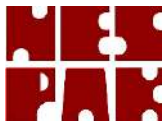


NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED

**BIDDING DOCUMENTS FOR
OPERATION AND MAINTENANCE (O & M)
OF
HEATING, VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM
AT
NESPAK HOUSE, LAHORE**

- Invitation to Bid
- Instructions to Bidders
- Appendices to Instructions to Bidders
- Form of Bid & Appendices to Bid
- Schedule of Prices
- General Conditions of Contract
- Particular Conditions of Contract
- Standard Forms
- Special Provisions
- Technical Provisions
- Operation & Maintenance Proformas

September 2018



NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED
NESPAK IEEEP BUILDING, 17-C-1, CIVIC CENTRE, FAISAL TOWN, LAHORE–PAKISTAN

TABLE OF CONTENTS
INSTRUCTIONS TO BIDDERS

Clause No.	Description	Page No.
A. GENERAL		
IB.1	Scope of Bid and Source of Funds	IB-1
IB.2	Eligible Bidders	IB-1
IB.3	Eligible Goods and Services	IB-1
IB.4	Cost of Bidding	IB-1
B. BIDDING DOCUMENTS		
IB.5	Contents of Bidding Documents	IB-1
IB.6	Clarification of Bidding Documents	IB-2
IB.7	Amendment of Bidding Documents	IB-3
C. PREPARATION OF BIDS		
IB.8	Language of Bid	IB-3
IB.9	Documents Comprising the Bid	IB-3
IB.10	Form of Bid and Schedules	IB-4
IB.11	Bid Prices	IB-4
IB.12	Currencies of Bid and Payment	IB-4
IB.13	Documents Establishing Bidder's Eligibility and Qualification	IB-5
IB.14	Documents Establishing Good's Eligibility and Conformity to Bidding Documents	IB-6
IB.15	Bid Security	IB-7
IB.16	Validity of Bids	IB-8
IB.17	Format and Signing of Bid	IB-8
D. SUBMISSION OF BIDS		
IB.18	Sealing and Marking of Bids	IB-9
IB.19	Deadline for Submission of Bids	IB-9
IB.20	Late Bids	IB-10
IB.21	Modification, Substitution and Withdrawal of Bids	IB-10
E. BID OPENING AND EVALUATION		
IB.22	Bid Opening	IB-10
IB.23	Clarification of Bids	IB-11

IB.24	Preliminary Examination & Determination of Responsiveness of Bids	IB-11
IB.25	Conversion to Single Currency	IB-13
IB.26	Detailed Evaluation of Bids	IB-12
IB.27	Domestic Preference	IB-15
IB.28	Process to be Confidential	IB-15

F. AWARD OF CONTRACT

IB.29	Post-Qualification	IB-15
IB.30	Award Criteria	IB-15
IB.31	Owner's Right to Vary Quantities	IB-15
IB.32	Owner's Right to Accept any Bid and to Reject any or all Bids	IB-15
IB.33	Notification of Award	IB-15
IB.34	Performance Security	IB-16
IB.35	Signing of Contract Agreement	IB-16

G. ADDITIONAL INSTRUCTIONS

IB.36	Instructions not Part of Contract	IB-16
IB.37	Contract Documents	IB-16
IB.38	Sufficiency of Bid	IB-16
IB.39	One Bid per Bidder	IB-17
IB.40	Bidder to Inform Himself	IB-17
IB.41	Alternate Proposals by Bidder	IB-17
IB.42	Local Conditions	IB-17
IB.43	Pre-bid Meeting	IB-17
IB.44	Integrity Pact	IB-18

H. APPENDICES

Appendix A to Instructions to Bidders Name of Eligible Countries	AP-1
Appendix B to Instructions to Bidders: Evidence of Bidder's Capability	AP-2
Appendix C to Instructions to Bidders Domestic Goods (Value added in Pakistan)	AP-21

FORM OF BID AND APPENDICES TO BID

Description	Page No.
Form of Bid	FT-1
Appendix A to Bid: Scope of Services	A-1
Appendix B to Bid: Reimbursable Costs	B-1
Appendix C to Bid: Notice and Communication Protocols	C-1
Appendix D to Bid: Work/Services to be Performed by Subcontractors	D-1
Appendix E to Bid: Method of Performing Works/Services	E-1
Appendix F to Bid: Proposed Organization	F-1
Appendix G to Bid: Integrity Pact	G-1
Appendix H to Bid: List of Equipment	H-1
Schedule of Prices	S-1

GENERAL CONDITIONS OF CONTRACT

Clause No.	Description	Page No.
Clause 1	Agreement	
1.1	Agreement	GC-1
1.2	Effective Date and Term	GC-1
1.3	Relationship of the Parties	GC-1
1.4	Representatives	GC-2
1.5	Integrity Pact	GC-2
Clause 2	Definitions	
2.1	Definitions	GC-2
Clause 3	Services	
3.1	Scope of Services	GC-4
3.2	Standards for Performance of the Services	GC-4
3.3	Operator's Personnel Standards	GC-4
3.4	Compliance	GC-4
3.5	Operating Records and Reports	GC-5
3.6	No liens or Encumbrances	GC-5
3.7	No Action	GC-5
3.8	Emergency Action	GC-5
3.9	Action in Extraordinary Circumstances	GC-5
Clause 4	Owner Responsibilities	
4.1	Information	GC-6
4.2	Overhaul of Major Equipment and Capital Improvements	GC-6
4.3	Annual Budget and Project Operating Plan	GC-6
Clause 5	Compensation and Payment	
5.1	Payments	GC-6
5.2	Annual Operating Fee	GC-6

