p> <p>(If none stated, FIVE (5%) PERCENT of the Contract Sum)</p> | <p>_____ % of the Contract</p> |
| <p>5.0</p> | <p>Minimum and Maximum Values of Job Orders:</p> <p>Minimum value of any one Job Order to be issued</p> <p>Maximum value of any one Job Order to be issued</p> <p>(If none stated, the maximum value to be issued must be capable of being carried out and completed within the Contract Period)</p> | <p>≤ B\$ _____</p> <p>≥ B\$ _____</p> |
| <p>6.0</p> | <p>Approximate Maximum Total Value of All Job Orders for the Contract Period:</p> <p>(If not stated, NOT MORE THAN \$50,000.00 - BRUNEI DOLLARS FIFTY THOUSANDS)</p> <p>The Contract Administrator gives no warranty or undertaking as to the actual amount of Works that will be issued through Job Orders and no variance in the actual value of Works ordered shall give rise to a change in any rate, price or percentage adjustment.</p> | <p>≤ B\$ 50,000.00</p> |



DECLARATION FORM



BORANG PENGAKUAN
DECLARATION FORM

BILANGAN SEBUT HARGA
(*QUOTATION NO.*)

: KHEU / BDP / 164 / 007 / 2025

TAJUK SEBUT HARGA
(*QUOTATION TITLE*)

: **TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR WORKS FOR AIR CONDITIONING EQUIPMENT SYSTEM TO ESTATE UNDER PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS FOR A PERIOD OF TWELVE (12) MONTHS**

KEMENTERIAN / JABATAN
(*MINISTRY / DEPARTMENT*)

Saya/Kami, (Isikan nama setiap pemilik syarikat/pemegang saham di bawah)
I/We (Fill in all the proprietor/shareholders' name below)

| Bil. No. | Nama Name | No. Kad Pengenalan Brunei & Warna/ No. Paspal Antarabangsa <i>Brunei Identity Card No. & Colour/ International Passport No.</i> | Tandatangan Signature |
|-------------|--------------|---|--------------------------|
| | | | |
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| | | | |
| | | | |

Dengan ini membuat PENGAKUAN seperti berikut / *make the following DECLARATION:*

1. Saya/Kami yang bernama diatas, adalah pemilik berdaftar sebuah Firma yang bernama
I/We as the name stated above, a registered Proprietor of

_____, (isikan nama Firma/ *fill in the firm's name*)
dengan alamat perniagaan di,
with its place of business at

(atau/ *or*)

2. adalah pemegang saham dalam sebuah Syarikat yang bernama
a shareholder in a Company

_____, (isikan nama Syarikat/ *fill in the Company's name*)
dengan alamat perniagaan di,
with its place of business at

yang ikut serta Sebut harga di atas, dengan ini mengakui bahawa saya atau ahli keluarga saya tidak ada kepentingan dalam lain-lain syarikat yang turut serta menghadapkan tawaran yang sama.
Which participate in the above mention tender, hereby declare that I or any member of my family do not have any interest in the other companies competing for the same tender.

Tandatangan & Cop Syarikat
(*Signature & Company Stamp*)



DF/1

SCOPE OF WORKS



SCOPE OF WORKS

TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR WORKS FOR AIR CONDITIONING EQUIPMENT SYSTEM TO ESTATE UNDER PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS FOR A PERIOD OF TWELVE (12) MONTHS

1.0 GENERAL

The works to be performed under this schedule comprises of General and Routine Maintenance of DX Package Type, Split Unit & Room Type of Air Conditioning, breakdown attendance, supply of defective parts and air conditioning replacement works as instructed by and to the satisfaction of OIC/SO for period stipulated in this Tender.

2.0 MAINTENANCE & SERVICES OF AIR CONDITIONING EQUIPMENT, SYSTEM AND PLANT

The works to be performed under this Tender is for a period of **TWELVE (12) months**. Contractors shall be responsible to attend, report and investigate all nature of breakdown (location of site as attached), also to attend all minor breakdown in order to put back the plant/equipment into full working condition, in writing, to attend all of breakdown c/w free replacement of defective parts, materials and workmanship for all the equipment that are under defects liability period until the issue of certificate of final acceptance of completion.

3.0 MANPOWER AND LIST OF LOCATIONS

Contractor shall provide registered and qualified personal (as approved by OIC/SO) when carrying out Routine and General schedule maintenance works, Interim Maintenance & Breakdown attendance and replacement works for unit/parts of RAC, split, VRF, PAC and DX Package type and other associated equipment.

Manpower as stated above are responsible but not limited to as the following:

- To attend all breakdown calls/complaint as instructed by OIC
- To carry out repair and replacement works where required (parts supplied separately) to run the equipment back to normal working order.
- To ensure and maintain good housekeeping of Condenser Package Unit and AHU rooms.

4.0 OCCUPATIONAL, SAFETY AND HEALTH

The Tenderer shall be deemed to have examined the documents referred to above and shall be bound by the terms and conditions therein. In the case where the tenderer is found non-compliance to the above regulations, and fails to price accordingly for the items required for the scope of project tendered, the Superintending Officer has the right to instruct the Contractor to provide such services without any cost involved. It is therefore deemed be inclusive in this tender.



5.0 CONTRACTOR'S MAINTENANCE RESPONSIBILITIES DURING MAINTENANCE PERIOD

Where specifically required or instructed by OIC/SO in the Contract document, the Contractor shall allow for and carry out services required in the contract document as listed and only be charge accordingly.

5.1 The Contractor shall be fully responsible for the following within the contract period as and when required:

- a. Inspection, checking, servicing, maintenance and repair including replacement of parts and components due to normal tears and wears.
- b. Emergency inspection, checking and servicing, repair and rectification work;
- c. Provide skilled and experienced Supervisor, qualified technician and tradesman to assistant the start-up, control, performance monitoring and shut-down of the plant;
- d. Test and commissioning of the new replacement installation after the completion of installation and services, maintenance and repair; 9 months comprehensive warranty of new spare parts and other accessories.
- e. Submission of services record and test report.
- f. To provide photograph / picture (before/after) for submission of payment.

5.2 The Contractor shall provide labour and consumable materials/items as specified in the following services during the contract Period:

- a. Consumable materials as listed (LOCI-1)
- b. Repairs including first line attendance, emergency and miscellaneous repairs, plants, tools, vehicles for transportation of material for purpose of execution of work;
- c. Preparation and submission of records/reports, compliance with miscellaneous requirements.
- d. Upon maintenance, repair and replacement period, the Contractor shall provide competent, experienced and qualified staff and workshop facilities to undertake the maintenance works or replacement works during the Maintenance Period. Detailed information of the organization, workshop facilities and list of contact persons of the Contractor's maintenance team shall be submitted to the Supervising Engineer or



Superintendent Officer fourteen (14) days after the commencement date of the maintenance period.

5.3 Contractor's responsibilities for breakdown call-out

The Contractor shall offer efficient and prompt response to breakdown call-out for the equipment failure. The expedition of response shall be in accordance with the following categories:

- a. **VERY URGENT** for failure of compressor, pipe burst, water dripping, fire alarm and electricity power failure, the Contractor shall respond and attend to the Very urgent calls immediately.
- b. **URGENT** for abnormality of equipment operation, the Contractor shall respond and attend to the Urgent calls within one hour from the receipt of the calls,
- c. **NON URGENT** for inadequate of room condition, the Contractor shall respond and attend the fault within 4 hours. Investigation report and proposal for repair/ improvement/ modification shall be submitted.

The Contractor shall promptly complete any repair necessary for resuming the breakdown installation. In case immediate permanent repair is not possible due to safety related reason, the following "time for repair" targets counted from the receipt of breakdown or fault call shall be complied with:

- a. Complete temporary repair for resumption of the suspended or breakdown services to a safe operating condition within 24 hours; and
- b. Complete permanent rectification works within 3 and 7 working days unless long component and parts delivery time is required.

5.4 Maintenance program and schedule

The Contractor shall prepare, submit and seek endorsement on the maintenance program before the commencement of the Contract Maintenance Period. Upon the approval of the above maintenance program, the Contractor shall prepare a maintenance schedule for all the air-conditioning units/equipment and indicate dates for routine maintenance of the units/equipment before the commencement of the Contract Maintenance Period.

5.5 Co-ordination

The Contractor shall co-operate and co-ordinate with the Supervising Engineer or Superintendent Officer, Security agency in the building, utility supply companies, Government agencies and the public authorities for the smooth execution of maintenance works.



5.6 **Routine Servicing of Air Conditioning Type RAC / DX Package / Split unit / VRF / Air Curtain.**

- a. To check any excessive noise to loose parts, slacks bearing or anti-vibration mounts shall be investigate and corrected.
- b. Check air filter by washing and dry and clean evaporator coil with a VACUUM cleaner to avoid blowing dirt into the unit. Submit report to BBDP if filter is to be replaced.
- c. Check that all grilles and coils are free of leaves insect or other foreign matter and that fresh air can circulate freely over the condenser and evaporator coil.
- d. Check selector switch, thermostat and ventilation controls. On no account all controls shall be left set to the position as found before the checks are carried out.
- e. Check that condensate drain pipe run freely away to drain and check water tray is not leaking. Submit to BBDP if the condensate drain pipe and tray is leaking and rusty to be replaced.
- f. Check abnormalities, noisy and megger test all compressor and fan motors. Checked that all fastening are secure and properly tightened and locked.
- g. Check that starter trips under 'no volt' conditions. Check overload setting and submit report to BBDP when the starter is found faulty and need replacement.
- h. Check the Amps plug & socket for overheating due to the bad contactor or loose cable connection. Check the cable for damage to insulation any junction's blocks used to join the cable are tight and properly insulated.
- i. Check for discharge, suction pressure of the refrigerant circuit during operation, condition of the units, check voltage and phase imbalance, power supply, contactor, loose connections and thermostat operation.
- j. Check the amount refrigerant charge which should be within specifications and free of obstruction and restriction and check for leak in the system.
- k. Leak test all the service valves and refrigerant piping and make sure there is no leak in the system, if there is a leak the contractor shall make a report to BBDP.
- l. Check for any damage to suction and liquid line insulation and check liquid line filter for any sign of choked. The Contractor shall make full details of report to BBDP regarding this matter.



- m. To check that the air handling units and related controls (VSD) and control circuits are operating properly. Repair or replace if necessary.
- n. To check and record on log sheets and where appropriate on system performance sheet the air handling units operating conditions including motor current, chilled water inlet and outlet temperatures, return and mix air temperatures, off coil and supply air temperature and humidity.
- o. To check water drain pan, drain pipe and floor drain to ensure no clogging and flooding. Rectify if necessary.
- p. To clean and renew air filter as required.
- q. To check driving belts for proper tension and correct alignment, adjust and renew belts and lubricate bearings as required.
- r. To check the operation of control valves and isolating valves, rectify as required.
- s. To clean the fresh air inlet, exhaust air louvers, air dampers, accessible internal ductwork surfaces and fan blade.
- t. To check heaters for proper operation. Rectify if necessary.
- u. To check proper function of pressure gauge, thermometer, thermostat and motorized valve.

5.7 Routine Servicing of Dehumidifier / Air Curtain / Portable Unit

- a. Check air filter by washing and dry and clean cooling coil with a VACUUM cleaner to avoid blowing dirt into the unit. Submit report to BBDP if filter is to be replaced.
- b. Clean the external panel and body of the unit and check and clean drain/tray.
- c. The contractor shall provide report on visual condition of units (eg. Noisy, rusty etc)

5.8 General Servicing of Room Air Conditioning

- a. Annual maintenance for full service will be carried out for each Room Air-Conditioning units once a year consisting of monthly maintenance works and the following works.
- b. Remove the units form site and bring to the workshop for general cleaning. Both sides of condenser and evaporator coils to be lean with chemicals and lubricate for motors if required.



- c. Touch-up by first removing any loose rust or old paint and treating any bare metal surface with a zinc rich primer. All inside and outside surface of the casing should be sprayed with a suitable air drying paint in a suitable colour to match the original paint work.
- d. Check running operation, refrigerant charge by observation of performance thermostat operation. Charge up refrigerant if necessary.

5.9 General Servicing air conditioning Split unit and DX Package Type

- a. Annual maintenance (General servicing) for each set of split unit Air Conditioning Units which to be done once a year consisting of the monthly works and the following works.
- b. Remove the Fan Coil Units and Condensing Units cover and clean with approved type of chemical and check internal parts.
- c. Lubricated fan motors and all the moving parts if required.
- d. Touch-up by first removing any loose rust or old paint and treating any bare metal surface with a zinc rich primer. All inside and outside surface of the casing should be sprayed with a suitable air drying paint in a suitable colour to match the original paint work.
- e. Check running operation, refrigerant charge by observing the performance of thermostat operation. Charge up refrigerant gas if necessary. Leak test for the entire system, pump down the refrigerant before removing the condensing.
- f. The system should be vacuum (300micrins) using the counter flow vacuum to non-condensable (air) or moisture should be removed in order to avoid the formation of acid in the system.
- g. The contractor shall provide scaffolding for removing the condensing/fan coil units and submit comprehensive report of the Annual Maintenance for any defects.
- h. Checklist and picture (before and after) should be provided and sign/satisfy by client and supervising officer from BBDP for every each of RAC and DX split units.

6.0 CLEANING AND CLEARING UPON COMPLETION

- 6.1 The Tenderer shall maintain the site in a clean and tidy condition and remove all scrap caused by the carried out of works at frequent intervals. All equipment and materials are to be kept clean. Damaged or dirty materials will be removed from site and replaced at the Tenderer's expenses.



- 6.2 In the event of the contractor not clearing away the above mentioned materials, plant and other temporary works within stipulated time, the Government shall arrange for same to be executed by some other party and the cost of such clearing away shall be adjusted against the Contractor's Final Account. The Government will not be held responsible or liable for any material or plant left upon the site.
- 6.3 On completion of the works all plant, building appliances, apparatus or equipment are to be removed as quickly as possible and conveyed away from the site at the sole cost of the Contractor. All temporary service and leads, buildings, sheds barriers, scaffolding, etc. In connection with the construction works are to be disconnected, taken down and removed.

7.0 TESTING AND COMMISSIONING

- 7.1 All Air-Conditioning units, system, controls etc shall be fully tested by the contractor to satisfy himself that the units are capable of maintaining the specified requirements of operating correctly and safely. In addition, such test shall be carried out as required by the supervising engineer of BBDP to show that the contract has been completed satisfactorily on all respects.
- 7.2 The Contractor shall have in his possession all the necessary testing equipment to carry out the complete balancing testing and commissioning of the entire installation to the satisfaction of Supervising Engineers and relevant authorities including provide test report. All testing apparatus shall be calibrated. A complete testing and commissioning engineers for the following system including purging the system with Nitrogen Gas, Chilled water balancing, electricity etc. The complete system testing and commissioning still cover the entire of installation under the contract but not limited to the following.

8.0 WARRANTY, MAINTENANCE AND SERVICES

- 8.1 During the period between the date of Practical completion and the date of Final Handover (Defect Liability Period) the air conditioning contractor shall be responsible for the repair or replacement of all defective workmanship or materials during the period of the contract works, and which become apparent during the defect liability period. The Tenderer shall carry out all repairs or replacement without delay, however failure to complete such works by the end of the defects liability period shall not relieve the Tenderer of any obligation to complete. Where any defect renders an item of equipment unusable for excessive period of time, the defect liability period on that item or system may be extended by a period equal to the period that the equipment or system was useable.
- 8.2 During the defect liability Period, the air-conditioning contractor shall immediately attend to any report breakdown or stoppages of the above units and will carry out routine maintenance in accordance with the attached schedule including maintenance and breakdown or work done forwarded to BBDP within seven (7) day.
- 8.3 The Contractor are required to do maintenance and servicing works of new Air handling units including the control panel , all type of valve, gauge, actuator/motorized and other new associated equipment install and supply for this project for SIX (6) Months prior to the handover of the installation to the Government. The Service calls are to be endorsed



and signed by the clients each month and will be submitted to BBDP during handover period.

- 8.4 The Contractor are also required to submit Three (3) sets of Maintenance Manual Operation complete with catalog, Model, serial number, capacity and the location of the air-conditioner units for new split type air-conditioner units in the above building during the Practical Inspection for the above installation.

9.0 INSTALLATION OF SPLIT TYPE AIR-CONDITIONING UNITS WITH INVERTER TYPE OF COMPRESSOR. (CARRIER, TOSHIBA, MITSUBISHI, GENERAL, PANASONIC)

- 9.1 The installation of the above units are specified in the drawings shall be completed with supply and install all the necessary mounting bracket C-Channel required to support all the Fan Coil Units and the Condensing Units, refrigerant and condensate piping c/w insulation, cabling, isolator, PVC trunking for enclosed the above piping to support the above trunking, vacuuming and charging, fittings and accessories, opening or hacking in wall, ceiling or floor c/w make good.
- 9.2 All the refrigerant piping c/w minimum 20mm (3/4") insulation shall be enclosed in the PVC trunking. All exposed PVC trunking shall be painted to match the building colour. All the condensate drain pipes shall be provided with insulation if required and concealed on the wall or floor and run to the nearest drain, all the exposed drain pipes shall be enclosed in PVC trunking.
- 9.3 All the condensing units shall be mounted or painted (anti corrosive paint) wall bracket / U-Channel. For the Split Air-Conditioning 36,000Btu/Hr or 10.6 KW and above, the units shall be provided with filter drier and sight glass c/w moisture indicator on the liquid line.
- 9.4 Refrigerant gas shall be using **R410A or R32 or R407C** and piping shall be sized by the contractor in accordance with the air-conditioning units manufacturer recommendation to ensure scheduled capacities are met and the pipework layout shall be as per DES 'General Specification for Air-Conditioning Installation'. All exposed refrigerant pipes shall be wrapped with self-adhesive PVC denso outer wrap applied with continuous 20mm (3/4" wall x 7/8" ID) overlap.
- 9.5 All the electrical power and control cables run between the power supply, FCU's and Condensing units shall be concealed in PVC conduit separately from PVC trunking which is used to enclose the refrigerant and condensate piping. For units above 24,000 Btu/Hr or 7.1KW shall be 3 Phase Power supply.
- 9.6 *Concrete foundation or Plinth complete with BRC A65, C-Channel and pipe sleeve* must be used for the outdoor unit with height of 150mm and provide enough space to allow free air circulation to the condenser coils and required for maintenance as specified in the drawing.
- 9.7 All mounting brackets shall be rust-resistance painted with two coats of gloss paint to match building colour.
- 9.8 All the controller whether wired or wireless remote controller shall be built in with 24 hours ON/OFF Timer.