Clause No.	Description	Page No.
5.3	Reimbursable Costs	GC-7
5.4	Adjustment and Conditions	GC-8
5.5	Billing and Payment	GC-8
Clause 6	Procedures, Plans and Reporting	
6.1	Procedures manual	GC-8
6.2	Annual Project Operating Budget and Plan	GC-8
6.3	Operating Data and Records	GC-10
6.4	Accounts and Reports	GC-10
6.5	Additional Communications	GC-11
Clause 7	Limitations on Authority	
7.1	General Limitations	GC-11
7.2	Execution of Documents	GC-12
Clause 8	Term and Termination	
8.1	Term	GC-12
8.2	Immediate Termination By Owner	GC-12
8.3	Termination Upon Notice By Owner	GC-13
8.4	Other Termination Upon Notice By Owner	GC-13
8.5	Termination By Owner Without Cause	GC-14
8.6	Termination By Operator	GC-14
8.7	Project Condition at End of Term	GC-14
8.8	Termination Payment	GC-14
Clause 9	Warranty	
9.1	Vendor's Warranties	GC-15
Clause 10	Indemnification and Liabilities	
10.1	Indemnification	GC-15
10.2	Environmental Liability	GC-16

Clause No.	Description	Page No.
Clause 11	Limitations of Liability	
11.1	Limitations of Liability	GC-16
Clause 12	Confidentiality	
12.1	Operator	GC-17
12.2	Owner	GC-17
12.3	Exceptions	GC-18
12.4	Required Disclosure	GC-18
Clause 13	Title, Documents and Data	
13.1	Materials and Equipment	GC-18
13.2	Documents	GC-18
13.3	Reviews By Owner	GC-18
13.4	Proprietary Information	GC-19
Clause 14	Resolution of Disputes	
14.1	Resolution through Discussions	GC-19
14.2	Arbitration	GC-19
14.3	Continued Performance	GC-19
Clause 15	Miscellaneous Provisions	
15.1	Assignment	GC-19
15.2	Access to Project	GC-20
15.3	Force Majeure	GC-20
15.4	Amendments	GC-20
15.5	Survival	GC-20
15.6	No Waiver	GC-20
15.7	Notices	GC-21
15.8	Fines and Penalties	GC-21
15.9	Representations and Warranties	GC-21
15.10	Counterparts	GC-21
15.11	Governing Law	GC-21

Clause No.	Description	Page No.
15.12	Partial Invalidity	GC-21
15.13	Captions	GC-22
15.14	Amounts	GC-22
15.15	Performance Guarantee	GC-22

PARTICULAR CONDITIONS OF CONTRACT

Clause No.	Description	Page No.
1	AGREEMENT	PC-1
2	DEFINITIONS	PC-1
3	SERVICES	PC-1
5	COMPENSATION & PAYMENT	PC-2
8	TERM & TERMINATION	PC-2
12	CONFIDENTIALITY	PC-2
14	RESOLUTION OF DISPUTES	PC-2
15	MISCELLANEOUS PROVISIONS	PC-2

STANDARD FORMS

Form of Bid Security (Bank Guarantee)	BS-1
Form of Contract Agreement	CA-1
Form of Performance Security (Bank Guarantee)	PS-1

SPECIFICATIONS

SPECIAL PROVISIONS

CLAUSE #	TITLE	PAGE #
SP-01	LOCATION OF PROJECT	SP-1
SP-01.1	HVAC SYSTEM (NESPAK HOUSE)	SP-1
SP-01.3	SERVICE CONDITIONS FOR AUXILIARIES	SP-2
SP-01.4	UNITS	SP-2
SP-02	WORK BY THE CONTRACTOR	SP-2
SP-02.1	SCOPE OF WORK	SP-2
SP-02.2	PLANT OPERATION	SP-4
SP-02.3	PREVENTIVE MAINTENANCE	SP-4
SP-02.4	ANNUAL MAINTENANCE AND SERVICING	SP-4
SP-02.4.1	CHILLER	SP-5
SP-02.4.2	COOLING TOWER	SP-5
SP-02.4.3	WATER PUMPS	SP-5
SP-02.4.4	AIR HANDLING UNIT	SP-5
SP-02.4.5	FANS	SP-5
SP-02.4.6	AIR FILTER	SP-5
SP-02.4.7	AUTOMATIC CONTROLS	SP-6
SP-02.4.8	ELECTRIC MOTOR AND STARTERS	SP-6
SP-02.4.9	ELECTRIC CONTROL BOARDS AND ELECTRIC SYSTEM	SP-6
SP-02.4.10	EXPANSION TANKS	SP-6
SP-02.4.11	AIR DISTRIBUTION SYSTEM	SP-6
SP-02.4.12	PAINTING	SP-6
SP-02.4.13	MAINTENANCE STAFF	SP-6
SP-03	MAINTENANCE STAFF	SP-6
SP-04	MAINTENANCE TOOLS, PLANT & INSTRUMENTS	SP-7

SPECIFICATIONS

TECHNICAL PROVISIONS

CLAUSE #	TITLE	PAGE #
1-01	WORKMANSHIP	TP-1
1-02	CUTTING, PATCHING AND REPAIRING	TP-1
1-03	PROTECTION	TP-1
1-04	CHEMICALS FOR CHILLED/ HOT WATER AND CONDENSER WATER	TP-1
1-05	OIL AND GREASES	TP-1
1-06	MAJOR HVAC EQUIPMENT	TP-1

**BIDDING DOCUMENTS FOR
OPERATION AND MAINTENANCE (O & M)
OF
HEATING, VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM
AT
NESPAK HOUSE, LAHORE**

SUMMARY OF CONTENTS

<u>Subject</u>	<u>Page No.</u>
(i) INVITATION FOR BIDS	01
(ii) INSTRUCTIONS TO BIDDERS & APPENDICES to ITB	IB-1
(iii) APPENDICES to INSTRUCTION TO BIDDERS	AP-1
(iv) FORM OF BID & APPENDICES TO BID	FT-1
(v) SCHEDULE OF PRICES	S-1
(vi) GENERAL CONDITIONS OF CONTRACT	GC-1
(vii) PARTICULAR CONDITIONS OF CONTRACT	PC-1
(viii) STANDARD FORMS	BS-1
(ix) SPECIAL PROVISIONS	SP-1
(x) TECHNICAL PROVISIONS	Tp-1
(xi) OPERATION & MAINTENANCE PROFORMAS	27 sheets
(xii) DRAWINGS	1 set

INVITATION TO BIDS

Date: _____
Bid Reference No.: _____

1. NESPAK, Pakistan's premier consultancy organization invites sealed bids on 'Single Stage-One Envelope' basis from the eligible firms registered with Income Tax and Sales Tax Departments and who are also on Active Taxpayer's List of the Federal Board of Revenue and meet the requirement of PEC licensing as defined in the Bidding Documents for the Operation and Maintenance of Heating, Ventilation and Air Conditioning (HVAC) System at **NESPAK House, 1-C, Block-N, Model Town Extension, Lahore.**
2. Bidding Documents, containing detailed terms and conditions, etc. are available at the below mentioned address. Price of the Bidding Documents is Rs. 2,000 (Rupees Two thousand only). Bidding Documents can also be downloaded from nespak.com.pk free of cost.
3. The Bids, prepared in accordance with the instructions in the Bidding Documents, must reach at the below mentioned address on or before September 25,2018 at 1500 Hours. Bids will be opened on the same day at 1530 Hours. This advertisement is also available on PPRA website at www.ppra.org.pk.

General Manager /Head,
Coordination Division,
NESPAK House 1-C,
Block-N, Model Town
Extension, Lahore-54700.
Tel: 092-42-99231919 / 99090000, Ext: 211,
Fax:0092-42-99231950

INSTRUCTIONS TO BIDDERS

A. GENERAL

IB.1 Scope of Bid and Source of Funds

1.1 Scope of Bid

National Engineering Services Pakistan (Pvt.) Limited (NESPAK) (hereinafter called “the Owner”) wishes to receive bids for the following scope of Works/Services:

Operation and maintenance of Central Heating, Ventilation and Air Conditioning (HVAC) System including all its accessories/peripheral equipment at NESPAK House, Lahore.

Bidders must quote for the complete scope of Works/Services. Any bid covering partial scope of Work/Services will be rejected as non-responsive, pursuant to Clause IB.24.

IB.2 Eligible Bidders

2.1 Bidding is open to all firms meeting the following requirements:

- a) Duly licensed by the Pakistan Engineering Council (PEC) in the appropriate category relevant to the works/services.
- b) Registered with Income Tax and sales Tax Department and is on active Tax payer list of Federal Board of Revenue (FBR).
- c) Has not been blacklisted/debarred by the Employer or any other Government/Semi Government Department

IB.3 Eligible Goods and Services

3.1 All Goods and Services to be supplied under this Contract shall have their origin in eligible countries listed in Appendix ‘A’ to Instructions to Bidders and all expenditures made under the Contract will be limited to such Goods and Services.

3.2 For purpose of this Clause, “origin” means the place where the Goods are mined, grown or produced or from where the Services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of Goods and Services is distinct from the nationality of the Bidder.

IB.4 Cost of Bidding

4.1 The Bidder shall bear all costs associated with the preparation and submission of its respective bid and the Owner will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. BIDDING DOCUMENTS

IB.5 Contents of Bidding Documents

5.1 In addition to Invitation to Bid, the Bidding Documents are those stated below, and should be read in conjunction with any Addendum issued in accordance with Clause IB.7.