- 9.9 All the installation of the above Fan Coil units and Condensing units are specified shall have labeling or numbering for all air-conditioning equipment according to the drawing for maintenance and future reference. The labelling for outdoor units (CU) and DB shall be using 3M adhesive type bakelite with **white lettering on black background**. Labelling for shall be secured with brass screws or rivet. Labelling for FCU shall be 3M adhesive type Bakelite with (60mm x 25mm) **black lettering on white background**.

10.0 PIPEWORKS

10.1 Refrigerant Piping

- a. The Contractor shall supply, delivery and install the refrigerant piping c/w AEROFLEX closed-cell insulation, galvanized supports, tray or trunking where required; and all accessories in accordance with the specification.
- b. Where possible, all refrigerant pipework shall be embedded in the structure / brickworks. Exposed refrigerant pipe to be enclosed in UPVC trunking and painting to Architect's approval.
- c. Where enclosure by UPVC trunking is not possible, such as exposed pipework shall be wrapped with one layer of white PVC Denso tape with a 50% overlap.
- d. Exposed refrigerant piping rising vertically from the floor shall be protected by GI pipe sleeves protruding upwards at least 6".
- e. Piping sizes to the manufacturer's sizing recommendation. Refrigeration piping shall not be run longer than the manufacturer's recommendation length.

10.2 Condensate Piping

- a. UPVC condensate drain pipe to BS 3505 Class 'C' and 20mm thick Aeroflex insulation with denso tape outer wrap, fitting bracket, supports, hangers, elbow, tee, reducer, etc as specified.
- b. For wall mounted fan coil units, the condensate drain pipe drop to floor below ceiling space shall be concealed in brick wall c/w insulation and connect to main condensate drain pipe.



SCHEDULE OF FIXED RATES



| ITEM | DESCRIPTION | PER/UNIT | RATE |
|-------|---|----------|-----------|
| | <u>BILL NO. 1</u> | | |
| 1.0 | <u>PRELIMINARIES</u> | | |
| 1.1 | <u>INSURANCES</u> | | |
| | Provide the following insurance policies and such other insurances as may be necessary to protect the Contractor's and Government's interest: | | |
| 1.1.1 | Workmen's compensation policy in the joint names of the Government and the Contractor | | |
| 1.1.2 | Public liability policy in the joint names of the government and the Contractor | LOT | \$ 500.00 |
| 1.1.3 | Fire policy on the joint names of the Government and the Contractor including demolition and cleaning of fire damaged structures, debris etc. | | |
| 1.2 | <u>PLANT, TOOLS AND VEHICLES</u> | | |
| 1.2.1 | Provide and maintain all necessary plant, equipment, tools and vehicles for the proper execution and completion of the works and clear away some on completion | LS | - - |
| 1.3 | <u>OCCUPATIONAL SAFETY AND HEALTH</u> | | |
| 1.3.1 | The Contractor shall be ensured that all work are carried out to high standard of safety for his own workers on site also as per tender specification and as required by the HSE Section of PWD | LS | - - |
| 1.3.2 | Adequate protection equipment shall be supplied to each worker relevant to the area they are working in and work, they are required to do and competetnt instruction in it use shall be provided. | LS | - - |
| 1.4 | <u>REMOVAL OF RUBBISH</u> | | |
| 1.4.1 | Keep the site tidy and free from rubbish, debris and the like. The Contractor shall ensure that good housekeeping is maintained continously throughout the duration of the works with due regard being paid to tidiness, accessway and disposal of scrap materials and rubbish. | LS | - - |



| ITEM | DESCRIPTION | PER/UNIT | RATE |
|-------|---|----------|------|
| 1.5 | <u>CLEARING UPON COMPLETION</u> | | |
| 1.5.1 | On completion of the works all plant, building appliances, apparatus or equipment are to be removed as quickly as possible and conveyed away from the site at the sole cost of the contractor. All temporary service and leads, building, sheds, barriers, scaffolding etc in connection with the construction works are to be. | LS | - - |
| 1.5.2 | In the event of the contractor not clearing away the above mentioned materials, plants and other temporary works within stipulated time, the government shall arrange for same to be executed by some other party and cost of such clearing away shall be adjusted against the contractor's final account. the government will not be held responsible or liable for. | LS | - - |
| 1.6 | <u>PROGRAMME CHARTS</u> | | |
| 1.6.1 | within seven (7) days after the date of possession, the contractor shall submit a detailed programme to complete the various operations and section of work including nominated sub contracts (if any) to comply with the contract period. He shall submit four (4) copies of this programme to the superintending officer. | LS | - - |
| 1.6.2 | The Programme charts shall be in the form of detailed bar chart, accompanied by a critical path network analysis showing each main construction sequence if required. | LS | - - |
| 1.6.3 | Up-to-date records of progress shall be kept by the contractor and a comparison between actual and planned progress submitted to the superintending officer at weekly / monthly intervals or as instructed by OIC. | LS | - - |
| 1.6.4 | Submit a weekly/monthly progress report on the superintending officer form of all matters affecting the contract, including record of inclement weather, strikes, breakdown of machinery and shortage or late delivery of materials. | LS | - - |



| ITEM | DESCRIPTION | PER/UNIT | RATE |
|-------|---|----------|----------|
| 1.6.5 | Submit progress (S-Curve) payment weekly / monthly including supported documents (Data, pictures, client endorsement, etc) | LS | - - |
| 1.7 | <u>PROTECTING THE WORKS</u> | | |
| 1.7.1 | Take all necessary protective measures as directed throughout the currency of contract to protect all finished work from damage or deterioration caused by activities of any workmen (including those of the government's direct specialist contractors) or of any other cause and leave the whole of the works perfect and to superintending office's satisfaction | LS | - - |
| 1.7.2 | Take all adequate and reasonable measures to protect any private properties. Make good all damages due to any cause within the contractor's control at his own expense or pay all costs and charges in connection of contract. | LS | - - |
| 1.8 | <u>COOPERATION AND CO-ORDINATION</u> | | |
| 1.8.1 | Co-operate with all other persons who are on the site with the authority of the superintending officer. Co-ordinate the works such that they maybe completed in the most efficient and acceptable manner. | LS | - - |
| 1.8.2 | The contractor shall permit other contractor and the superintending officer to use any part of the works. | LS | - - |
| | TOTAL FIX LUMP SUM FOR BILL NO.1 PRELIMINARIES (DISCOUNT APPLY TO THIS BILL) | LS | \$ 4,000 |



INTERIM BREAKDOWN ATTENDANCE

| ITEM | DESCRIPTION | QTY | RATE |
|------|--|-----|----------|
| | BILL NO. 2 INTERIM MAINTENANCE AND BREAKDOWN ATTENDANCE Note: The scope of works is to attend breakdown calls/complaint/ as instructed by OIC and shall be attended only by registered personal/contractor with DES/MOD class 5j or M01. <u>Being labour charges including any necessary equipments and tools required for breakdown attendance for air-conditioning (Split Unit / Room Unit/DX Package Type / Precision Closed Control Unit / Air Curtain / Exhaust fan) and associated equipment including switchboard including the following:</u> i To attend breakdown calls/complaints/instructions from OIC without delay (within 24 hours of working days) upon received of instruction/complaint ii To troubleshoot faulty air-conditioning (Split Unit/Room Unit/ DX Package Type/Precision Closed Control Unit/Air Curtain/VRF/Exhaust fan system) as instructed by OIC/SO iii To provide comprehensive/status/service report of breakdown calls/complaints including justification of fault such as (data, photos etc) and recommended repair action(s) <u>Being labour charges including any necessary equipments and tools required for breakdown attendance for air-conditioning (Split Unit / Room Unit/DX Package Type / Precision Closed Control Unit / Air Curtain / Exhaust fan) and associated equipment including switchboard including the following:</u> i To attend breakdown calls/complaints/instructions from OIC without delay (within 24 hours of working days) upon received of instruction/complaint ii To troubleshoot faulty air-conditioning (Split Unit/Room Unit/ DX Package Type/Precision Closed Control Unit/Air Curtain/VRF/Exhaust fan system) as instructed by OIC/SO iii To provide comprehensive/status/service report of breakdown calls/complaints including justification of fault such as (data, photos etc) and recommended repair action(s) iv To perform repair of leak/charging of refrigerant gas/replacement of consumable parts (as listed in consumable items) including labour for replacement of defective part(s) (Bill No.5) to run the unit back to normal working order. | NO | \$ 30.00 |
| 2.0 | | | |
| 2.1 | | NO | \$ 80.00 |



SUPPLY OF MANPOWER

| ITEM | DESCRIPTION | QTY | RATE |
|-------|--|---------|-------------|
| | BILL NO. 3 | | |
| 3.0 | SUPPLY OF MANPOWER Manpower as stated above are responsible but not limited to as the following: | | |
| 3.0.1 | To ensure chiller plant and other associated equipment are operational and are in proper setting as instructed by OIC / SO | | |
| 3.0.2 | Operating and monitoring of central air conditioning system and building automation system (BAS) and to report immediately of any operation abnormalities of equipment | | |
| 3.0.3 | To record daily log sheets reading of chiller plant and other associated equipment | | |
| 3.0.4 | To record room temperature readings daily (3 times a day) on all floor area/ level or as instructed by OIC. | | |
| 3.0.5 | To ensure and maintain good housekeeping of chiller yard and AHU rooms | | |
| 3.0.6 | To attend all breakdown calls/complaint as instructed by OIC | | |
| 3.0.7 | To carry out repair and replacement works where required (parts supplied separately) to run the equipment back to normal working order | | |
| 3.0.8 | All prices quoted are flat rate and not included in the discount. | | |
| 3.1 | Team leader (Local Only) | Month | \$ 1,600.00 |
| 3.2 | Assistant Team Leader | Month | \$ 1,200.00 |
| 3.3 | Supervisor (specialist of A/C chiller & BAS system) | Mandays | \$ 50.00 |
| 3.4 | Technician (specialist of A/C chiller) | Mandays | \$ 40.00 |
| 3.5 | Tradesman | Mandays | \$ 30.00 |
| 3.6 | Helper/trainee | Mandays | \$ 25.00 |
| 3.7 | <u>Allow for overtime as required during non-working hours or public holiday as instructed and allowed by OIC:</u> | | |
| 3.7.1 | Supervisor (Specialist of A/C chiller & BAS system) | Hours | \$ 18.00 |
| 3.7.2 | Technician (Specialist of A/C chiller) | Hours | \$ 12.00 |
| 3.7.3 | Tradesman | Hours | \$ 8.00 |
| 3.8 | <u>BAS specialist (Certified Manufacture's Specialist)</u> Being breakdown attendance to troubleshoot, reprogramming, calibration works, all required engineering works to run back to normal working order and submit testing and technical report for Building Automation system by <u>Manufacture Specialist</u> on site. | Visit | \$ 2,500.00 |

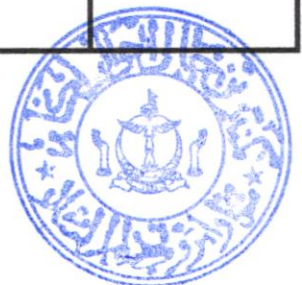


| ITEM | DESCRIPTION | QTY | RATE |
|-------|---|--------|-----------|
| | BILL NO.4 | | |
| 4.0 | WATER TREATMENT Bill No.4 is maintenance for water treatment condensing water system as specified below with different category / type of maintenance term as which shall be carried out as weekly testing pH and TDS, Monthly test, Half yearly legionella bacteria test, Monthly Maintenance and Monitoring of Chemical Dosing system as approve by OIC / SO and to be charged accordingly. Maintenance and servicing shall be carried out as specified in Basic Guideline for maintenance of Air-Conditioning system and Particular Condition. | | |
| 4.1 | Testing pH and TDS, total hardness and Corrosion inhibitor | Lot | \$ 40.00 |
| 4.2 | Test for Legionella bacteria by approve laboratory only | Lot | \$ 300.00 |
| 4.3 | Maintenance of chemical dosing system | NO | \$ 10.00 |
| 4.4 | Washout works of replenish with fresh water with adequate amount of chemical | NO | \$ 250.00 |
| 4.5 | Supply of the following: | | |
| 4.5.1 | Approved friendly type corrosion inhibitor (Eco Friendly and as approved by OIC/SO and from relevant agencies) | Litres | \$ 25.00 |
| 4.5.2 | Biocide chemical (Eco Friendly and as approved by OIC/SO and from relevant agencies) | Litres | \$ 20.00 |
| 4.5.3 | Backup biocide chemical (Eco Friendly and as approved by OIC/SO and from relevant agencies) | Litres | \$ 20.00 |
| 4.5.4 | copper corrosion monitor coupons | NO | \$ 25.00 |
| 4.5.5 | Mild steel corrosion monitor coupons | NO | \$ 25.00 |
| 4.5.6 | Safety equipment (a pair of safety shoes, hand gloves, goggle and safety mask) | NO | \$ 150.00 |
| 4.5.7 | Water sample testing for the other parameters as specified by SO and scope of works | NO | \$ 50.00 |



SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN)

| ITEM | DESCRIPTION | QTY | RATE |
|-------|---|-----|-------------|
| | BILL NO. 5 | | |
| | SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN) | | |
| | Note: | | |
| 5.0 | 1) the above scope is to supply defective part(s), testing and commissioning, including nine(9) months of comprehensive 2) All make type/rating/size referred below shall be approved original manufacturer and genuine parts only. | | |
| 5.1 | <u>Fully hermetic compressor non-inverter for split unit/RAC/DX Package type (R22) of any make c/w service valve 'motor protector' crankcase heater including vacuuming, testing and commissioning according to the following capacity:</u> | | |
| 5.1.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 300.00 |
| 5.1.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 320.00 |
| 5.1.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 500.00 |
| 5.1.4 | 36,001 Btu/hr to 48,000 Btu/hr | NO | \$ 700.00 |
| 5.1.5 | 48,001 Btu/hr to 60,000 Btu/hr | NO | \$ 1,000.00 |
| 5.1.6 | 60,001 Btu/hr to 80,000 Btu/hr | NO | \$ 1,600.00 |
| 5.1.7 | 80,001 Btu/hr and above | NO | \$ 2,600.00 |
| 5.2 | <u>Fully hermetic compressor for Inverter split unit (R410a/R407c) of any make c/w service valve 'motor protector' crankcase heater including vacuuming, testing and commissioning according to the following capacity:</u> | | |
| 5.2.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 650.00 |
| 5.2.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 950.00 |
| 5.2.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 1,200.00 |
| 5.2.4 | 36,001 Btu/hr to 48,000 Btu/hr | NO | \$ 1,800.00 |
| 5.2.5 | 48,001 Btu/hr to 60,000 Btu/hr | NO | \$ 2,300.00 |
| 5.3 | <u>Fully hermetic compressor for VRF (R20/R410a/R407c) of any make c/w service valve 'motor protector' crankcase heater including vacuuming, testing and commissioning according to the following capacity:</u> | | |
| 5.3.1 | 6HP | NO | \$ 1,100.00 |
| 5.3.2 | 8HP | NO | \$ 1,600.00 |
| 5.3.3 | 10HP and above | NO | \$ 2,100.00 |
| 5.4 | <u>Fully hermetic compressor inverter for VRF (R20/R410a/R407c) of any make c/w service valve 'motor protector' crankcase heater including vacuuming, testing and commissioning according to the following capacity:</u> | | |
| 5.4.1 | 6HP | NO | \$ 1,300.00 |
| 5.4.2 | 8HP | NO | \$ 1,800.00 |
| 5.4.3 | 10HP and above | NO | \$ 2,800.00 |
| 5.5 | Thermostat Including Sensor (any type/size/brand) | NO | \$ 50.00 |