1. Instructions to Bidders with Appendices to ITB
2. Form of Bid & Appendices to Bid

Appendices to Bid are the following:

- (i) Appendix A: Scope of Services
 - (ii) Appendix B: Reimbursable Costs
 - (iii) Appendix C: Notice and Communication Protocols
 - (iv) Appendix D: Works/Services to be performed by Subcontractors (Not Used)
 - (v) Appendix E: Method of Performing Works/Services
 - (vi) Appendix F: Proposed Organization
 - (vii) Appendix G: Integrity Pact
 - (viii) Appendix H: List of Equipment
3. Schedule of Prices
 4. General Conditions of Contract, Part-I (GCC)
 5. Particular Conditions of Contract, Part-II (PCC)
 6. Standard Forms
 - (i) Form of Bid Security
 - (ii) Form of Contract Agreement
 - (iii) Form of Performance Security
 7. Special Provisions
 8. Technical Provisions
 9. Operations and Maintenance (O&M) Performas.

5.2 The Bidders are expected to examine carefully the contents of all the above documents. Failure to comply with the requirements of bid submission will be at the bidders own risk. Pursuant to Clause IB.24, bids which are not substantially responsive to the requirements of the Bidding Documents will be rejected.

IB.6 Clarification of Bidding Documents

6.1 A prospective Bidder requiring any clarification(s) in respect of the Bidding Documents may notify the Owner in writing or by fax at the address:

General Manager/ Head, Building Services Division,
NESPAK IEEEE Building, 17-C-1, Civic Centre, Faisal Town, Lahore - 54700
Tel: 0092-42-99232261/99232301
Fax: 0092-42-99232275

Owner will examine the request for clarification of the Bidding Documents which it receives not later than five (05) days prior to the deadline for the submission of bids and if needed will issue the clarification/amendment of the Bidding Documents at least three (3) days before the date of submission of Bids (without identifying the source of enquiry but including its description) to all prospective Bidders who have purchased the Bidding Documents.

IB.7 Amendment of Bidding Documents

- 7.1 At any time prior to the deadline for submission of Bids, the Owner may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by issuing addendum.
- 7.2 Any addendum thus issued shall be part of the Bidding Documents pursuant to Sub-Clause 5.1 hereof, and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective Bidders shall acknowledge receipt of each addendum in writing to the Owner. The Bidder shall also confirm in the Form of Bid that the information contained in such addenda have been considered in preparing his bid.
- 7.3 To afford prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Owner may at its discretion extend the deadline for submission of bids in accordance with Clause IB.19.

C. PREPARATION OF BIDS

IB.8 Language of Bid

- 8.1 The Bid prepared by the Bidder and all correspondence and documents related to the Bid, exchanged by the Bidder and the Owner shall be written in the English language, provided that any printed literature furnished by the Bidder may be written in any other language so long as accompanied by an English translation of its pertinent passages in which case, for purposes of interpretation of the Bid, the English translation shall govern.

IB.9 Documents Comprising the Bid

- 9.1 The bid prepared by the Bidder shall comprise the following components:
- (a) Covering Letter along with proof of purchase of Bidding Documents.
 - (b) Form of Bid duly filled, signed and sealed, in accordance with Clause IB.17.
 - (c) Appendices (A to H) to Bid and Appendix B to ITB duly filled and signed, in accordance with the instructions contained therein.
 - (d) Schedule of Prices completed in accordance with Clauses IB.11 and 12.
 - (e) Bid Security furnished in accordance with Clause IB.15.

- (f) Power of Attorney in accordance with Clause IB 17.5.
- (g) Joint Venture Agreement (Not Applicable).
- (h) Documentary evidence established in accordance with Clause IB.13 that the bidder is eligible to bid and is qualified to perform the Contract if its bid is accepted.
- (i) Documentary evidence established in accordance with Clause IB.14 that the Goods and Services to be supplied by the Bidder are eligible Goods and Services and conform to the Bidding Documents.
- (j) Any other documents prescribed in Particular Conditions of Contract or Technical Provisions to be submitted with the bid.

IB.10 Form of Bid and Schedules

10.1 The Bidder shall complete, sign and seal the Form of Bid, Appendices (A to H, or as modified) to Bid and Schedule of Prices furnished in the Bidding Documents and shall also enclose other information as detailed in Clause IB.9.

10.2 Not used.

IB.11 Bid Prices

11.1 The Bidder shall fill up the Schedule of Prices attached to these documents indicating the unit rates and prices of the Works/Services to be performed under the Contract. Prices on the Schedule of Prices shall be entered keeping in view the instructions contained in the Preamble to the Schedule of Prices.

11.2 The Bidder shall fill in rates and prices for all items of the Works/Services described in the Schedule of Prices. Items against which no rate or price is entered by a Bidder will not be paid for by the Owner when executed and shall be deemed covered by rates and prices for other items in the Schedule of Prices.

11.3 The Bidder's separation of price components in accordance with Sub-Clause 11.1 above, will be solely for the purpose of facilitating the comparison of Bids by the Owner and will not in any way limit its right to Contract on any of the terms offered.