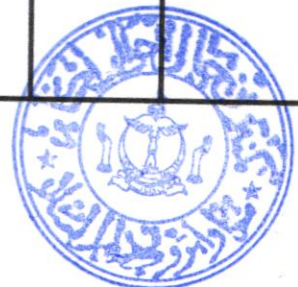
SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN)

| ITEM | DESCRIPTION | QTY | RATE |
|-------------|--|-------|-----------|
| 5.6 | Low pressure switch (any type/size) | NO | \$ 100.00 |
| 5.7 | High pressure switch (any type/size) | NO | \$ 100.00 |
| 5.8 | Control/Overload relay (any type/size) | NO | \$ 30.00 |
| 5.9 | Time delay relay | NO | \$ 60.00 |
| 5.10 | Blower Scroll for RAC unit | NO | \$ 100.00 |
| 5.11 | Fan coil motor (blower) (any type/size) | NO | \$ 80.00 |
| 5.12 | Swing control motor split / RAC / FCUs' (any type/size) | NO | \$ 40.00 |
| 5.13 | Blower wheel of fan coil unit (any type/size) | NO | \$ 120.00 |
| 5.14 | Refrigerant pipe complete with insulation using Armaflex insulation, trunking and adhesive denso tape (any size) | NO | \$ 10.00 |
| 5.15 | <u>Drain / condensate pipe (any size) with all necessary fittings including the following:</u> | | |
| 5.15.1 | Aeroflex insulation | Meter | \$ 7.00 |
| 5.15.2 | Hacking and concealed on concrete floor with mosaic tiles as approved by OIC | Meter | \$ 15.00 |
| 5.15.3 | Exposed drain pipe | Meter | \$ 5.00 |
| 5.16 | DOL starter for Room air-conditioning unit (220/) coil single phase with c/w overload | NO | \$ 60.00 |
| 5.17 | <u>Printed Circuit Board (PCB) for Inverter type (any type/size/brand):</u> | | |
| 5.17.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 160.00 |
| 5.17.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 180.00 |
| 5.17.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 200.00 |
| 5.17.4 | 36,001 Btu/hr to 60,000 Btu/hr | NO | \$ 220.00 |
| 5.17.5 | 60,001 Btu/hr and above | NO | \$ 280.00 |
| 5.18 | <u>Printed Circuit Board (PCB) for Non Inverter type (any type/size/brand):</u> | | |
| 5.18.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 100.00 |
| 5.18.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 120.00 |
| 5.18.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 140.00 |
| 5.18.4 | 36,001 Btu/hr to 60,000 Btu/hr | NO | \$ 160.00 |
| 5.18.5 | 60,001 Btu/hr and above | NO | \$ 250.00 |
| 5.19 | Air/Pipe Thermister Sensor (any type/size/Brand) | NO | \$ 60.00 |
| 5.20 | Filter Drier (any type /size) | NO | \$ 50.00 |



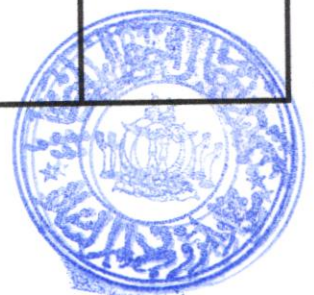
SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN)

| ITEM | DESCRIPTION | QTY | RATE |
|-------------|--|-------|-----------|
| 5.21 | Contactor (any type/size) | NO | \$ 60.00 |
| 5.22 | DP Switch | NO | \$ 20.00 |
| 5.23 | Plug Top (any type/size) | NO | \$ 8.00 |
| 5.24 | Cassette type drain pump (any type/size) | NO | \$ 180.00 |
| 5.25 | Socket for plug top (any type/size) | NO | \$ 20.00 |
| 5.26 | Step down transformer (any type/brand) | NO | \$ 80.00 |
| 5.27 | Remote control (any type/brand) | NO | \$ 80.00 |
| 5.28 | Refrigerant Gas as the following (RAC/Split unit) including leak repair and charging: | | |
| 5.28.1 | R22 | KG | \$ 10.00 |
| 5.28.2 | R407C | KG | \$ 15.00 |
| 5.28.3 | R410A | KG | \$ 20.00 |
| 5.29 | Flexible hose / conduit up to 25mm dia | Meter | \$ 2.00 |
| 5.30 | Remote to wire type including necessary parts | Meter | \$ 5.00 |
| 5.31 | Fan Blade for condensing unit (Any type / make) | | |
| 5.31.1 | 9,000 Btu/hr to 12,000 Btu/hr | No | \$ 80.00 |
| 5.31.2 | 18,000 Btu/hr to 24,000 Btu/hr | No | \$ 90.00 |
| 5.31.3 | 30,000 Btu/hr to 36,000 Btu/hr | No | \$ 100.00 |
| 5.31.4 | 36,001 Btu/hr to 60,000 Btu/hr | No | \$ 100.00 |
| 5.31.5 | 60,001 Btu/hr and above | No | \$ 100.00 |
| 5.32 | New Condenser fan motor for Split unit. (Any type /Make) | | |
| 5.32.1 | 9,000 Btu/hr to 12,000 Btu/hr | No | \$ 150.00 |
| 5.32.2 | 18,000 Btu/hr to 24,000 Btu/hr | No | \$ 180.00 |
| 5.32.3 | 30,000 Btu/hr to 36,000 Btu/hr | No | \$ 200.00 |
| 5.32.4 | 36,001 Btu/hr to 60,000 Btu/hr | No | \$ 220.00 |
| 5.32.5 | 60,001 Btu/hr and above | No | \$ 240.00 |
| 5.33 | New Fan motor RAC. Any make / type | | |
| 5.33.1 | 7,000 - 14,000 Btu/hr | No | \$ 150.00 |
| 5.33.2 | 14,001 - 16,000 Btu/hr | No | \$ 200.00 |
| 5.33.3 | 16,001 - 24,000 Btu/hr | No | \$ 250.00 |



SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN)

| ITEM | DESCRIPTION | QTY | RATE |
|---------------|--|-----|-----------|
| 5.34 | <u>New FCU fan motor for Split Unit. (Any Make / type / size)</u> | | |
| 5.34.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 150.00 |
| 5.34.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 180.00 |
| 5.34.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 200.00 |
| 5.34.4 | 36,001 Btu/hr to 60,000 Btu/hr | NO | \$ 220.00 |
| 5.34.5 | 60,001 Btu/hr and above | NO | \$ 240.00 |
| 5.35 | <u>FCU Fan scroll for Split Unit. (Any Make / type / size)</u> | | |
| 5.35.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 80.00 |
| 5.35.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 90.00 |
| 5.35.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 100.00 |
| 5.35.4 | 36,001 Btu/hr to 60,000 Btu/hr | NO | \$ 110.00 |
| 5.35.5 | 60,001 Btu/hr and above | NO | \$ 120.00 |
| 5.36 | <u>To rewind Condensing Unit Fan motor for split unit (any type / size / make/ capacity) c/w bearings</u> | | |
| 5.36.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 50.00 |
| 5.36.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 50.00 |
| 5.36.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 50.00 |
| 5.36.4 | 36,001 Btu/hr to 60,000 Btu/hr | NO | \$ 50.00 |
| 5.36.5 | 60,001 Btu/hr and above | NO | \$ 50.00 |
| 5.37 | <u>To rewind Fan Motor for RAC (any make / size / make / capacity) c/w bearings</u> | | |
| 5.37.1 | 7,000 - 14,000 Btu/hr | NO | \$ 30.00 |
| 5.37.2 | 14,001 - 16,000 Btu/hr | NO | \$ 30.00 |
| 5.37.3 | 16,001 - 24,000 Btu/hr | NO | \$ 30.00 |
| 5.38 | To fabricate, supply & install Drip tray for RAC | NO | \$ 50.00 |
| 5.39 | 15 Amps Switched socket outlet | NO | \$ 20.00 |
| 5.40 | Compressor terminal clip with wireless assembly | NO | \$ 3.00 |
| 5.41.1 | <u>MCCB as the following:</u> | | |
| 5.41.2 | 40 to 80 SP/TP | NO | \$ 100.00 |
| 5.41.3 | 80 to 150 SP/TP | NO | \$ 200.00 |
| 5.42 | <u>ELCB as the following :</u> | | |
| 5.42.1 | 40 to 80 SP/TP | NO | \$ 200.00 |
| 5.42.2 | 50 to 150 SP/TP | NO | \$ 300.00 |
| 5.43 | <u>Weatherproof isolator switch as the following:</u> | | |
| 5.43.1 | 20Amps DP/TP | NO | \$ 40.00 |
| 5.43.2 | 32 Amps DP/TP | NO | \$ 60.00 |



SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN)

| ITEM | DESCRIPTION | QTY | RATE |
|--------|---|-----------|-------------|
| 5.44 | <u>MCB as the following:</u> | | |
| 5.44.1 | 16 Amps SP/TP | NO | \$ 80.00 |
| 5.44.2 | 32-40Amps SP/TP | NO | \$ 100.00 |
| 5.45 | Relocate / reinstall existing Airconditioning Unit any type/size from one location to other location (any district) c/w all necessary materials / transportation / shipment / tools required in order to run back to normal working order as instructed by OIC/SO | NO | \$ 150.00 |
| 5.46 | <u>Blanking off an opening (complete with painting as approved by OIC) using:</u> | | |
| 5.46.1 | Plywood / cement board | Lot | \$ 10.00 |
| 5.46.2 | Plastering: brick : cement | Lot | \$ 60.00 |
| 5.47 | <u>To supply and terminate the following:</u> | | |
| 5.47.1 | 3C x 4mm2 in PVC surface casing / trunking / conduit for the nearest sub DB to unit isolator | Meter | \$ 10.00 |
| 5.47.2 | 5C x 4mm2 in PVC surface casing / trunking / conduit for the nearest sub DB to unit isolator | Meter | \$ 20.00 |
| 5.48 | PVC Trunking. Any Size | Meter | \$ 4.00 |
| 5.49 | Metal Trunking. Any Size | Meter | \$ 6.00 |
| 5.50 | Bearing for Fan Coil Motor. Any Size | NO | \$ 7.00 |
| 5.51 | Bearing for Condenser Motor. Any Size | NO | \$ 18.00 |
| 5.52 | Repair works and re-insulation of Ducting with 2" / 2lbs Fibre glass / PE & Aluminium Foil | Meter sq. | \$ 40.00 |
| 5.53 | Room thermostat - The Controller shall be electronically lockable and set point to be access only via a standard laptop / Notebook / Palmtop Computer | NO | \$ 150.00 |
| 5.54 | Thermistor sensors (Any type / Any size) | NO | \$ 350.00 |
| 5.55 | Compressor Motor Protection relay (Any type / make / size) | NO | \$ 450.00 |
| 5.56 | Refrigerant High Pressure Switch. (Any type or make) | NO | \$ 350.00 |
| 5.57 | Refrigerant Low Pressure Switch. (Any type or make) | NO | \$ 350.00 |
| 5.58 | Refrigerant Oil Pressure Switch. (Any type or make) | NO | \$ 250.00 |
| 5.59 | <u>Electronic Expansion Valve:</u> | | |
| 5.59.1 | up to 100TR | NO | \$ 1,000.00 |
| 5.59.2 | 101 to 150TR | NO | \$ 1,200.00 |



SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN)

| ITEM | DESCRIPTION | QTY | RATE |
|-------------|---|-------|-------------|
| 5.60 | <u>New Condenser Fan Motor for Package unit:</u> | | |
| 5.60.1 | 1-2 HP | NO | \$ 1,500.00 |
| 5.60.2 | 3-4 HP | NO | \$ 1,800.00 |
| 5.60.3 | 5-6 HP | NO | \$ 2,000.00 |
| 5.61 | Pressure Transducer. (Any type or make) | NO | \$ 550.00 |
| 5.62 | Transducer Sensor. (Any Type or make) | NO | \$ 550.00 |
| 5.63 | Solenoid Valve Coil. (Any type, size and make) | NO | \$ 250.00 |
| 5.64 | Liquid line solenoid valve c/w solenoid coil (24/110/240V/50Hz) size up to 1" | NO | \$ 450.00 |
| 5.65 | Bearings including resurfacing of shaft. Any type / size (Electric Motor / AHU blower / CT fan) | NO | \$ 350.00 |
| 5.66 | V-Belts. (Any size / any type) | NO | \$ 80.00 |
| 5.67 | 7 day (24hrs Programmable timer switch (electronic digital type) any type, brand or size | NO | \$ 200.00 |
| 5.68 | <u>Fuse (any type) as the following capacity:</u> | | |
| 5.68.1 | Up to 50Amps | NO | \$ 20.00 |
| 5.68.2 | Up to 100Amps | NO | \$ 30.00 |
| 5.69 | Microprocessor Display Board for Package Unit c/w reprogramming (any brand / type) | NO | \$ 3,500.00 |
| 5.70 | AHU blower Bearing (pillow, block, flange or any type other type / size) | NO | \$ 80.00 |
| 5.71 | VRF Unit, Thermistor Sensors used in Indoor or Outdoor Unit (Any type / make) | NO | \$ 350.00 |
| 5.72 | VRF Unit, Indoor Printed Circuit Board. (Any brand / type) | NO | \$ 450.00 |
| 5.73 | VRF Unit, Compressor / Fan Motor IPDU (Any brand / type / capacity) | NO | \$ 650.00 |
| 5.74 | VRV Unit : Noise Filter PCB (Any Brand / type) | NO | \$ 750.00 |
| 5.75 | VRV Unit : Communication cable (Any Brand / type) | Meter | \$ 45.00 |
| 5.76 | VRV Unit : Current Sensor PCB (Any Brand / type) | NO | \$ 1,000.00 |
| 5.77 | VRV Unit : Processor Sensor (Any Brand / type) | NO | \$ 1,000.00 |
| 5.78 | VRV Unit : Remote Sensor c/w Display board for FCU (Any Brand / type) | NO | \$ 1,000.00 |
| 5.79 | VRV Unit: Standard Compressor Current Sensor | NO | \$ 1,100.00 |
| 5.80 | VRV Unit : High & Low Pressure Sensor | NO | \$ 950.00 |
| 5.81 | VRV unit : PME / EEV valve (Any type / Size) | NO | \$ 1,300.00 |
| 5.82 | VRV unit : Main PCB c/w programming (Any Brand / Type) | NO | \$ 3,500.00 |
| 5.83 | VRV unit : Inverter Compressor PCB (Any Brand / Type) | NO | \$ 1,000.00 |
| 5.84 | VRV unit : Inverter Compressor (Any Capacity and Type) | NO | \$ 3,500.00 |
| 5.85 | VRV unit : Standard Compressor (any Capacity and Type) | NO | \$ 3,000.00 |
| 5.86 | <u>Refrigerant gas as the following: c/w leak test and charging on site for Package Unit and VRF</u> | | |
| 5.86.1 | Refrigerant R410A/Kg | KG | \$ 30.00 |
| 5.86.2 | Refrigerant R404/Kg | KG | \$ 30.00 |
| 5.86.3 | Refrigerant R407C/Kg | KG | \$ 30.00 |
| 5.86.4 | Refrigerant R134a/Kg | KG | \$ 25.00 |
| 5.86.5 | Dry Nitrogen | Mt.cu | \$ 120.00 |



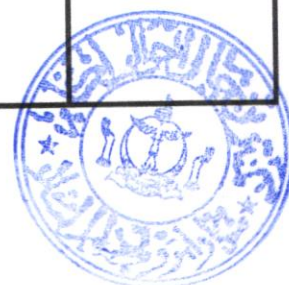
SUPPLY OF DEFECTIVE PARTS (DX PACKAGE TYPE/RAC/SPLIT UNIT / PAC /VRF/AIR CURTAIN)

| ITEM | DESCRIPTION | QTY | RATE |
|--------|---|--------|-------------|
| 5.87 | <u>Moisture & Liquid Indicator (Sight Glass) as the following:</u> | | |
| 5.87.1 | 3/8 " - 1/2 " | NO | \$ 80.00 |
| 5.87.2 | 5/8 " - 1 1/8 " | NO | \$ 110.00 |
| 5.88 | Replaceable Air Pre-Filters media washable type, Carbon filter for AHU | Mtr.Sq | \$ 120.00 |
| 5.89 | <u>Pre-insulated flexible duct</u> | | |
| 5.89.1 | 200 mm2 | meter | \$ 25.00 |
| 5.89.2 | 300 mm2 | meter | \$ 30.00 |
| 5.89.3 | 500 mm2 | meter | \$ 35.00 |
| 5.90 | Smoke Detector (dual Sensor) c/w control wiring | NO | \$ 120.00 |
| 5.91 | Compressor Oil (York, Suniso/Carrier/Trane) suitable for refrigerant systems | NO | \$ 35.00 |
| 5.92 | Repair works for duct insulation for concealed type split unit | Meter | \$ 60.00 |
| 5.93 | <u>Single PVC cable surface wiring in PVC / G.I metal conduit or with trunking:</u> | | |
| 5.93.1 | 1.5mm2 | Meter | \$ 5.00 |
| 5.93.2 | 2.5mm2 | Meter | \$ 8.00 |
| 5.93.3 | 4.0mm2 | Meter | \$ 10.00 |
| 5.94 | <u>To supply new axial fan motors c/w HyBlade Ass'y for condensing unit (Chiller unit):</u> | | |
| 5.94.1 | Below 1/2 HP | NO | \$ 1,550.00 |
| 5.94.2 | 1/2 - 1 HP | NO | \$ 2,600.00 |
| 5.94.3 | 2 - 3 HP | NO | \$ 3,600.00 |
| 5.95 | <u>To supply new axial fan motors c/w HyBlade Ass'y for condensing unit (VRV and Precision unit):</u> | | |
| 5.95.1 | Below 1/2 HP | NO | \$ 1,550.00 |
| 5.95.2 | 1/2 - 1 HP | NO | \$ 2,600.00 |
| 5.95.3 | 2 - 3 HP | NO | \$ 3,600.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|--------|--|-----|-------------|
| | BILL NO.6 | | |
| 6.0 | SUPPLY OF DEFECTIVE PARTS AND SERVICES (CHILLER) | | |
| | Note: | | |
| | 1. The above scope is to supply defective part(s), testing and commissioning, including nine (9) months of comprehensive warranty, including breakdown attendance | | |
| | 2) All make type/rating/size referred below shall be approved original manufacturer and genuine parts only | | |
| 6.1 | Refrigerant filter drier (Any type/size) | NO | \$ 30.00 |
| 6.2 | Refrigerant filter drier core (Any type/size) | NO | \$ 80.00 |
| 6.3 | <u>To rewind Condenser/Cooling Tower/Pump Motor/AHU motor Fan Motor bearing including resurfacing of motor shaft. (Any Type/size)</u> | | |
| 6.3.1 | Up to 15hp | NO | \$ 800.00 |
| 6.3.2 | 15.1hp - 30hp | NO | \$ 1,200.00 |
| 6.3.3 | 30.1hp - 50hp | NO | \$ 1,600.00 |
| 6.3.4 | 50.1hp - 60hp | NO | \$ 1,800.00 |
| 6.3.5 | 60.1hp and above | NO | \$ 2,000.00 |
| 6.4 | Fan blade up to 18" dia (Any type/size/brand) | NO | \$ 300.00 |
| 6.5 | Room Thermostat - The Controller shall be electronically lockable and set point to be access only via a standard laptop / Notebook / palmtop computer. | NO | \$ 150.00 |
| 6.6 | Thermistor sensors (Any type/size) | NO | \$ 350.00 |
| 6.7 | Compressor Motor Protection relay (Any type/make/size) | NO | \$ 450.00 |
| 6.8 | Refrigerant High Pressure Switch (Any type/make) | NO | \$ 350.00 |
| 6.9 | Refrigerant Low Pressure Switch (Any type/make) | NO | \$ 350.00 |
| 6.10 | Refrigerant Oil Pressure Switch. (Any type/make) | NO | \$ 250.00 |
| 6.11 | <u>Electronic Expansion Valve:</u> | | |
| 6.11.1 | up to 100 TR | NO | \$ 1,000.00 |
| 6.11.2 | 101 to 150 TR | NO | \$ 1,200.00 |
| 6.11.3 | 151 to 200 TR | NO | \$ 1,400.00 |
| 6.11.4 | 201 to 250 TR | NO | \$ 1,600.00 |
| 6.11.5 | 251 to 300 TR | NO | \$ 1,800.00 |
| 6.12 | Temperature Gauge complete with brass cock. (Any type / make) | NO | \$ 50.00 |
| 6.13 | Pressure Gauge 4" (weatherproof) | NO | \$ 50.00 |
| 6.14 | <u>Water Flow switch / sensor :</u> | | |
| 6.14.1 | Water Flow sensor switch | NO | \$ 600.00 |
| 6.14.2 | Water flow Sensor (Electronic type) | NO | \$ 800.00 |
| 6.14.3 | Water flow sensor (Transducer type) | NO | \$ 900.00 |



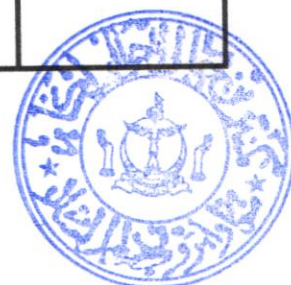
SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|-------------|--|-----|-------------|
| 6.15 | Oil Pump for chillers (Any type/size/make) | NO | \$ 400.00 |
| 6.16 | <u>New Condenser Fan Motor:</u> | | |
| 6.16.1 | 1 - 2HP | NO | \$ 1,500.00 |
| 6.16.2 | 3 - 4HP | NO | \$ 1,800.00 |
| 6.16.3 | 5 -6 HP | NO | \$ 2,000.00 |
| 6.17 | Pressure Taransducer (Any type / make) | NO | \$ 550.00 |
| 6.18 | Transducer Sensor (Any type / make) | NO | \$ 550.00 |
| 6.19 | Solenoid valve coil (Any type / size / make) | NO | \$ 250.00 |
| 6.20 | Liquid line solenoid valve c/w solenoid coil (24/110/240V/50Hz) size up to 1 " | NO | \$ 450.00 |
| 6.21 | <u>Oil filter Catridge for screw chiller</u> | | |
| 6.21.1 | Internal | NO | \$ 200.00 |
| 6.21.2 | External | NO | \$ 350.00 |
| 6.22 | Microprocessor Display Board c/w reprogramming (any brand / type) | NO | \$ 3,500.00 |
| 6.23 | Compressor communication PCB for screw/centrifugal/ reciprocating Chiller (Any type/brand/capacity) | NO | \$ 1,200.00 |
| 6.24 | Expansion Valve communictaion PCB (any type / brand) | NO | \$ 850.00 |
| 6.25 | Relay Board for chiller (any type / brand) | NO | \$ 750.00 |
| 6.26 | Chiller motherboard for chiller (any type / brand) | NO | \$ 2,800.00 |
| 6.27 | Bearings including resurfacing of shaft. Any type/ size (Electric Motor/AHU blower/CT fan) | NO | \$ 350.00 |
| 6.28 | <u>To rewind compressor Motors c/w resurfacing, any rpm & 1PH or 3PH 240/415V 50Hz with 6 months warranties</u> | | |
| 6.28.1 | up to 15HP | LOT | \$ 600.00 |
| 6.28.2 | 15.1HP - 25HP | LOT | \$ 900.00 |
| 6.28.3 | 25.1HP - 50HP | LOT | \$ 1,800.00 |
| 6.28.4 | 50.1HP - 60HP | LOT | \$ 2,500.00 |
| 6.28.5 | 60.1HP - 70HP | LOT | \$ 2,800.00 |
| 6.28.6 | 70.1HP and above | LOT | \$ 3,200.00 |
| 6.29 | <u>To identify and repair leak of chiller of any type with the following capacity and to run the system back to normal working order:</u> | | |
| 6.29.1 | 100-300 TR | LOT | \$ 300.00 |
| 6.29.2 | 301 - 500 TR | LOT | \$ 350.00 |
| 6.29.3 | 501 - 800 TR | LOT | \$ 400.00 |
| 6.30 | to overhaul any type / size water pump including replace bearing, mechanical seal and other necessary materials | LOT | \$ 950.00 |
| 6.31 | Pump Coupling (complete set). Any Size / any make or type | LOT | \$ 350.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|--------|--|-------|-------------|
| 6.32 | Re-Insulation of Existing Chilled water pump with approved insulation c/w 22G Aluminium sheet cladding & Painting | LOT | \$ 350.00 |
| 6.33 | Carry out painting of air conditioning equipment (Chilled water line and condenser water line) including water flow indication arrow | Meter | \$ 15.00 |
| 6.34 | <u>Soft starter from 5 kw to 55kw. (Any type/make)</u> | | |
| 6.34.1 | Up to 15kw | NO | \$ 1,500.00 |
| 6.34.2 | 16 to 30kw | NO | \$ 2,700.00 |
| 6.34.3 | 31kw to 55kw | NO | \$ 3,500.00 |
| 6.34.4 | 55kw & above | NO | \$ 4,250.00 |
| 6.35 | Over Load relay (Any type/make/size) | NO | \$ 200.00 |
| 6.36 | <u>Magnetic Contactor (any type)</u> | | |
| 6.36.1 | Up to 25amps | NO | \$ 250.00 |
| 6.36.2 | Up to 60amps | NO | \$ 400.00 |
| 6.36.3 | Up to 120amps | NO | \$ 750.00 |
| 6.36.4 | Up to 250amps | NO | \$ 1,000.00 |
| 6.37 | Auxilliary Contatctor / relay (Any type / make / size) | NO | \$ 30.00 |
| 6.38 | Control Relay (Any type / make /size) | NO | \$ 60.00 |
| 6.39 | MCCB 40 to 80 SP/TP | NO | \$ 150.00 |
| 6.40 | MCCB 80 to 150 SP/TP | NO | \$ 160.00 |
| 6.41 | ELCB 40 to 80 SP/TP | NO | \$ 220.00 |
| 6.42 | ELCB 80 to 150 SP/TP | NO | \$ 320.00 |
| 6.43 | MCB 10 - 40 Amps SP/TP | NO | \$ 100.00 |
| 6.44 | Pump Coupling Rubber inserts (Any Size/make/type) | NO | \$ 150.00 |
| 6.45 | Time delay relay | NO | \$ 80.00 |
| 6.46 | V-Belts (Any Size / type) | NO | \$ 80.00 |
| 6.47 | <u>Circuit breaker of the following capacity:</u> | | |
| 6.47.1 | Up to 300 amps | NO | \$ 1,750.00 |
| 6.47.2 | Up to 600 amps | NO | \$ 2,500.00 |
| 6.47.3 | Up to 800 amps | NO | \$ 3,500.00 |
| 6.47.4 | Up to 1000 amps | NO | \$ 4,250.00 |
| 6.48 | 7 day (24hrs) Programmable timer switch (electronic digital type) any type, brand or size | NO | \$ 375.00 |
| 6.49 | <u>Fuse (any type) as the following capacity:</u> | | |
| 6.49.1 | Up to 50Amps | NO | \$ 20.00 |
| 6.49.2 | Up to 100 Amps | NO | \$ 30.00 |
| 6.49.3 | Up to 150 Amps | NO | \$ 40.00 |
| 6.50 | Earth Fault Relay | NO | \$ 450.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|-------------|---|----------|-------------|
| 6.51 | Earth Leakage Relay | NO | \$ 350.00 |
| 6.52 | Phase Motor Protection Relay | NO | \$ 650.00 |
| 6.53 | CT Coil (Any Make/Brand) | NO | \$ 200.00 |
| 6.54 | Industrial type Exhaust Fan (Any type, size up to 18" or make) | NO | \$ 1,100.00 |
| 6.55 | Exhaust Fan (Wall/glass mounted) (Any type / size up to 12") | NO | \$ 110.00 |
| 6.56 | Air Pre-Filter disposable and non-disposable type). Any type or size up to 600 x 600 mm | NO | \$ 40.00 |
| 6.57 | Automatic Air Vent 1/2 ' Dia | NO | \$ 110.00 |
| 6.58 | Automatic Air Vent 1" dia | NO | \$ 120.00 |
| 6.59 | AHU Smoke detector | NO | \$ 110.00 |
| 6.60 | <u>VSD (Variable Speed driver) Any type or make</u> | | |
| 6.60.1 | UP to 15kw | NO | \$ 2,500.00 |
| 6.60.2 | 16 to 30kw | NO | \$ 4,000.00 |
| 6.60.3 | 31 to 50kw | NO | \$ 5,750.00 |
| 6.61 | OIL Heater (any type or size) | NO | \$ 200.00 |
| 6.62 | Re-insulation of Ducting with 2" / 2lbs Fibre glass / PE & Aluminium foil | Meter sq | \$ 150.00 |
| 6.63 | Re-insulation of Chilled water pipe with approved pipe insulation c/w 22G G.1 Sheet Cladding & Painting | Meters | \$ 30.00 |
| 6.64 | Float Valve For Expansion / make up Tank c/w float Assembly. Any type or size up to 1" dia | NO | \$ 150.00 |
| 6.65 | To service glass / wall mounted exhaust fan (any type or size) | NO | \$ 5.00 |
| 6.66 | Re-insulate of Chiller barrel using approved type and 1 inch thickness of insulation close | meter sq | \$ 50.00 |
| 6.67 | Compressor oil (York, suniso/Carrier/Trane/Dunham Bush) Suitable refrigerant system | Litre | \$ 35.00 |
| 6.68 | Chiller Anti Recycle Timer any other brand | NO | \$ 350.00 |
| 6.69 | Chiller Water Temperature Sensor any other brand | NO | \$ 350.00 |
| 6.70 | <u>Supply of electric motor</u> | | |
| 6.70.1 | 5 -10 hp | NO | \$ 1,000.00 |
| 6.70.2 | 10.1 - 20 hp | NO | \$ 1,200.00 |
| 6.70.3 | 20.1 - 40 hp | NO | \$ 1,500.00 |
| 6.70.4 | 40.1 - 60 hp | NO | \$ 2,000.00 |
| 6.70.5 | 60.1 - 80 hp | NO | \$ 3,000.00 |
| 6.71 | <u>Coil Voltage any size/make/ type</u> | | |
| 6.71.1 | 15 - 35 Amps | NO | \$ 40.00 |
| 6.71.2 | 36 - 55 Amps | NO | \$ 50.00 |
| 6.71.3 | 56 - 75 Amps | NO | \$ 60.00 |
| 6.71.4 | 76 - 95 Amps | NO | \$ 70.00 |
| 6.71.5 | 96 - 115 Amps | NO | \$ 80.00 |
| 6.71.6 | 116 - 135 Amps | NO | \$ 90.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|-------------|--|--------|-------------|
| 6.72 | <u>Approved type of control Damper (opposed blade type)</u> | | |
| 6.72.1 | 450 x 300 | NO | \$ 50.00 |
| 6.72.2 | 600 x 400 | NO | \$ 70.00 |
| 6.72.3 | 600 x 450 | NO | \$ 80.00 |
| 6.72.4 | 900 x 500 | NO | \$ 90.00 |
| 6.73 | <u>Gasket (any type or size):</u> | | |
| 6.73.1 | Barrel | NO | \$ 100.00 |
| 6.73.2 | Pump | NO | \$ 60.00 |
| 6.73.3 | Compressor | NO | \$ 80.00 |
| 6.74 | <u>Refrigerant gas as the following: c/w charging on site</u> | | |
| 6.74.1 | R410A / kg | KG | \$ 30.00 |
| 6.74.2 | R404 / kg | KG | \$ 30.00 |
| 6.74.3 | R407C / Kg | KG | \$ 30.00 |
| 6.74.4 | R22 / Kg | KG | \$ 20.00 |
| 6.74.5 | R134a / Kg | KG | \$ 25.00 |
| 6.74.6 | Dry Nitrogen | Mtr Cu | \$ 120.00 |
| 6.75 | <u>Moisture & Liquid Indicator (Sight Glass) as the following:</u> | | |
| 6.75.1 | 3/8 " - 1/2" | NO | \$ 80.00 |
| 6.75.2 | 5/8" - 1 1/8" | NO | \$ 110.00 |
| 6.76 | AHU Blower Bearing (pillow, block, flange or any other type / size) | NO | \$ 80.00 |
| 6.77 | To fabricate, supply & install Ducting c/w 2" / 2lbs. Fibre glass & aluminium foil | Mtr sq | \$ 50.00 |
| 6.78 | To fabricate, supply & install Ducting (bare) | Mtr sq | \$ 30.00 |
| 6.79 | Re-insulation of AHU panel with 1" thick Aeroflex or superlon | Mtr sq | \$ 60.00 |
| 6.80 | Re-insulation of AHU panel with 2" thick Aeroflex or superlon | Mtr sq | \$ 80.00 |
| 6.81 | Re-insulation of suction line and drain line with aeroflex / superlon c/w self adhesive | Meter | \$ 10.00 |
| 6.82 | To provide the mobile excavator, welding, trenches, backfill and marker to execute the work back to until finish or back to its original state as instructed by OIC / SO | Lot | \$ 3,000.00 |
| 6.83 | <u>Underground chilled water pipe factory insulated scehdule 40 seamless Black steel pipe BS1387 Class C including insulated Rigid polyurethane, density - 45kg/m3 CFC free, thermal conductivity - 0.017kcal/m-HoC, compressive strength - 5kg/cm3 including all necessary site preparation, excavator, safety and will taken care of existing underground facilities.</u> | | |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|--------|--|-------|-------------|
| 6.83.1 | Pipe size below 3" dia. With 32mm insulation thickness | Meter | \$ 350.00 |
| 6.83.2 | Pipe size 3 - 5" dia. With 32mm insulation thickness | Meter | \$ 380.00 |
| 6.83.3 | Pipe size 6 - 8" dia. With 40mm insulation thickness | Meter | \$ 420.00 |
| 6.83.4 | Pipe size 9 - 12" dia. With 50mm insulation thickness | Meter | \$ 650.00 |
| 6.84 | Concrete Service valve chamber c/w stainless steel cover and handle | LOT | \$ 1,000.00 |
| 6.85 | <u>Above ground chilled water pipe with pre-insulated black steel BS 1387 Class C heavy grade seemed pipe as the following:</u> | | |
| 6.85.1 | Pipe size below 3" dia. | Meter | \$ 200.00 |
| 6.85.2 | Pipe size 3 - 5" dia. | Meter | \$ 220.00 |
| 6.85.3 | Pipe size 6 - 8" dia. | Meter | \$ 250.00 |
| 6.85.4 | Pipe size 9 - 12" dia. | Meter | \$ 280.00 |
| 6.85.5 | Pipe size below 3" dia (with approved insulation for indoor use, 1 1/2" - 2" thick with vapour barrier). Aeroflex / Superlon / m2 | Meter | \$ 300.00 |
| 6.86 | <u>Re-Insulation / New insulation of above ground chilled water pipe Pre-insulated Black steel BS1387 Class C heavy grade seemed pipe with outer jacket of 0.6mm thick spiral locked galvanized sheet. Density - 45kg/m³ CFC free. Thermal Conductivity - 0.017kcal/mh°C, Compressive strength - 2.0kg/m³</u> | | |
| 6.86.1 | Pipe size below 3" dia with 40mm insulation thickness | Meter | \$ 100.00 |
| 6.86.2 | Pipe size 4" and larger dia with 50mm insulation thickness | Meter | \$ 150.00 |
| 6.87 | <u>Double Regulating / Balancing Valve c/w G.I jacketing and PU insulation:</u> | | |
| 6.87.1 | Pipe size below 3" dia. | No | \$ 3,500.00 |
| 6.87.2 | Pipe Size 3 - 5" dia. | No | \$ 4,750.00 |
| 6.87.3 | Pipe size 6 - 8" dia. | No | \$ 5,750.00 |
| 6.87.4 | Pipe size 9 - 12" dia. And above | No | \$ 6,750.00 |
| 6.88 | <u>3 way motorized valve c/w valve actuator, G.I Jaceting and PU & Insulation:</u> | | |
| 6.88.1 | Pipe size below 3" dia. | LOT | \$ 3,500.00 |
| 6.88.2 | Pipe Size 3 - 5" dia. | LOT | \$ 4,750.00 |
| 6.88.3 | Pipe size 6 - 8" dia. | LOT | \$ 5,750.00 |
| 6.88.4 | Pipe size 9 - 12" dia. And above | LOT | \$ 6,750.00 |
| 6.89 | <u>2 way motorized valve c/w valve actuator, G.I Jaceting and PU & Insulation:</u> | | |
| 6.89.1 | Pipe size below 3" dia. | LOT | \$ 1,200.00 |
| 6.89.2 | Pipe Size 3 - 5" dia. | LOT | \$ 4,750.00 |
| 6.89.3 | Pipe size 6 - 8" dia. | LOT | \$ 5,750.00 |
| 6.89.4 | Pipe size 9" dia. And above | LOT | \$ 6,750.00 |
| 6.90 | <u>Butterfly/ gate/ ball valve c/w valve actuator, G.I Jacketing and PU & Insulation:</u> | | |
| 6.90.1 | Pipe size below 3" dia. | LOT | \$ 250.00 |
| 6.90.2 | Pipe Size 3 - 5" dia. | LOT | \$ 350.00 |
| 6.90.3 | Pipe size 6 - 8" dia. | LOT | \$ 450.00 |
| 6.90.4 | Pipe size 9" dia. And above | LOT | \$ 600.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|--------------|---|-----|-------------|
| 6.91 | <u>Stainless steel Expansion Joint c/w valve actuator, G.I Jacketing and PU & Insulation:</u> | | |
| 6.91.1 | Pipe size below 3" dia. | LOT | \$ 350.00 |
| 6.91.2 | Pipe Size 3 - 5" dia. | LOT | \$ 800.00 |
| 6.91.3 | Pipe size 6 - 8" dia. | LOT | \$ 3,000.00 |
| 6.91.4 | Pipe size 9" dia. And above | LOT | \$ 4,000.00 |
| 6.92 | <u>Flexible Joint c/w valve actuator, G.I Jacketing and PU & Insulation:</u> | | |
| 6.92.1 | Pipe size below 3" dia. | LOT | \$ 150.00 |
| 6.92.2 | Pipe Size 3 - 5" dia. | LOT | \$ 250.00 |
| 6.92.3 | Pipe size 6 - 8" dia. | LOT | \$ 450.00 |
| 6.92.4 | Pipe size 9" dia. And above | LOT | \$ 600.00 |
| 6.93 | <u>Above Condenser Water Pipes with Galvanised Steel to ASTM Schedule 40 Galvanised Pipe inclusive elbow, tees, reducer and other standard fitting as total linear length</u> | | |
| 6.93.1 | Pipe size below 3" dia. | LOT | \$ 50.00 |
| 6.93.2 | Pipe Size 3 - 5" dia. | LOT | \$ 80.00 |
| 6.93.3 | Pipe size 6 - 8" dia. | LOT | \$ 180.00 |
| 6.93.4 | Pipe size 9" dia. And above | LOT | \$ 500.00 |
| 6.94 | Re-insulation of Chilled water pipe c/w pre-formed polystyrene foam pipes with steel wire mesh and hard setting cement for pipe size greater than 3" / m2 | LOT | \$ 150.00 |
| 6.95 | <u>Chilled water Expansion Tank, Material: Stainless steel c/w Connection pipes and all necessary fittings, supporting brackets, armaxflex insulation, jacketing / PU Insulation and other materials to make good.</u> | | |
| 6.95.1 | With capacity 1.0 m ³ | NO | \$ 1,500.00 |
| 6.95.2 | With capacity 2.0 m ³ | NO | \$ 2,000.00 |
| 6.96 | Lockout or pilot relay (any type, size or brand) Volt AC or DC (0 to 240 volts) | NO | \$ 120.00 |
| 6.97 | Indicator LED light (any colour / type / size) for control panel | NO | \$ 8.00 |
| 6.98 | FCU digital controller switch including fan and temperature controller | LOT | \$ 150.00 |
| 6.99 | Hand valves for Refrigerant line sizes less than 2" / m2 | NO | \$ 200.00 |
| 6.100 | <u>PVC Condensate drains pipe c/w fittings (bends, elbows, traps, tees etc.)</u> | | |
| 6.100.1 | Pipe size below 1 1/2 " dia | LOT | \$ 20.00 |
| 6.100.2 | Pipe Size 1 5/8" - 2" dia | LOT | \$ 30.00 |
| 6.100.3 | Pipe size 2 1/4" - 4" dia | LOT | \$ 40.00 |
| 6.101 | G.I drain pipe c/w fittings (bends, elbows, traps, tees, welding & brazing etc... 1/2" - 3") | LOT | \$ 30.00 |
| 6.102 | <u>Delay timer switch (any type or size)</u> | | |
| 6.102.1 | 0 sec - 10 min, volt: AC or DC (0 to 240 volts) | NO | \$ 90.00 |
| 6.102.2 | 10.1 mins - 30mis, volt: AC or DC (0 to 240 volts) | NO | \$ 90.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|---------|--|----------|-------------|
| 6.103 | Remove defective damage Duct / AHU / Chiller / Pump or chilled waterline insulation and clean site | meter.sq | \$ 15.00 |
| 6.104 | Compressor unloader solenoid coil 120/240 VAC 50hz Carrier or equivalent | No | \$ 250.00 |
| 6.105 | Refrigerant Suction line filter drier as the following: | | |
| 6.105.1 | 1/2" - 5/8" ODF | No | \$ 90.00 |
| 6.105.2 | 3/4" - 7/8" ODF | No | \$ 110.00 |
| 6.105.3 | 1/8" - 5/8" ODF | No | \$ 150.00 |
| 6.106 | Cooling tower sprinkler head | No | \$ 1,500.00 |
| 6.107 | Cooling tower infill (face area per sq. mtr) | mtr. Sq | \$ 2,500.00 |
| 6.108 | Cooling tower belting for fan motor | No | \$ 140.00 |
| 6.109 | Repair Cooling tower Basin leaks with fiber glass and resin (whole) per leakage | LOT | \$ 150.00 |
| 6.110 | Brass float valve c/w float assembly up to 2" dia | LOT | \$ 200.00 |
| 6.111 | Gate valve: | | |
| 6.111.1 | 3" dia | No | \$ 250.00 |
| 6.111.2 | 4" dia | No | \$ 300.00 |
| 6.111.3 | 5" dia | No | \$ 400.00 |
| 6.111.4 | 8" dia | No | \$ 500.00 |
| 6.111.5 | 10" dia | No | \$ 600.00 |
| 6.111.6 | 12" dia | No | \$ 700.00 |
| 6.111.7 | 14" dia | No | \$ 1,000.00 |
| 6.112 | Strainer Whole assembly | | |
| 6.112.1 | Strainer 1/2" | No | \$ 100.00 |
| 6.112.2 | Strainer 5/8" | No | \$ 150.00 |
| 6.112.3 | Strainer 2" | No | \$ 200.00 |
| 6.112.4 | Strainer 3" | No | \$ 300.00 |
| 6.112.5 | Strainer 4" | No | \$ 400.00 |
| 6.112.6 | Strainer above 4" | No | \$ 700.00 |
| 6.113 | Single PVC cable surface wiring in GI Metal conduit with trunking breaking rate 600VAC 50Hz as the following: | | |
| 6.113.1 | 1.5 mm2 | Meter | \$ 5.00 |
| 6.113.2 | 2.5 mm2 | Meter | \$ 8.00 |
| 6.113.3 | 4 mm2 | Meter | \$ 10.00 |
| 6.113.4 | 6 mm2 | Meter | \$ 12.00 |
| 6.113.5 | 10 mm2 | Meter | \$ 14.00 |
| 6.113.6 | 16 mm2 | Meter | \$ 16.00 |
| 6.113.7 | 25 mm2 | Meter | \$ 18.00 |
| 6.113.8 | 35 mm2 | Meter | \$ 20.00 |
| 6.113.9 | 50 mm2 | Meter | \$ 22.00 |
| 6.114 | Replaceable Air Pre-Filters media washable type, Carbon Filter & Insert Screen | Mtr. Sq | \$ 150.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|----------|--|-------|-------------|
| 6.115 | <u>Replaceable Air Pre-Filters, / Bag litter disposable, adhesive coated fiber glass with resistance not less than 80%</u> | | |
| 6.115.1 | 24" x 24" x 2" | No | \$ 60.00 |
| 6.115.2 | 12" x 24" x 2" | No | \$ 50.00 |
| 6.116 | <u>4 core Armoured cable PVC/SWA/PVC, XPLE wiring on heavy gauge epoxy coated G.I metal trunking c/w aluminium, saddles, steel brackets, gland, cable lug, shrinking insulation, etc.... Rating: 1000VAC, 3ph, 50Hz</u> | | |
| 6.116.1 | 1.5 mm2 | Meter | \$ 98.00 |
| 6.116.2 | 2.5 mm2 | Meter | \$ 100.00 |
| 6.116.3 | 4 mm2 | Meter | \$ 110.00 |
| 6.116.4 | 6 mm2 | Meter | \$ 140.00 |
| 6.116.5 | 10 mm2 | Meter | \$ 150.00 |
| 6.116.6 | 16 mm2 | Meter | \$ 160.00 |
| 6.116.7 | 25 mm2 | Meter | \$ 170.00 |
| 6.116.8 | 35 mm2 | Meter | \$ 180.00 |
| 6.116.9 | 50 mm2 | Meter | \$ 190.00 |
| 6.116.10 | 70 mm2 | Meter | \$ 200.00 |
| 6.116.11 | 95 mm2 | Meter | \$ 220.00 |
| 6.116.12 | 120 mm2 | Meter | \$ 230.00 |
| 6.116.13 | 150 mm2 | Meter | \$ 240.00 |
| 6.116.14 | 185 mm2 | Meter | \$ 250.00 |
| 6.116.15 | 240 mm2 | Meter | \$ 280.00 |
| 6.117 | Full set of communication control cabling for chiller | Lot | \$ 800.00 |
| 6.118 | To supply and replace impeller for pump up to 400 mm dia | No | \$ 1,500.00 |
| 6.119 | FRP 2000 mm dia cooling tower fan blade with hub, static and dynamic balanced and factory assembled by original manufacture | No | \$ 3,000.00 |
| 6.120 | Cooling tower FRP lower (4pcs / set) fan stack | set | \$ 1,500.00 |
| 6.121 | Cooling tower FRP upper (4pcs / set) fan stack | set | \$ 1,200.00 |
| 6.122 | Cooling toer FRP hot water cooling tower basin | nos | \$ 300.00 |
| 6.123 | VRF Unit, Thermistor Sensors used in Indoor or Outdoor Unit (Any type / make) | No | \$ 350.00 |
| 6.124 | VRF Unit, Indoor Printed Circuit Board (Any brand / type) | No | \$ 450.00 |
| 6.125 | VRF Unit, Compressor / Fan Motor IPDU (Any Brand / type / capacity) | No | \$ 650.00 |
| 6.126 | VRF Unit, Outdoor Printed Circuit Board (Any Brand / type) | No | \$ 4,500.00 |
| 6.127 | Supply and re-programming of any water / air cooled chillers PC board and all necessary equipment by chiller's specialist using autorised/ licensed chiller software c/w print out report in order to make the chillers run to normal working order. | Lot | \$ 2,500.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|---------|--|----------|-------------|
| 6.128 | To supply and replace a complete set of PLC controller in Air-Conditioning Main Switch Board / Chillers complete with contactors (any no. of points) including reprogramming the sequencing operation of all the equipment | Lot | \$ 1,000.00 |
| 6.129 | <u>Supply and install of GRP expansion water tank including lay new G.I Pipes inlet and outlet pipes c/w connection pipes with all necessary fittings, bolts and nuts, supporting brackets, armaflex insulation, jacketing / PU insulation and other materials to make</u> | | |
| 6.129.1 | With capacity 1.0 m ³ | Lot | \$ 1,200.00 |
| 6.129.2 | With capacity 2.0 m ³ | Lot | \$ 1,500.00 |
| 6.129.3 | With capacity 3.0 m ³ | Lot | \$ 2,500.00 |
| 6.130 | <u>To Supply and install extruded aluminium (egg crate) return Air grills c/w all accessories and fitting including opening / hacking the cement/gypsum/steel board ceiling for the installation/replacement of the grills at associated area.</u> | | |
| 6.130.1 | Size : 600mm x 600mm | No | \$ 100.00 |
| 6.130.2 | Size : 300mm x 600mm | No | \$ 80.00 |
| 6.130.3 | Size : 300mm x 300mm | No | \$ 70.00 |
| 6.131 | <u>To supply and install extruded aluminium 4-way supply Air Diffusers c/w aluminium opposed blade volume control damper and all cement/gypsum/steel board ceiling for the installation/replacement of the grills at associated area.</u> | | |
| 6.131.1 | Size :600mm x 600mm (NS to suit capacity) | No | \$ 150.00 |
| 6.131.2 | Size: 300mm x 300mm (NS to suit capacity) | No | \$ 120.00 |
| 6.132 | <u>Pre-insulated flexible duct</u> | | |
| 6.132.1 | 200 mm ² | meter | \$ 25.00 |
| 6.132.2 | 300 mm ² | meter | \$ 30.00 |
| 6.132.3 | 500 mm ² | meter | \$ 35.00 |
| 6.133 | <u>VAV unit - shall be of pressure independent type of VAV Box c/w external insulation, bracket, supports and all necessary accessories. The VAV box should be able to modulate the air supply between 20% - 120% of the air capacity indicated below.</u> | | |
| 6.133.1 | 100 - 300 L/s | No | \$ 500.00 |
| 6.133.2 | 301 - 500 L/s | No | \$ 550.00 |
| 6.133.3 | 501 - 700 L/s | No | \$ 600.00 |
| 6.133.4 | 701 - 900 L/s | No | \$ 650.00 |
| 6.133.5 | 901 - 1200 L/s | No | \$ 700.00 |
| 6.133.6 | 1201 L/s and above | No | \$ 900.00 |
| 6.134 | To Provide acoustic treatment for AHU wall with 50mm thick / 80kg/m ³ density rigid rockwool c/w treated timber framing/support and perforated G.I sheet (24g) with 5mm diameter holes evenly distributed on 20% of the panel c/w labour and all necessary tools, scaffolding, dismantling and install back all the electrical cabling, lighting fitting, switches, sockets, fire alarm system, AHU control panel, trunking or conduits and all necessary appliances or instruments inside the AHU rooms. | Mtr. Sq. | \$ 70.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|---------|--|----------|-------------|
| 6.135 | Approved type of Fire Damper (Wall Mounted type) c/w fusible links and damper access panel in duct c/w all necessary support, bracket, fitting & accessories. (any type / any size) | No | \$ 300.00 |
| 6.136 | Approved type of Acoustic lining 25mm thick (Density 100kg/m ³), absorption coefficient at 100Hz frequency 0.92 or higher | Mtr. Sq. | \$ 30.00 |
| 6.137 | Approved type of flexible canvas of flame retardant fabric for AHU/Exhaust fan at intake/discharge side/outlet connection | Mtr. Sq. | \$ 50.00 |
| 6.138 | <u>To supply and replace of control PCB for wall / ceiling / cassette and ducted chilled water fan coil unit:-</u> | | |
| 6.138.1 | 9,000 Btu/hr to 12,000 Btu/hr | No | \$ 150.00 |
| 6.138.2 | 18,000 Btu/hr to 24,000 Btu/hr | No | \$ 200.00 |
| 6.138.3 | 30,000 Btu/hr to 36,000 Btu/hr | No | \$ 250.00 |
| 6.138.4 | 36,001 Btu/hr to 60,000 Btu/hr | No | \$ 300.00 |
| 6.138.5 | 60,001 Btu/hr and above | No | \$ 350.00 |
| 6.139 | <u>To supply and replace with OEM Communication PC board for scroll compressor for Air Cooled Chiller (Model No : Danfoss, SH300A4ACB, 380-400V, 3ph, 50hz, IRA 260 A) complete with compressor heater, communication PC Board including Blanket</u> | | |
| 6.139.1 | 10hp - 20hp | No | \$ 800.00 |
| 6.139.2 | 21hp - 30hp | No | \$ 1,000.00 |
| 6.139.3 | 31hp - 40hp | No | \$ 1,200.00 |
| 6.140 | <u>To supply and replace with OEM Contactor for scroll compressor for Air Cooled Chiller (Model No : Danfoss, SH300A4ACB, 380-400V, 3ph, 50hz, IRA 260 A) complete with compressor heater, communication PC Board including Blanket insulation</u> | | |
| 6.140.1 | 10hp - 20hp | No | \$ 150.00 |
| 6.140.2 | 21hp - 30hp | No | \$ 200.00 |
| 6.140.3 | 31hp - 40hp | No | \$ 250.00 |
| 6.141 | To supply and replace the support bracket inside cooling (Brace H.D.G steel) c/w | No | \$ 140.00 |
| 6.142 | 2" gate valve for drain basin of cooling towers | No | \$ 75.00 |
| 6.143 | Amp meter 0 - 120A | No | \$ 120.00 |
| 6.144 | Voltmeter 0 - 500V | No | \$ 120.00 |
| 6.145 | Smoke Detector (Dual Sensor) c/w control wiring | No | \$ 120.00 |
| 6.146 | <u>BAS FIELD DEVICES</u> | | |
| 6.146.1 | Current Transducer (3 Phase) | No | \$ 200.00 |
| 6.146.2 | Voltage Transducer (3 Phase) | No | \$ 200.00 |
| 6.146.3 | Outdoor Air Temperature Outdoor Sensor | No | \$ 200.00 |
| 6.146.4 | Outdoor Air Humidity Sensor | No | \$ 350.00 |
| 6.146.5 | Kilowatt-Hour metering transducer | No | \$ 350.00 |
| 6.146.6 | BTU meter c/w display (LCD) showing total btu, Demand BTU, Flow rate and inlet/outlet temperature | Lot | \$ 2,200.00 |
| 6.146.7 | Water level switch | No | \$ 150.00 |
| 6.146.8 | Filter dirty sensor | No | \$ 150.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|----------|--|-----|-------------|
| 6.146.9 | Supply/return Air Temperature Sensor | No | \$ 200.00 |
| 6.146.10 | CHW Supply / return temperature Sensor | No | \$ 200.00 |
| 6.146.11 | Limit switch for fire Damper | No | \$ 150.00 |
| 6.146.12 | Discharge Temperatur Sensor | No | \$ 350.00 |
| 6.146.13 | Duct Pressure Sensor | No | \$ 350.00 |
| 6.146.14 | Off coil Air Temperature Sensor | No | \$ 150.00 |
| 6.146.15 | Heater Current Valve | No | \$ 300.00 |
| 6.146.16 | High Temperature Switch | No | \$ 250.00 |
| 6.146.17 | Air Flow Sensor / Switch | No | \$ 250.00 |
| 6.146.18 | Return Air Humidity Sensor | No | \$ 350.00 |
| 6.146.19 | Room Humidity Sensor | No | \$ 200.00 |
| 6.146.20 | Room Temperature Sensor | No | \$ 300.00 |
| 6.146.21 | Motorized Duct Damper Actuator | No | \$ 450.00 |
| 6.147 | Standalone DDC Controller c/w re-programmable, real time clock with battery back-up microprocessor. No I/O points to peer communication. | No | \$ 2,200.00 |
| 6.148 | <u>TAC Xenta programmable Controller c/w re-programmable - I/O module controller for I/O extension:</u> | | |
| 6.148.1 | 8 -10 physical input / output point | No | \$ 750.00 |
| 6.148.2 | 8 -16 physical input / output point | No | \$ 850.00 |
| 6.148.3 | 8 -20 physical input / output point | No | \$ 950.00 |
| 6.149 | VSD modulator sensor | No | \$ 350.00 |
| 6.150 | Filter pressure differential swtch / alarm / tansverse probe | No | \$ 180.00 |
| 6.151 | Electro magnetic water flow meter c/w remote mounting signal converter | No | \$ 2,000.00 |
| 6.152 | Evaporator Coil for Prcision Air Conditioning (Any Brand / type / capacity) | No | \$ 4,000.00 |
| 6.153 | Door Beading rubber insulation (air tight) for AHU door panel. (Any Brand / type) | No | \$ 50.00 |
| 6.154 | Door Handle / lever for AHU door panel. (Any Brand / type) | No | \$ 45.00 |
| 6.155 | <u>To supply and install complete set end suction pump c/w motor (any make)</u> | | |
| 6.155.1 | 1 - 5 HP | No | \$ 1,200.00 |
| 6.155.2 | 5.1 -10 HP | No | \$ 2,500.00 |
| 6.155.3 | 10.1 - 20 HP | No | \$ 4,500.00 |
| 6.155.4 | 20.1 - 40 HP | No | \$ 5,500.00 |
| 6.155.5 | 40.1 - 60 HP | No | \$ 7,500.00 |
| 6.155.6 | 60.1 - 80 HP | No | \$ 8,500.00 |