11.4 Unless otherwise stipulated in the Conditions of Contract, prices quoted by the Bidder shall remain fixed during the Bidder's performance of the Contract and not subject to variation on any account. When the Bidders are required to quote only fixed price(s) a bid submitted with an adjustable price quotation will be treated as non-responsive and rejected, pursuant to Clause IB.24.

11.5 Any discount offered shall be valid for at least the period of validity of the bid. A discount valid for lesser period shall be considered null and void.

IB.12 Currencies of Bid and Payment

12.1 Prices shall be quoted in the following currencies:

- (a) For Services which the Bidder will provide, the prices shall be quoted in the Pak. Rupees only.
- (b) Not used

12.2 Not used

12.3 Not Used

IB.13 Documents Establishing Bidder's Eligibility and Qualifications

13.1 Pursuant to Clause IB.9, the bidder shall furnish, as part of its Bid, documents, satisfactory to the Employer of his capability and adequacy of resources to carry out the Contract effectively. Bid shall include the following information which shall include but not limited to:

- (i) Evidence of access to financial resources;
- (ii) Financial predictions for the current year and the two following years including the effect of known commitments;
- (iii) Current Contract commitments;
- (iv) Current litigation information; and
- (iv) Availability of critical equipment.

13.2 The documentary evidence of the Bidder's eligibility to Bid shall establish to the Employer's satisfaction that the Bidder, at the time of submission of its Bid is eligible as defined under Clause IB.2

13.3 To be qualified for award of the Contract, the Bid shall include the following information:

- a) copies of original documents defining the constitution or legal status, place of registration and principal place of business written power of attorney of the signatory of the Bid to commit the Bidder;
- b) The Bidder should have an average annual turnover in the last three years equal to three Million. Alternatively, the Bidder should have successfully completed in the last ten years any specific project having value equal to or higher than the total Bid Price;
- c) That the Bidder/Manufacturer has the financial, and technical capability necessary to perform the Contract; and is able to carry out the Supplier's maintenance, repair and spare parts stocking obligations prescribed by the Conditions of Contract and/or Technical Provisions.
- d) And Performance as prime Operator on Works/Services of a similar nature and volume over the last ten years, and details of other work in hand and contractual commitments;
- e) The qualifications and experience of key personnel proposed for administration and execution of the Contract, both on and off site;

- f) Information regarding any current litigation in which the Bidder is involved, the parties concerned, and disputed amount; and
 - g) Proposal of work methods and program, in sufficient detail to demonstrate the adequacy of the Bidder's proposals to meet the Technical Specifications and the completion time.
- 13.4 (a) Bidder/Manufacturer must possess at least ten (10) years in similar Services and provide evidence of the following experience.

The Bidder shall certify the capacity and capability for performing the Operation and Maintenance Works/Services, qualified man-power and production/delivery of quality materials according to bid specifications and delivery requirements. Bidder shall submit with the Bid all necessary documentation in this regard. The Owner will have the right to verify the particulars regarding the system and other related information furnished with the Bid and the Bidder thereof shall be liable for disqualification in the event of any misstatement/misrepresentation on their part.

The Bidder shall furnish documentary evidence of qualification on the Form "Evidence of Bidder's Capability" (Appendix B to these Instructions)

13.5 Joint Venture

Not Applicable. The Bidder shall submit the Bid in its sole capacity.

IB.14 Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

14.1 Pursuant to Clause IB.9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the Bidding Documents of all Goods and Services which the Bidder proposes to perform under the Contract.

14.2 Not Used.

14.3 The documentary evidence of the Goods and Services' conformity to the Bidding Documents may be in the form of literature, drawings and data and shall furnish:

- a) A detailed description of the Goods/Services, essential technical and performance characteristics.
- b) Complete set of technical information, description data, literature and drawings as required in accordance with Appendix A to Bid, Scope of Services. This will include but not to be limited to the following:
 - (i) A sufficient number of drawings, photographs, catalogues, illustrations and such other information as is necessary to illustrate clearly the significant characteristics such as general construction dimensions and other relevant information about the Goods to be furnished.
 - (ii) Details of equipment and machinery with capacity.

- (ii) Any other information which is required for evaluation purposes.
 - c) A clause-by-clause commentary on Technical Provisions, provided with the Bidding Documents, demonstrating the Goods' and Services' substantial responsiveness to those Specifications or a statement of deviations and exceptions to the provisions of the Technical Provisions.
- 14.4 For purpose of the commentary to be furnished pursuant to Sub-Clause 14.3(c) above, the Bidder shall note that standards for workmanship, material and equipment, and references to brand names or catalogue numbers, designated by the Owner in the Technical Provisions are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in its bid, provided that it demonstrates to the Owner's satisfaction that the substitutions are substantially equivalent or superior to those designated in the Technical Provisions. Copies of the standards proposed by the bidder other than those specified in the Bidding Documents shall be furnished.