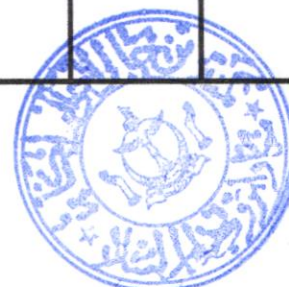
SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|---------|---|-----|--------------|
| 6.156 | <u>To supply and install complete set vertical c/w motor (any make)</u> | | |
| 6.156.1 | 1 - 5 HP | No | \$ 1,500.00 |
| 6.156.2 | 5.1 -10 HP | No | \$ 2,800.00 |
| 6.156.3 | 10.1 - 20 HP | No | \$ 5,500.00 |
| 6.156.4 | 20.1 - 40 HP | No | \$ 6,500.00 |
| 6.156.5 | 40.1 - 60 HP | No | \$ 9,500.00 |
| 6.156.6 | 60.1 - 80 HP | No | \$ 11,000.00 |
| 6.157 | Room Thermostat - The controller shall be electronically lockable and set point to be access only via a standard laptop / Notebook / palmtop computer | No | \$ 150.00 |
| 6.158 | To supply and install a Micro Plate Heat Exchanger (Model: C62 - E - 94) for carrier chiller (Model: 30xA0752) c/w flushing, draining, welding / brazing to make it works to normal working order | No | \$ 17,000.00 |
| 6.159 | Conductivity Controller | No | \$ 1,200.00 |
| 6.160 | TDS Sensor | No | \$ 350.00 |
| 6.161 | Dosing pump minimum 5 bars | No | \$ 450.00 |
| 6.162 | Eco Green alkaline base corrosion habitor | No | \$ 20.00 |
| 6.163 | Eco Green bio side chemicals | No | \$ 20.00 |
| 6.164 | Eco Green bio back up side chemicals | No | \$ 20.00 |
| 6.165 | Eco Green cleaning chemicals | No | \$ 30.00 |
| 6.166 | By pass solenoid valve suitable for water for blow off c/w Tower | No | \$ 350.00 |
| 6.167 | Descale chiller condenser barrel using machine / proper tools and gasket set (manual roding not allowed) monitoring submit daily delta temperature reading | No | \$ 1,800.00 |
| 6.168 | Digital direct controller with programme on site | No | \$ 2,500.00 |
| 6.169 | To Supply and replace capacitor bank for chiller main switchboard maximum 15k | No | \$ 350.00 |
| 6.170 | Overhaul chilled / cond vertical pumps c/w seal kit, o ring, gasket set etc | No | \$ 450.00 |
| 6.171 | To repair gas leak or compressor oil, pump down gas if required, rectify the leakage, top up gas and oil to right quanttity and run the chiller on site, monitor the operation on daily basis | No | \$ 2,500.00 |
| 6.172 | To supply and replace frequency inverter connection of wiring, test and run the unit back to normal working order | No | \$ 2,800.00 |
| 6.173 | <u>Non return Valve (NRV)</u> | | |
| 6.173.1 | PVC Pipe Size : 3" dia | No | \$ 450.00 |
| 6.173.2 | PVC Pipe Size : above 3" dia up to 6" dia | No | \$ 750.00 |
| 6.173.3 | PVC Pipe Size: 8" to 10" dia | No | \$ 950.00 |
| 6.173.4 | PVC Pipe Size : above 10" dia | No | \$ 1,200.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|--------------|---|-------|--------------|
| 6.174 | AHU Blower pulley (Any type / size) | No | \$ 380.00 |
| 6.175 | AHU Motor Pulley (Any type /size) | No | \$ 380.00 |
| 6.176 | <u>AHU : Forward curved double inlet centrifugal fan (Blower) assy</u> | | |
| 6.176.1 | 5 TR to 10 TR | No | \$ 1,200.00 |
| 6.176.2 | 11 TR to 25 TR | No | \$ 2,800.00 |
| 6.176.3 | 26 TR to 40 TR | No | \$ 4,200.00 |
| 6.176.4 | 41 TR to 60 TR | No | \$ 8,600.00 |
| 6.176.5 | Above 61 TR | No | \$ 12,000.00 |
| 6.177 | Cooling Thermostat (for AHU & FCU) | No | \$ 480.00 |
| 6.178 | <u>AHU Duct Heater (any Brand)</u> | | |
| 6.178.1 | 600 watts | No | \$ 800.00 |
| 6.178.2 | 900 watts | No | \$ 800.00 |
| 6.178.3 | 1000 watts | No | \$ 900.00 |
| 6.178.4 | 1200 watts | No | \$ 900.00 |
| 6.178.5 | 2000 watts | No | \$ 900.00 |
| 6.179 | <u>Flexible duct c/w fiber glass insulation</u> | | |
| 6.179.1 | 200 sq.mm | Meter | \$ 160.00 |
| 6.179.2 | 300 sq.mm | Meter | \$ 250.00 |
| 6.179.3 | 500 sq.mm | Meter | \$ 320.00 |
| 6.180 | AHU panel (door) Gasket | No | \$ 35.00 |
| 6.181 | <u>AHU : Pre Air Filter c/w G.I Frame assy.</u> | | |
| 6.181.1 | Size : 12 " x 24" x 2" | No | \$ 180.00 |
| 6.181.2 | Size: 24" x 24" x 2" | No | \$ 260.00 |
| 6.182 | <u>Medium efficiency filter ultra fine glass fiber media suitably supported and reinforced, initial resistance (clean) shall be 4" w.g @ 500 rpm air velocity dust spot efficiency 85% suitable for insulation in AA ASTROSEAL or as approved by BESS:</u> | | |
| 6.182.1 | 24" x 24" x 12" | No | \$ 460.00 |
| 6.182.2 | 24" x 12" x 12" | No | \$ 580.00 |
| 6.183 | <u>High efficiency filter HEPA type in metal frame waterproofed, fire retardant, efficiency not less than 95% by DOP initial resistance not less than 1" w.g:</u> | | |
| 6.183.1 | 24" x 24" x 12" | No | \$ 1,650.00 |
| 6.183.2 | 24" x 12" x 12" | No | \$ 1,350.00 |
| 6.184 | Fine Dust filters LUWA FP-85-P305 | No | \$ 1,200.00 |
| 6.185 | Fine Dust filters LUWA FP-85-P610 | No | \$ 1,200.00 |
| 6.186 | Ultra Fine V-filters LUWA 412350070 | No | \$ 1,350.00 |
| 6.187 | <u>Camfil absolute filters type MDEPA, air velocity 0.86m3 / S670m3/h, 250Pa:</u> | | |
| 6.187.1 | Size 457mm x 457mm x 150mm | No | \$ 1,450.00 |
| 6.187.2 | Size 610mm x 610mm x 150mm | No | \$ 1,750.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|---------|---|-------|--------------|
| 6.188 | Alpha cell HEPA filters ACG2-122412 Size 12' x 24' x 11.5' | No | \$ 1,650.00 |
| 6.189 | Supply & install cooling tower intake louvers. | No | \$ 600.00 |
| 6.190 | <u>Electrical Motor for cooling towers:</u> | | |
| 6.190.1 | Up to 5HP | No | \$ 1,600.00 |
| 6.190.2 | 6HP - 10HP | No | \$ 2,300.00 |
| 6.191 | FRP 2000mm dia cooling tower fan balde with hub, static and dyanic balanced and factory assembled by original manufacture | No | \$ 4,500.00 |
| 6.192 | cooling tower FRP hot water cooling tower basin | No | \$ 3,500.00 |
| 6.193 | cooling tower supporting rods and brackets for infill | No | \$ 600.00 |
| 6.194 | cooling tower tension rod | No | \$ 250.00 |
| 6.195 | check valve (any type /size) | No | \$ 550.00 |
| 6.196 | Ventillation Fan for chiller Control Panel and VSD Drive (any type / size) | No | \$ 450.00 |
| 6.197 | <u>Fuse (any Type / Size):</u> | | |
| 6.197.1 | 101 - 250amps | No | \$ 250.00 |
| 6.197.2 | 251 - 400amps | No | \$ 350.00 |
| 6.198 | <u>Fuse switch Barrier (Disconnecter) for YORK chiller (any other type chillers):</u> | | |
| 6.198.1 | 5 - 20amps | No | \$ 450.00 |
| 6.198.2 | 25 - 50amps | No | \$ 650.00 |
| 6.198.3 | 51 - 100amps | No | \$ 1,200.00 |
| 6.198.4 | 101 - 250amps | No | \$ 1,400.00 |
| 6.198.5 | 251 - 500amps | No | \$ 1,800.00 |
| 6.199 | <u>Single PVC cable surface wiring in PVC / G.I metal conduit or with trunking:</u> | | |
| 6.199.1 | 6 mm ² | Meter | \$ 25.00 |
| 6.199.2 | 10 mm ² | Meter | \$ 40.00 |
| 6.199.3 | 16 mm ² | Meter | \$ 60.00 |
| 6.199.4 | 25 mm ² | Meter | \$ 80.00 |
| 6.199.5 | 35 mm ² | Meter | \$ 100.00 |
| 6.199.6 | 50 mm ² | Meter | \$ 130.00 |
| 6.200 | <u>To rewind Electrical Motors c/w resurfacing, new bearings, with any rpm including 9 months warranty:</u> | | |
| 6.200.1 | 5 - 7.5HP | No | \$ 1,350.00 |
| 6.200.2 | 10 - 15 HP | No | \$ 1,600.00 |
| 6.200.3 | 16 - 35 HP | No | \$ 2,600.00 |
| 6.200.4 | 36 - 50 HP | No | \$ 3,800.00 |
| 6.200.5 | 51 - 100 HP | No | \$ 4,600.00 |
| 6.200.6 | 101 - 250 HP | No | \$ 9,500.00 |
| 6.200.7 | Above 250 HP | No | \$ 18,000.00 |