IB.15 Bid Security

- 15.1 Each Bidder shall furnish, as part of his bid, a Bid Security for an amount not less than 2% of Bid Price or an equivalent amount in a freely convertible currency.
- 15.2 The Bid Security shall be, at the option of the Bidder, in the form of Deposit at Call or a Bank Guarantee issued by a Scheduled Bank in Pakistan in favor of the Owner valid for a period twenty-eight (28) days beyond the bid validity date.
- 15.3 The Bid Security is required to protect the Owner against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to Sub-Clause 15.7 hereof.
- 15.4 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Owner as non-responsive, pursuant to Clause IB.24.
- 15.5 The bid securities of unsuccessful Bidders will be returned upon award of the Contract to the successful Bidder or on the expiry of validity of Bid Security whichever is earlier.
- 15.6 The Bid Security of the successful bidder will be returned when the Bidder has furnished the required Performance Security, pursuant to Clause IB.34 and signed the Contract Agreement, pursuant to Clause IB.35.
- 15.7 The Bid Security may be forfeited:
- (a) If a Bidder withdraws his bid during the period of bid validity; or
 - (b) If a Bidder does not accept the correction of his Bid Price, pursuant to Sub-Clause 24.2 hereof
 - (c) If the Bidder is found in corrupt and fraudulent practices; or
 - (d) In the case of a successful Bidder, if he fails to:
 - (i) Furnish the required Performance Security in accordance with Clause IB.34, or
 - (ii) Sign the Contract Agreement, in accordance with Clause IB.35.

IB.16 Validity of Bids

- 16.1 Bids shall remain valid for ninety (90) days after the date of bid opening as prescribed in Clause IB.19.
- 16.2 In exceptional circumstances prior to expiry of original bid validity period, the Owner may request the Bidders to extend the period of validity for a specified additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiture of his Bid Security. A Bidder agreeing to the request will not be required or permitted to modify his Bid, but will be required to extend the validity of his Bid Security for the period of the extension, and in compliance with Clause IB.15 in all respects.

IB.17 Format and Signing of Bid

- 17.1 Bidders are particularly directed that the amount entered on the Form of Bid shall be for performing the Contract strictly in accordance with the Bidding Documents.
- 17.2 All Appendices to Bid are to be properly completed and signed.
- 17.3 No alteration is to be made in the Form of Bid nor in the Appendices thereto except in filling up the blanks as directed. If any alteration be made or if these instructions be not fully complied with, the bid may be rejected.
- 17.4 Each Bidder shall prepare one (01) Original and one (01) Copy, of the documents comprising the bid as described in Clause IB.9 and clearly mark them "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail.
- 17.5 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign (in the case of copies, Photostats are also acceptable). This shall be indicated by submitting a written Power of Attorney authorizing the signatory of the Bidder to act for and on behalf of the bidder. All pages of the bid shall be initialed and stamped by the person or persons signing the bid.
- 17.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the Owner, or as are necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the bid.
- 17.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper addresses at which notices may be legally served on them and to which all correspondence in connection with their bids and the Contract is to be sent.
- 17.8 Bidders should retain a copy of the Bidding Documents as their file copy.

D. SUBMISSION OF BIDS

IB.18 Sealing and Marking of Bids

- 18.1 Each bidder shall submit his bid as under:
- (a) ORIGINAL and each COPY of the Bid shall be separately sealed and put in separate envelopes and marked as such.
 - (b) The envelopes containing the ORIGINAL and COPIES will be put in one sealed envelope and addressed / identified as given in Sub- Clause 18.2 hereof.
- 18.2 The inner and outer envelopes shall;
- (a) be addressed to the Owner at the address given in Sub-Clause 6.1 heretofore.
 - (b) bear the Project name, Bid No. and Date of opening of Bid.
 - (c) provide a warning not to open before the time and date for bid opening.
- 18.3 The Bid shall be delivered in person or sent by registered mail at the address of Owner as given in Sub-Clause 6.1 heretofore.
- 18.4 In addition to the identification required in Sub-Clause 18.2 hereof, the inner envelope shall indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late" pursuant to Clause IB.20.
- 18.5 If the outer envelope is not sealed and marked as above, the Owner will assume no responsibility for the misplacement or premature opening of the bid.

IB.19 Deadline for Submission of Bids

- 19.1
- (a) Bids must be received by the Owner at the address specified in Sub-Clause 6.1 hereof not later than the time and date stipulated in the Invitation to Bids.
 - (b) Bids with charges payable will not be accepted, nor will arrangements be undertaken to collect the bids from any delivery point other than that specified above. Bidders shall bear all expenses incurred in the preparation and delivery of Bids. No claims for refund of each expense will be entertained.
 - (c) Where delivery of a Bid is by mail and the bidder wishes to receive an acknowledgment of receipt of such bid, he shall make a request for such acknowledgment in a separate letter attached to but not included in the sealed bid package.
 - (d) Upon request, acknowledgment of receipt of Bids will be provided to those making delivery in person or by messenger.
- 19.2 Bids submitted through fax or e-mail shall not be considered.

- 19.3 The Owner may, at his discretion, extend the deadline for submission of bids by issuing an addendum in accordance with Clause IB.7, in which case all rights and obligations of the Owner and the Bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

IB.20 Late Bids

- 20.1 (a) Any Bid received by the Owner after the deadline for submission of bids prescribed in Clause IB.19 will be returned unopened to such Bidder.
- (b) Delays in the mail, delays of person in transit, or delivery of a Bid to the wrong office shall not be accepted as an excuse for failure to deliver a bid at the proper place and time. It shall be the Bidder's responsibility to determine the manner in which timely delivery of his bid will be accomplished either in person, by messenger or by mail.

IB.21 Modification, Substitution and Withdrawal of Bids

- 21.1 Any Bidder may modify, substitute or withdraw his bid after bid submission provided that modification, substitution or written notice of the withdrawal is received by the Owner prior to the deadline for submission of bids.
- 21.2 The modification, substitution or notice for withdrawal of any bid shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause IB.18 with the outer and inner envelopes additionally marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL", as appropriate.
- 21.3 Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in forfeiture of the Bid Security pursuant to Clause IB.15.

E. BID OPENING AND EVALUATION

IB.22 Bid Opening

- 22.1 A committee consisting of nominated members by the Owner will open the Bids, including withdrawals, substitution and modifications made pursuant to Clause IB.21, in the presence of Bidders' representatives who choose to attend, at the time, date and location stipulated in the Invitation to Bids.

The Bidders' representatives who are present shall sign in a register evidencing their attendance.

- 22.2 Envelopes marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL" shall be opened and read out first and the name of the Bidder shall be read out. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause IB.21 shall not be opened.

- 22.3 The Bidder's name, Bid Prices, unit rates, any discount and price of any Alternate Proposal(s), bid modifications, substitutions and withdrawals, the presence or absence of Bid Security, and such other details as the Owner at its discretion may consider appropriate, will be announced by the Owner at the bid opening. The Owner will record minutes of bid opening.

Any Bid Price or discount which is not read out and recorded at bid opening will not be taken into account in the evaluation of bid.

- 22.4 Discounts offered for lesser period than the bid validity shall not be considered in evaluation.

IB.23 Clarification of Bids

- 23.1 To assist in the examination, evaluation and comparison of Bids the Owner may, at his discretion, ask the Bidder for a clarification of his Bid. The request for clarification and the response shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.

IB.24 Preliminary Examination & Determination of Responsiveness of Bids

- 24.1 Prior to the detailed evaluation of bids, pursuant to Clause IB.26:

- (a) the Owner will examine the Bids to determine whether;
- (i) the Bid is complete and does not deviate from the scope;
 - (ii) any computational errors have been made;
 - (iii) required sureties have been furnished;
 - (iv) the documents have been properly signed;
 - (v) the Bid is valid till required period;
 - (vi) the Bid prices are firm during currency of Contract if it is a fixed price bid;
 - (vii) completion period offered is within specified limits;
 - (viii) the Bidder is eligible to Bid and meets the requisite qualification criteria;
 - (ix) the Bid does not deviate from basic technical requirements; and
 - (x) the Bids are generally in order.
- (b) A bid is likely not to be considered, if;
- (i) it is unsigned;
 - (ii) its validity is less than specified;
 - (iii) it is submitted for incomplete Scope of Work;
 - (iv) it indicates completion period later than specified;
 - (v) it indicates that Works/Services and materials to be supplied do not meet eligibility requirements; and
 - (vi) it indicates that Bid prices do not include the amount of income tax.
- (c) A bid will not be considered, if;
- (i) it is not accompanied with Bid Security;
 - (ii) it is submitted by a Bidder who has participated in more than one bid;
 - (iii) it is received after the deadline for submission of bids;

- (iv) it is submitted through fax or email;
- (v) it indicates that prices quoted are not firm during currency of the Contract whereas the Bidders are required to quote fixed price(s);
- (vi) the Bidder refuses to accept arithmetic correction;
- (vii) it is materially and substantially different from the Conditions/ Specifications of the Bidding Documents.
- (viii) It is not accompanied with duly filled in and signed/stamped Form of Bid; and
- (ix) The Bidder does not meet the requisite qualification criteria as per Clause IB.13 and Appendix B to Bid-Evaluation Criteria

24.2 Arithmetical errors will be rectified on the following basis:

If there is a discrepancy between the unit price and total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between the words and figures the amount in words shall prevail. If there is a discrepancy between the total Bid Price entered in Form of Bid and the total shown in Schedule of Prices Summary, the amount stated in the Form of Bid will be corrected by the Owner in accordance with the Corrected Schedule of Prices.

If the Bidder does not accept the corrected amount of Bid, his Bid will be rejected and his Bid Security forfeited.

24.3 Prior to the detailed evaluation pursuant to Clause IB.26, the Owner will determine the substantial responsiveness of each Bid to the Bidding Documents. For purpose of these Clauses, a substantially responsive Bid is one which conforms to all the terms and conditions of the Bidding Documents without material deviations.

A material deviation or reservation is one

- (i) which affects in any substantial way the scope, quality or performance of the Works/Services.
- (ii) which limits in any substantial way, inconsistent with the Bidding Documents, the Owner's rights or the Bidder's obligations under the Contract; or
- (ii) whose rectification/adoption would affect unfairly the competitive position of other Bidders presenting substantially responsive bids.

The Owner's determination of a Bid's responsiveness will be based on the contents of the Bid itself without recourse to extrinsic evidence.