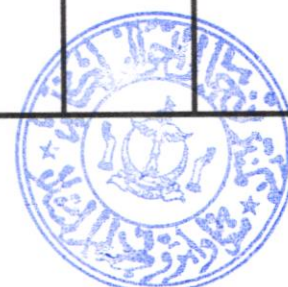
SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|--------------|--|-----|--------------|
| 6.201 | Refrigerant Level Sensor (any type / size) | No | \$ 3,200.00 |
| 6.202 | Power Relay Board | No | \$ 1,600.00 |
| 6.203 | Compressor Stage Controller Timer (any type) | | 2,800.00 |
| 6.204 | Control Transformer for chiller (any type / size) | No | \$ 2,600.00 |
| 6.205 | Step down transformer for chiller (any type / size) | No | \$ 1,800.00 |
| 6.206 | Local Interface device | No | \$ 2,100.00 |
| 6.207 | S.C.R | No | \$ 1,200.00 |
| 6.208 | <u>Thermostatic / Electronic expansion valve :</u> | | |
| 6.208.1 | 5 - 10 TR | No | \$ 1,250.00 |
| 6.208.2 | 11 - 30 TR | No | \$ 1,600.00 |
| 6.208.3 | 31 - 60 TR | No | \$ 1,850.00 |
| 6.208.4 | 61 - 100 TR | No | \$ 2,600.00 |
| 6.208.5 | 101 - 250 TR | No | \$ 3,200.00 |
| 6.209 | <u>Compressor service valve:</u> | | |
| 6.209.1 | ½ - ¾ " | No | \$ 350.00 |
| 6.209.2 | ¾ - 1½ " | No | \$ 780.00 |
| 6.209.3 | 1 ¾ - 2½ " | No | \$ 1,200.00 |
| 6.210 | <u>Semi hermetic compressor (any Brand / Type):</u> | | |
| 6.210.1 | 5 - 10 HP | No | \$ 6,500.00 |
| 6.210.2 | 11 - 25 HP | No | \$ 12,500.00 |
| 6.210.3 | 26 - 60 HP | No | \$ 16,500.00 |
| 6.210.4 | 61 - 100 HP | No | \$ 22,000.00 |
| 6.211 | <u>Plate Heat Exchanger (PHE)</u> | | |
| 6.211.1 | Up to 15TR | No | \$ 9,500.00 |
| 6.211.2 | 16 TR - 30 TR | No | \$ 13,500.00 |
| 6.211.3 | 31 TR - 60 TR | No | \$ 18,000.00 |
| 6.211.4 | 61 TR - 80 TR | No | \$ 24,000.00 |
| 6.211.5 | 81 TR - 100 TR | No | \$ 32,000.00 |
| 6.211.6 | Above 100 TR | No | \$ 36,000.00 |
| 6.212 | <u>Scroll compressor (any Brand / type)</u> | | |
| 6.212.1 | 5 - 10 HP | No | \$ 9,800.00 |
| 6.212.2 | 11 - 25 HP | No | \$ 13,500.00 |
| 6.212.3 | 26 - 60 HP | No | \$ 24,000.00 |
| 6.212.4 | 61 - 100 HP | No | \$ 36,000.00 |
| 6.213 | <u>To service Industrial / Barrel type exhaust fan:</u> | | |
| 6.213.1 | 15 - 24" | No | \$ 350.00 |
| 6.213.2 | Above 25" | No | \$ 600.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|---------|---|-----|--------------|
| 6.214 | <u>To supply & install Barrel (Centrifugal) type exhaust fan c/w, mounting plate, bracket as required and to provide power supply c/w on/off switch from the nearest DB</u> | | |
| 6.214.1 | Up to 10" | No | \$ 1,600.00 |
| 6.214.2 | 12 " to 14 " | No | \$ 1,800.00 |
| 6.214.3 | 15 " to 20 " | No | \$ 2,500.00 |
| 6.214.4 | 20 " to 30 " | No | \$ 2,800.00 |
| 6.214.5 | Above 35 " | No | \$ 3,500.00 |
| 6.215 | Wire Harness Branching Male to Female | No | \$ 650.00 |
| 6.216 | Wire Harness Branching Female to male | No | \$ 650.00 |
| 6.217 | Male Connector | No | \$ 360.00 |
| 6.218 | Female Connector | No | \$ 360.00 |
| 6.219 | Control PCB c/w repogramming and binding works (any type) | No | \$ 1,650.00 |
| 6.220 | <u>AHU blower wheel assembly complete set with installation</u> | | |
| 6.220.1 | 2.0 - 7.5 HP | Set | \$ 3,500.00 |
| 6.220.2 | 7.5 - 15 HP | Set | \$ 4,500.00 |
| 6.221 | <u>AHU motor</u> | | |
| 6.221.1 | 2.0 - 7.5 HP | No | \$ 5,000.00 |
| 6.221.2 | 7.5 - 15 HP | No | \$ 7,500.00 |
| 6.222 | Chiller universal sensor kit | No | \$ 3,000.00 |
| 6.223 | Piston and compression ring set | set | \$ 550.00 |
| 6.224 | Connecting Rod | set | \$ 600.00 |
| 6.225 | Fully Synthetic POE Type compressor oil | Tin | \$ 1,800.00 |
| 6.226 | <u>Overhauling of defective reciprocating type compressor c/w new piston, ring set & connecting rod assembly, gaskets, run back to optimum working condition</u> | | |
| 6.226.1 | 25 - 50HP | Lot | \$ 7,000.00 |
| 6.226.2 | 50 - 75HP | Lot | \$ 10,000.00 |
| 6.227 | VRF / VRV noise filter | No | \$ 750.00 |
| 6.228 | VRF / VRV lizard and rat protection kit | No | \$ 300.00 |
| 6.229 | High Pressure liquid level sensor | No | \$ 2,500.00 |
| 6.230 | Chilled water FCU thermistor sensor | No | \$ 450.00 |
| 6.231 | Chilled water FCU motor any type | No | \$ 750.00 |
| 6.232 | Chiller Logic Control Board / VSD Logic Board | No | \$ 5,900.00 |



SUPPLY OF DEFECTIVE PARTS (CHILLER)

| ITEM | DESCRIPTION | QTY | RATE |
|-------|--|-----|--------------|
| 6.233 | AHU Blower Pulley any size | No | \$ 350.00 |
| 6.234 | Supply of new scroll type compressors 15 - 30 HP | No | \$ 20,000.00 |
| 6.235 | Supply of new screw type compressors 30 - 50 HP | No | \$ 50,000.00 |
| 6.236 | Supply of new screw type compressors 50 - 75HP | No | \$ 75,000.00 |
| 6.237 | To replace old ducting with new ducting c/w alteration of ceiling or ducting, apply cement and putty to match existing in good condition | No | \$ 350.00 |
| 6.238 | Gate Driver Board | No | \$ 17,940.00 |



AIR CONDITIONING MAINTENANCE WORKS FOR RAC/DX PACKAGE TYPE /SPLIT UNIT /VRF/PAC/AIR CURTAIN/ EXHAUST FAN

| ITEM | DESCRIPTION | QTY | RATE |
|---------|--|-----|----------|
| | BILL NO.7 | | |
| 7.0 | ROUTINE AND GENERAL SERVICING OF AIR CONDITIONING TYPE RAC/DX PACKAGE | | |
| 7.1 | ROUTINE SERVICING ' for the following unit: | | |
| 7.1.1 | RAC Type | | |
| 7.1.1.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 10.00 |
| 7.1.1.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 15.00 |
| 7.1.2 | Wall mounted Split / DX Package Type | | |
| 7.1.2.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 10.00 |
| 7.1.2.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 15.00 |
| 7.1.2.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 20.00 |
| 7.1.2.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 25.00 |
| 7.1.3 | Under Ceiling Split / Dx Package Type | | |
| 7.1.3.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 10.00 |
| 7.1.3.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 15.00 |
| 7.1.3.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 20.00 |
| 7.1.3.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 25.00 |
| 7.1.3.5 | 60,001 Btu/hr and above | SET | \$ 30.00 |
| 7.1.4 | Casette Split / Dx Package Type | | |
| 7.1.4.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 15.00 |
| 7.1.4.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 20.00 |
| 7.1.4.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 25.00 |
| 7.1.4.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 25.00 |
| 7.1.4.5 | 60,001 Btu/hr and above | SET | \$ 30.00 |
| 7.1.5 | Floor Standing Split / Dx Package Type | | |
| 7.1.5.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 10.00 |
| 7.1.5.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 15.00 |
| 7.1.5.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 20.00 |
| 7.1.5.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 25.00 |
| 7.1.5.5 | 60,001 Btu/hr and above | SET | \$ 30.00 |
| 7.1.6 | Close Control Unit | | |
| 7.1.5.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 30.00 |
| 7.1.5.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 40.00 |
| 7.1.5.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 60.00 |
| 7.1.5.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 80.00 |



AIR CONDITIONING MAINTENANCE WORKS FOR RAC/DX PACKAGE TYPE /SPLIT UNIT /VRF/PAC/AIR CURTAIN/ EXHAUST FAN

| ITEM | DESCRIPTION | QTY | RATE |
|---------------|---|-----|-----------|
| 7.1.7 | <u>Variable Refrigerant Flow Condensing unit (VRF)</u> | | |
| 7.1.7.1 | 10 - 15 TR | NO | \$ 30.00 |
| 7.1.7.2 | 16 - 20 TR | NO | \$ 40.00 |
| 7.1.7.3 | 21 - 25 TR | NO | \$ 60.00 |
| 7.1.7.4 | 26 - 30 TR | NO | \$ 80.00 |
| 7.1.7.5 | 31 - 40 TR | NO | \$ 100.00 |
| 7.1.7.6 | 41 TR and above | NO | \$ 120.00 |
| 7.1.8 | <u>Variable Refrigerant Flow Fan Coil unit of any type (VRF) as the following:</u> | | |
| 7.1.8.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 15.00 |
| 7.1.8.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 18.00 |
| 7.1.8.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 20.00 |
| 7.1.8.4 | 36,001 Btu/hr to 60,000 Btu/hr | NO | \$ 25.00 |
| 7.1.8.5 | 60,001 Btu/hr and above | NO | \$ 30.00 |
| 7.1.9 | <u>'Air Cooled' Package Type (Condenser Unit) of any type of compressor with the</u> | | |
| 7.1.9.1 | 10 - 50 TR | NO | \$ 100.00 |
| 7.1.9.2 | 51 - 100 TR | NO | \$ 120.00 |
| 7.1.10 | <u>Air Curtain</u> | NO | \$ 5.00 |
| 7.1.10.1 | 3 - 6ft | | |
| 7.1.11 | <u>Exhaust Fan of Any Type</u> | | |
| 7.1.11.1 | 6" | NO | \$ 5.00 |
| 7.1.11.2 | 9" | NO | \$ 5.00 |
| 7.1.11.3 | 12" | NO | \$ 5.00 |
| 7.1.11.4 | 15" | NO | \$ 5.00 |
| 7.1.12 | <u>'Air Handling Unit' of any type with the following capacity:</u> | | |
| 7.1.12.1 | 15 - 50 TR | NO | \$ 40.00 |
| 7.1.12.2 | 50.1 - above | NO | \$ 60.00 |
| 7.2 | <u>'GENERAL SERVICING' for the following unit:</u> | | |
| 7.2.1 | <u>RAC type</u> | | |
| 7.2.1.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 50.00 |
| 7.2.1.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 60.00 |
| 7.2.2 | <u>Wall Mounted Split / DX Package Type</u> | | |
| 7.2.2.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 100.00 |
| 7.2.2.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 120.00 |
| 7.2.2.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 140.00 |
| 7.2.2.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 160.00 |



AIR CONDITIONING MAINTENANCE WORKS FOR RAC/DX PACKAGE TYPE /SPLIT UNIT /VRF/PAC/AIR CURTAIN/ EXHAUST FAN

| ITEM | DESCRIPTION | QTY | RATE |
|--------------|---|-----|-----------|
| 7.2.3 | <u>Under Ceiling Split / DX Package Type</u> | | |
| 7.2.3.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 100.00 |
| 7.2.3.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 120.00 |
| 7.2.3.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 140.00 |
| 7.2.3.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 160.00 |
| 7.2.3.5 | 60,001 Btu/hr and above | SET | \$ 180.00 |
| 7.2.4 | <u>Casette Split / DX Package Type</u> | | |
| 7.2.4.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 60.00 |
| 7.2.4.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 80.00 |
| 7.2.4.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 100.00 |
| 7.2.4.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 120.00 |
| 7.2.4.5 | 60,001 Btu/hr and above | SET | \$ 140.00 |
| 7.2.5 | <u>Floor standing Split / DX Package Type</u> | | |
| 7.2.5.1 | 9,000 Btu/hr to 12,000 Btu/hr | SET | \$ 60.00 |
| 7.2.5.2 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 80.00 |
| 7.2.5.3 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 100.00 |
| 7.2.5.4 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 120.00 |
| 7.2.5.5 | 60,001 Btu/hr and above | SET | \$ 140.00 |
| 7.2.6 | <u>Close Control Unit</u> | | |
| 7.2.6.1 | 18,000 Btu/hr to 24,000 Btu/hr | SET | \$ 60.00 |
| 7.2.6.2 | 30,000 Btu/hr to 36,000 Btu/hr | SET | \$ 80.00 |
| 7.2.6.3 | 36,001 Btu/hr to 60,000 Btu/hr | SET | \$ 100.00 |
| 7.2.6.4 | 60,001 Btu/hr and above | SET | \$ 120.00 |
| 7.2.7 | <u>Variable Refrigerant Flow Condensing unit (VRF)</u> | | |
| 7.2.7.1 | 10 - 15 TR | NO | \$ 120.00 |
| 7.2.7.2 | 16 - 20 TR | NO | \$ 130.00 |
| 7.2.7.3 | 21 - 25 TR | NO | \$ 140.00 |
| 7.2.7.4 | 26 - 30 TR | NO | \$ 150.00 |
| 7.2.7.5 | 31 - 40 TR | NO | \$ 160.00 |
| 7.2.7.6 | 41 TR and above | NO | \$ 170.00 |
| 7.2.8 | <u>Variable Refrigerant Flow Fan Coil unit of any type (VRF) as the following:</u> | | |
| 7.2.8.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 25.00 |
| 7.2.8.2 | 18,000 Btu/hr to 24,000 Btu/hr | NO | \$ 30.00 |
| 7.2.8.3 | 30,000 Btu/hr to 36,000 Btu/hr | NO | \$ 35.00 |
| 7.2.8.4 | 36,001 Btu/hr to 60,000 Btu/hr | NO | \$ 40.00 |
| 7.2.8.5 | 60,001 Btu/hr and above | NO | \$ 45.00 |



AIR CONDITIONING MAINTENANCE WORKS FOR RAC/DX PACKAGE TYPE /SPLIT UNIT /VRF/PAC/AIR CURTAIN/ EXHAUST FAN

| ITEM | DESCRIPTION | QTY | RATE |
|----------|---|-----|-----------|
| 7.2.9 | <u>'Air Cooled' Packaged Type (Condenser Unit) of any type of compressor with the</u> | | |
| 7.2.9.1 | 10 - 50 TR | NO | \$ 160.00 |
| 7.2.9.2 | 51 - 100 TR | NO | \$ 170.00 |
| 7.2.10 | <u>'Air Handling Unit' of any type of compressor with the following capacity:</u> | | |
| 7.2.10.1 | 15 - 50 TR | NO | \$ 50.00 |
| 7.2.10.2 | 50.1 - above | NO | \$ 100.00 |



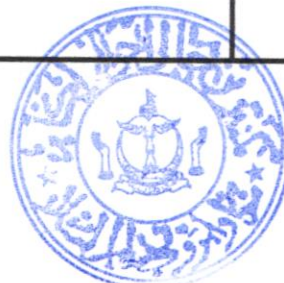
ROUTINE MAINTENANCE & GENERAL SERVICING OF CENTRAL AIR CONDITIONING SYSTEM & ASSOCIATED EQUIPMENT

| ITEM | DESCRIPTION | QTY | RATE |
|--------------|---|-----|-----------|
| | Bill No.8 | | |
| 8.0 | <u>ROUTINE MAINTENANCE & GENERAL SERVICING OF CENTRAL AIR CONDITIONING SYSTEM & ASSOCIATED EQUIPMENT</u> | | |
| 8.1 | <u>ROUTINE SERVICING</u> for the following equipment: | | |
| 8.1.1 | <u>Water Cooled</u> chiller of any type of compressor with the following capacity: | | |
| 8.1.1.2 | 100 -200 TR | NO | \$ 150.00 |
| 8.1.1.3 | 201-300 TR | NO | \$ 200.00 |
| 8.1.1.4 | 301 - 400 TR | NO | \$ 300.00 |
| 8.1.1.5 | 401 - 500 TR | NO | \$ 400.00 |
| 8.1.1.6 | 501 - 600 TR | NO | \$ 500.00 |
| 8.1.1.7 | 601 - 700 TR | NO | \$ 600.00 |
| 8.1.1.8 | 701 - above | NO | \$ 700.00 |
| 8.1.2 | <u>Air Cooled</u> chiller of any type of compressor with the following capacity: | | |
| 8.1.2.1 | 100 - 200TR | NO | \$ 150.00 |
| 8.1.2.2 | 201 - 300TR | NO | \$ 200.00 |
| 8.1.2.3 | 301 - 400TR | NO | \$ 300.00 |
| 8.1.2.4 | 401 - above | NO | \$ 400.00 |
| 8.1.3 | <u>Chilled Water pump set (primary / secondary)</u> of any type and compressor with the following capacity: | | |
| 8.1.3.1 | 1 - 5 HP | NO | \$ 25.00 |
| 8.1.3.2 | 5.1 - 10 HP | NO | \$ 30.00 |
| 8.1.3.3 | 10.1 - 15 HP | NO | \$ 35.00 |
| 8.1.3.4 | 15.1 - 20 HP | NO | \$ 40.00 |
| 8.1.3.5 | 20.1 - 50 HP | NO | \$ 45.00 |
| 8.1.3.6 | 50.1 - above | NO | \$ 50.00 |
| 8.1.4 | <u>Cooling tower'</u> of any type of the following capacity: | | |
| 8.1.4.1 | 100 - 200 TR | NO | \$ 150.00 |
| 8.1.4.2 | 201 - 500 TR | NO | \$ 250.00 |
| 8.1.4.3 | 501 - above | NO | \$ 300.00 |
| 8.1.5 | <u>Condenser water pump set'</u> of any type of the following capacity: | | |
| 8.1.5.1 | 1 - 5 HP | NO | \$ 25.00 |
| 8.1.5.2 | 5.1 - 10 HP | NO | \$ 30.00 |
| 8.1.5.3 | 10.1 - 15 HP | NO | \$ 35.00 |
| 8.1.5.4 | 15.1 - 20 HP | NO | \$ 40.00 |
| 8.1.5.5 | 20.1 - 50 HP | NO | \$ 45.00 |
| 8.1.5.6 | 50.1 - above | NO | \$ 50.00 |
| 8.1.6 | <u>Air Handling Unit'</u> of any type with the following capacity: | | |
| 8.1.6.1 | 15-50 TR | NO | \$ 40.00 |
| 8.1.6.2 | 50.1 - above | NO | \$ 60.00 |
| 8.1.7 | VAV BOX | LOT | \$ 10.00 |



ROUTINE MAINTENANCE & GENERAL SERVICING OF CENTRAL AIR CONDITIONING SYSTEM & ASSOCIATED EQUIPMENT

| ITEM | DESCRIPTION | QTY | RATE |
|--------------|---|-----|-------------|
| 8.1.8 | Chilled water fan coil unit any type as the following: | | |
| 8.1.8.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 15.00 |
| 8.1.8.2 | 12,001 Btu/hr to 24,000 Btu/hr | NO | \$ 20.00 |
| 8.1.8.3 | 24,001 Btu/hr to 60,000 Btu/hr | NO | \$ 25.00 |
| 8.1.8.4 | 60,001 Btu/hr and above | NO | \$ 30.00 |
| 8.2 | GENERAL SERVICING for the following equipment: | | |
| 8.2.1 | Water Cooled chiller of any type of compressor with the following capacity: | | |
| 8.2.1.1 | 100 -200 TR | NO | \$ 3,500.00 |
| 8.2.1.2 | 201-300 TR | NO | \$ 4,000.00 |
| 8.2.1.3 | 301 - 400 TR | NO | \$ 4,500.00 |
| 8.2.1.4 | 401 - 500 TR | NO | \$ 5,000.00 |
| 8.2.1.5 | 501 - 600 TR | NO | \$ 5,500.00 |
| 8.2.1.6 | 601 - 700 TR | NO | \$ 7,000.00 |
| 8.2.1.7 | 701 - above | NO | \$ 8,000.00 |
| 8.2.2 | Air Cooled chiller of any type of compressor with the following capacity: | | |
| 8.2.2.1 | 100 - 200TR | NO | \$ 1,500.00 |
| 8.2.2.2 | 201 - 300TR | NO | \$ 2,000.00 |
| 8.2.2.3 | 301 - 400TR | NO | \$ 3,000.00 |
| 8.2.2.4 | 401 - above | NO | \$ 4,000.00 |
| 8.2.3 | Chilled Water pump set (primary / secondary) of any type and compressor with the following capacity: | | |
| 8.2.3.1 | 1 - 5 HP | NO | \$ 20.00 |
| 8.2.3.2 | 5.1 - 10 HP | NO | \$ 25.00 |
| 8.2.3.3 | 10.1 - 15 HP | NO | \$ 30.00 |
| 8.2.3.4 | 15.1 - 20 HP | NO | \$ 35.00 |
| 8.2.3.5 | 20.1 - 50 HP | NO | \$ 40.00 |
| 8.2.3.6 | 50.1 - above | NO | \$ 45.00 |
| 8.2.4 | Cooling tower' of any type of the following capacity: | | |
| 8.2.4.1 | 100 - 200 TR | NO | \$ 150.00 |
| 8.2.4.2 | 201 - 500 TR | NO | \$ 200.00 |
| 8.2.4.3 | 501 - above | NO | \$ 250.00 |
| 8.2.5 | Condenser water pump set' of any type of the following capacity: | | |
| 8.2.5.1 | 1 - 5 HP | NO | \$ 25.00 |
| 8.2.5.2 | 5.1 - 10 HP | NO | \$ 30.00 |
| 8.2.5.3 | 10.1 - 15 HP | NO | \$ 35.00 |
| 8.2.5.4 | 15.1 - 20 HP | NO | \$ 40.00 |
| 8.2.5.5 | 20.1 - 50 HP | NO | \$ 45.00 |
| 8.2.5.6 | 50.1 - above | NO | \$ 60.00 |
| 8.2.6 | Air Handling Unit' of any type with the following capacity: | | |
| 8.2.6.1 | 15-50 TR | NO | \$ 50.00 |
| 8.2.6.2 | 50.1 - above | NO | \$ 100.00 |



ROUTINE MAINTENANCE & GENERAL SERVICING OF CENTRAL AIR CONDITIONING SYSTEM & ASSOCIATED EQUIPMENT

| ITEM | DESCRIPTION | QTY | RATE |
|---------|---|-----|----------|
| 8.2.7 | <u>Chilled water fan coil unit</u> any type as the following: (including Pull out for servicing, install back and run to normal working order) | | |
| 8.2.7.1 | 9,000 Btu/hr to 12,000 Btu/hr | NO | \$ 15.00 |
| 8.2.7.2 | 12,001 Btu/hr to 24,000 Btu/hr | NO | \$ 20.00 |
| 8.2.7.3 | 24,0001 Btu/hr to 60,000 Btu/hr | NO | \$ 25.00 |
| 8.2.7.4 | 60,0001 Btu/hr and above | NO | \$ 30.00 |



REPLACEMENT OF SPLIT UNIT/ AIR CURTAIN/EXHAUST FAN/VRF/FLOOR STANDING

| ITEM | DESCRIPTION | QTY | RATE |
|---------|--|-----|-------------|
| | <u>Bill No.9</u> | | |
| 9.0 | <u>REPLACEMENT OF SPLIT UNIT/AIR CURTAIN/EXHAUST FAN</u> Replacement of air conditioning unit shall include as the following: | | |
| 9.0.1 | <u>Testing and commisioning</u> To vacuuming, charging, testing, pressure testing and commissioning of replaced air conditioning unit | | |
| 9.0.2 | <u>Warantty</u> Provide warranty for nine (9) Months period accordance with specification of replaced air | | |
| 9.0.3 | <u>Labelling</u> To labelling all New Conditioner units using Bakelite and riveted to the unit | | |
| 9.1 | <u>DISMANTLING THE EXISTING SPLIT TYPE AND ROOM AIR-CONDITIONING TYPE</u> To dismantle the existing split type air conditioner units c/w dismantle all the water tray, condensate piping, power & control cable/trunking, brackets, fitting accessories, technical report (serial & model) pictures, transportation/shipmet from Temburong to Bandar Seri Begawan and painting & make good in accordance with specification. | | |
| 9.1.1 | RAC | LOT | \$ 50.00 |
| 9.1.2 | High Wall Mounted Type | LOT | \$ 60.00 |
| 9.1.3 | Ceiling Suspended / Floor standing type | LOT | \$ 80.00 |
| 9.1.4 | Cassette Type | LOT | \$ 100.00 |
| 9.1.5 | Air Curtain | LOT | \$ 15.00 |
| 9.1.6 | Exhaust fan | LOT | \$ 10.00 |
| 9.2 | <u>SUPPLY & INSTALLATION OF NEW SPLIT AIR CONDITIONER UNITS WITH INVERTER TYPE</u> To Supply and install of New Split Type Airconditioning Units (FCU's and CU's) c/w refrigerant gas, all necessary fittings and accessories shall not less than the capacity as indicated below. | | |
| 9.2.1 | <u>High Wall Mounted Type</u> | | |
| 9.2.1.1 | 2.64 kW / 10,000 Btu/hr | Set | \$ 700.00 |
| 9.2.1.2 | 4.11 kW / 13,000 Btu/hr | Set | \$ 900.00 |
| 9.2.1.3 | 5.3 kW / 20,000 Btu/hr | Set | \$ 1,200.00 |
| 9.2.1.4 | 7.1kW / 24,000 Btu/hr | Set | \$ 1,500.00 |
| 9.2.1.5 | 8.8kW / 30,000 Btu/hr | Set | \$ 1,800.00 |
| 9.2.2 | <u>Ceiling Suspended Type</u> | | |
| 9.2.2.1 | 8.79kW / 30,000 Btu/hr | Set | \$ 2,000.00 |
| 9.2.2.2 | 10.55kW / 36,000 Btu/hr | Set | \$ 2,500.00 |
| 9.2.2.3 | 14.08 kW / 48,000 Btu/hr | Set | \$ 3,000.00 |



REPLACEMENT OF SPLIT UNIT/ AIR CURTAIN/EXHAUST FAN/VRF/FLOOR STANDING

| ITEM | DESCRIPTION | QTY | RATE |
|--------------|---|-----|-------------|
| 9.2.3 | <u>Cassette Type</u> | | |
| 9.2.3.1 | 8.8kW / 30,000 Btu/hr | SET | \$ 2,500.00 |
| 9.2.3.2 | 10.06 kW / 36,000 Btu/hr | SET | \$ 3,000.00 |
| 9.2.3.3 | 14.08 kW / 48,000 Btu/hr | SET | \$ 3,500.00 |
| 9.3 | <u>REFRIGERANT AND CONDENSATE PIPEWORKS FOR NEW AND EXISTING UNIT</u> | | |
| | Supply & install Refrigerant piping c/w insulation, cable tray, fitting, adhesive denso tape & accessories, hacking, coring or boring on the wall/ceiling, opening & make good as specified. Rate inclusive of any length / amount required from CU to FCU. | | |
| 9.3.1 | High wall mounted Type | LOT | \$ 60.00 |
| 9.3.2 | Ceiling Suspended Type Floor Standing type | LOT | \$ 80.00 |
| 9.3.3 | Cassette Type | LOT | \$ 100.00 |
| | To replace with PVC Condensate drain pipe confirming to BS 3503 Class C c/w bends, elbows, tees, insulation, cable tray, brackets, PVC trunking to conceal the above pipe, opening and make good as specified below, Inclusive of any length required: | | |
| 9.3.4.1 | High wall mounted type | LOT | \$ 50.00 |
| 9.3.4.2 | Ceiling Suspended type / Floor Standing type | LOT | \$ 70.00 |
| 9.3.4.3 | Cassette Type | LOT | \$ 100.00 |
| 9.4 | <u>ELECTRICAL WORKS</u> | | |
| | To replace with new power & control cables between the condensing units and fan coil units to the power points c/w conduit, brackets, fitting and accessories in accordance with specification, the rate shall include any length required. | | |
| 9.4.1 | High wall Mounted Type | LOT | \$ 50.00 |
| 9.4.2 | Ceiling Suspended Type | LOT | \$ 50.00 |
| 9.4.3 | Cassette Type | LOT | \$ 80.00 |
| 9.5 | <u>SUPPLY OF AIR CURTAIN</u> | | |
| | To supply and install new Air Curtain (any brand, type) including bracket etc. | | |
| 9.5.1 | Size : 3' x 8 -10' air throw | NO | \$ 250.00 |
| 9.5.2 | Size: 4' x 8 -10' air throw | NO | \$ 350.00 |
| 9.6 | <u>SUPPLY OF EXHAUST FAN</u> | | |
| | To supply & install Exhaust Fan c/w making opening either through glass or concrete, | | |
| 9.6.1 | 6" | NO | \$ 50.00 |
| 9.6.2 | 8" | NO | \$ 60.00 |
| 9.6.3 | 10" | NO | \$ 70.00 |
| 9.6.4 | 12" | NO | \$ 80.00 |
| 9.6.5 | 15" | NO | \$ 90.00 |
| 9.6.6 | 18" | NO | \$ 100.00 |
| 9.6.7 | 24" | NO | \$ 110.00 |



REPLACEMENT OF SPLIT UNIT/ AIR CURTAIN/EXHAUST FAN/VRF/FLOOR STANDING

| ITEM | DESCRIPTION | QTY | RATE |
|---------|---|-----|-------------|
| 9.7 | SUPPLY & INSTALLATION OF NEW VRF UNITS To supply and install refrigerant & refrigerant piping c/w insulation (individual insulation of refrigerant lines), VRF with existing original brand c/w reprogramming, all necessary fittings (Y and T shape connection) and accessories shall not less than the capacity as indicated below: | | |
| 9.7.1 | High Wall Mounted type: | | |
| 9.7.1.1 | 2.64 KW / 10,000 Btu/hr | SET | \$ 1,500.00 |
| 9.7.1.2 | 4.11 KW / 14,000 Btu/hr | SET | \$ 1,700.00 |
| 9.7.1.3 | 5.3 KW / 18,000 Btu/hr | SET | \$ 1,900.00 |
| 9.7.1.4 | 7.1 KW / 24,000 Btu/hr | SET | \$ 2,200.00 |
| 9.7.1.5 | 8.87 KW / 30,000 Btu/hr | SET | \$ 2,400.00 |
| 9.7.2 | Ceiling Suspended Type | | |
| 9.7.2.1 | 8.79 KW / 30,000 Btu/hr | SET | \$ 3,200.00 |
| 9.7.2.2 | 10.55 KW / 36,000 Btu/hr | SET | \$ 3,500.00 |
| 9.7.2.3 | 14.08 KW / 48,000 Btu/hr | SET | \$ 3,800.00 |
| 9.7.3 | Cassette type | | |
| 9.7.3.1 | 8.79 KW / 30,000 Btu/hr | SET | \$ 3,500.00 |
| 9.7.3.2 | 10.55 KW / 36,000 Btu/hr | SET | \$ 3,700.00 |
| 9.7.3.3 | 14.08 KW / 48,000 Btu/hr | SET | \$ 3,900.00 |
| 9.8 | SUPPLY & INSTALLATION OF NEW FLOOR STANDING (NON- INVERTER) To supply and install refrigerant & refrigerant piping c/w insulation (individual insulation of refrigerant lines) of new floor standing, c/w all necessary fittings and accessories shall not less than the capacity as indicated below. Imclusive any length / amount required from CU to FCU. | | |
| 9.8.1 | 30,000 Btu/hr | SET | \$ 1,300.00 |
| 9.8.2 | 36,000 Btu/hr | SET | \$ 1,850.00 |
| 9.8.3 | 48,000 Btu/hr | SET | \$ 2,050.00 |



**TERM CONTRACT FOR BREAKDOWN, INTERIM MAINTENANCE AND REPAIR WORKS FOR AIR
CONDITIONING EQUIPMENT SYSTEM TO ESTATE UNDER PUSAT DA'WAH ISLAMIAH IN FOUR DISTRICTS
FOR A PERIOD OF TWELVE (12) MONTHS**

Only to be participated by contractors who are registered with the Ministry of Development in Category M01.

Tenderers are advised to read the note / specification / scope of works in detail before submitting their prices and shall include all incidental work pertaining thereto even though not specifically mentioned herein or shown or describe in the description and which deem necessary for the works to be carried out.

The quoted price shall include all custom duties, sale tax and other taxes, insurance, transportation and services to complete the works.

We _____ the undersigned Tender / Quote for the above work as follows:

I agree to execute any and all the work up to the maximum value of **BS\$50,000.00 (Brunei Dollars: Fifty Thousand Only)** under the terms of contract at:

+ (PLUS) (_____ %) Percentum

FOR A COMPLETION PERIOD OF 12 MONTHS

- (MINUS) (_____ %) Percentum

Signature of Tenderer & Official Company

Name : _____

Position in Company : _____

Company Name: _____

Address: _____

Contact No : _____

Date: _____

Signature of Witness

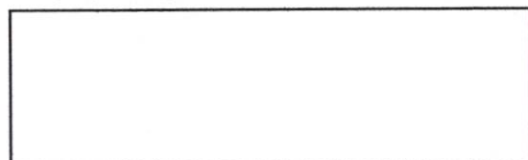
Name : _____

Position in Company : _____

Date: _____

Contact No : _____

Company Stamp:



LIST OF CONSUMABLE ITEMS



LIST OF CONSUMABLE ITEMS

Consumable item to be paid for within the contract conditions including labour charges, supervision, testing, transport and commissioning.

1. Oil, grease and other lubricants.
2. Indicator bulbs of all type for switchboards.
3. Any materials and tools used in the routine maintenance of the plant.
4. Coupling rubber inserts any size / any make or type.
5. Fan motor capacitor (start or run). Any size, make or type.
6. Compressor / Fan Motor Capacitor (start or run). Any Size, make or type.
7. Compressor mountings. Any Size, make or type.
8. Chemical Cleaning fluid. Any amount or make.
9. Chemical Cleaning block. Any amount or make.
10. Miscellaneous parts that match split type air-conditioning under repair:-
 - a. Battery Alkaline 1.5AAA size. Any type or make.
 - b. Battery Alkaline 1.5 AA size. Any type or make.
 - c. Condensing Unit Steel mounting bracket "L" shape of approved type.

NOTE : If the units under repair are considered beyond economical repair, the OIC must be notified immediately so that inspection can be carried out to verify the report. If in the opinion of OIC that the unit can still be repaired, the contractor has to repair it accordingly to working order. Those units which had been considered repair will be omitted temporarily from the maintenance lists until new replacement is available.



Company Profile:

Company Name : _____

Address : _____

Company Stamp:

Signature of Tenderer:

Name : _____

Position in company : _____

Date : _____

Signature Of Witness:

Name : _____

Position in company : _____

Date : _____



APPENDIX



APPENDIX 1

Nama Pekerja

(b) PEKERJA ASING (Jumlah dan bilangan%)

[illegible]

AP/4

SENARAI PERALATAN YANG AKAN DIGUNAKAN UNTUK PEKERJAAN INI (JIKA BERJAYA)
Proposed List of Equipment To Be Used For This Job (If Successful);

| Bil. <i>No.</i> | Jenis <i>Type</i> | Kuantiti <i>Quantity</i> | No. Modal <i>Model No.</i> | Kapasiti <i>Capacity</i> | Remarks |
|---------------------------|-----------------------------|------------------------------------|--------------------------------------|------------------------------------|----------------|
| | | | | | |

Tandatangan Saksi:
Signature of Witness:

Tarikh:
Date :



Tandatangan Saksi:
Signature of Witness:

Tarikh:
Date :

SENARAI PEKERJAAN YANG AKAN DI SUB-KONTRAK*Proposed List of Jobs To Be Sub-Contracted:*

| Bil. No. | Kerja Works | Kepada To | Remarks |
|--------------------|-----------------------|---------------------|----------------|
| | | | |

**Tandatangan Saksi:***Signature of Witness:***Tandatangan Saksi:***Signature of Witness:***Tarikh:***Date :***Tarikh:***Date :*

SURAT PENGESAHAN

**PENENDER/PEMBORONG/KONTRAKTOR/PENGUSAHA/PEMBEKAL
MEMILIKI 'BUSINESS PREMISE' / PREMISE PERNIAGAAN**

Nama Syarikat: _____

Alamat Premise Perniagaan: _____

Pos Kod: _____

Telefon Pejabat / Premis Perniagaan: _____

Faks Pejabat / Premis Perniagaan: _____

Telefon Bimbit: _____

| BIL. | NAMA PEMILIK SYARIKAT | BIL. KAD PENGENALAN | WARNA | BANGSA |
|------|-----------------------|---------------------|-------|--------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Nama Pengurus: _____

Bil. Kad Pintar: _____ Warna: _____ Telefon: _____

Sukacita memaklumkan bahawa segala keterangan di atas adalah benar.

COP SYARIKAT



Tarikh: _____

Rujukan:

Kepada,

Ketua Bahagian Bangunan dan Pemeliharaan

Kementerian Hal Ehwal Ugama

Negara Brunei Darussalam

(U.P : Bahagian Penyelaras Projek (PPP))

Tuan/Puan

PER: Borang Pengakuan Kesanggupan Pembekal

Sukacita membuat pengesahan perakuan yang syarikat saya, _____

Bersetuju untuk membuat pembekalan barang / perkakas / perkhidmatan sebagaimana dalam

Tawaran / sebut harga bilangan : _____

Tarikh: _____

COP SYARIKAT

(_____)
Pemilik Syarikat / CEO / Pengarah

| | | |
|---|--|--|
| Pengesahan Penerima Jabatan: | | |
| Tarikh Penerima Pebekalan | | |
| (Hendaklah Mengikuti seperti yang telah | | |
| dijanjikan di dalam borang dokuman | | |
| Sebut harga / kebenaran) | | |

Perhatian:

Borang asal perakuan hendaklah dihantar bersama-sama dengan "Purchase Order"(P.O) and invoice

Arahan:

Borang yang siap disikan oleh pembekal yang diluluskan hendaklah disertakan bersama-sama dengan "Purchase Order"(P.O) dan invoice apabila tuntutan penyelesaian pembayaran dibuat.