24.4 A Bid determined as substantially non-responsive will be rejected and will not subsequently be made responsive by the Bidder by correction of the non-conformity.

24.5 Any minor informality or non-conformity or irregularity in a Bid which does not constitute a material deviation may be waived by Owner, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

IB.25 Conversion to Single Currency

25.1 Not used

IB.26 Detailed Evaluation of Bids

26.1 The Owner will evaluate and compare only the bids determined to be substantially responsive pursuant to Clause IB.24 as per requirements given hereunder.

26.2 Evaluation and Comparison of Bids

- (a) Bids will be evaluated for each item and/or complete Scope of Works/Services.
- (b) **Basis of Price Comparison**
The prices will be compared on the basis of the Evaluated Bid Price pursuant to Para (e) herein below.
- (c) **Technical Evaluation**
It will be examined in detail whether the Goods offered by the Bidder comply with the Technical Provisions of the Bidding Documents. For this purpose, the Bidder's data submitted with the bid will be compared with the specific scope of Services prescribed by the Owner and technical features/criteria of the Goods detailed in the Technical Provisions. Other technical information submitted with the bid regarding the Scope of Work/Services will also be reviewed.
- (d) **Commercial Evaluation**
It will be examined in detail whether the bids comply with the major deviation/stipulation shall be taken by the Bidders.
- (e) **Evaluated Bid Price**
In evaluating the bids, the Owner will determine for each bid in addition to the Bid Price, the following factors (adjustments) in the manner and to the extent indicated below to determine the Evaluated Bid Price:
 - (i) Making any correction for errors pursuant to Sub-Clause 24.2 hereof.
 - (ii) Excluding Provisional Sums, if any, but including priced Daywork.
 - (iii) Making an appropriate adjustment for any other acceptable variation or deviation.

26.3 Evaluation Methods

Pursuant to Sub-Clause 26.2, Para (e) (iii), following evaluation methods for price adjustments will be followed:

- (a) Price Adjustment for Completeness in Scope of Work/Services
 - (b) Price Adjustment for Technical Compliance
 - (c) Price Adjustment for Commercial Compliance
 - (d) Price Adjustment for Deviations in Terms of Payment
- (i) Price Adjustment for Completeness in Scope of Work/Services
- The adjustments for completeness in Scope of Works will be added to the

Corrected Total Bid Price for comparison purposes only and will be applied taking the highest Price quoted by other bidders being evaluated in detail in their original Bids for corresponding item. In case of non-availability of Price from other Bidders, the Price will be estimated by other owner.

The price adjustment shall not justify any additional payment by the Owner. The price(s) of omitted item(s) shall be deemed covered by other prices in the Schedule of Prices.

(ii) Price Adjustment for Technical Compliance

The cost of making good any deficiency resulting from technical non compliance will be added to the Corrected Total Bid Price for comparison purposes only. The adjustments will be applied taking the highest price quoted by other Bidders being evaluated in detail in their original Bids for corresponding item. In case of non availability of price from other Bidders, the price will be estimated by the Owner.

(iii) Price Adjustment for Commercial Compliance

The cost of making good any deficiency resulting from any quantifiable variations and deviations from the Bid Schedules and Conditions of Contract, as determined by the Owner will be added to the Corrected Total Bid Price for comparison purpose only. Adjustment for commercial compliance will be based on Corrected Total Bid Prices.

(iv) Price Adjustment for Deviation in Terms of Payment

If a bid deviates from the terms of payment/payment conditions as specified in the Conditions of Contract and if such deviation is considered acceptable to the Owner, mark-up earned for any earlier payments involved in the terms outlined in the Bid as compared to those stipulated in the Conditions of Contract shall be calculated at the following mark-up rate of Kibor + 2% per annum and shall be added to the Corrected Total Bid Price for comparison purposes only.

- 26.4 If the bid of the successful Bidder is seriously unbalanced in relation to the Owner's estimate of the cost of work to be performed under the Contract, the Owner may require the Bidder to produce detailed price analyses for any or all items of the Schedule of Prices to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Owner may require that the amount of the Performance Security set forth in Clause IB.34 be increased at the expense of the successful Bidder to a level sufficient to protect the Owner against financial loss in the event of default of the successful Bidder under the Contract.

IB.27. Domestic Preference (Not Applicable)

IB.28 Process to be Confidential

- 28.1 Subject to Clause 23 heretofore, no Bidder shall contact Owner on any matter relating to his Bid from the time of the Bid opening to the time the bid evaluation result is announced by the Owner. The evaluation result shall be announced at least ten (10) days prior to award of Contract. The announcement to all Bidders will include table(s) comprising read out prices, discounted prices, price adjustments made, final evaluated prices and recommendations against all the bids evaluated.
- 28.2 Any effort by a Bidder to influence Owner in the Bid evaluation, Bid comparison or Contract Award decisions may result in the rejection of his Bid. Whereas any Bidder feeling aggrieved may lodge a written complaint not later than fifteen (15) days after the announcement of the bid evaluation result; however, mere fact of lodging a complaint shall not warrant suspension of the procurement process.

F. AWARD OF CONTRACT

IB.29. Post-Qualification (not used)

IB.30 Award Criteria

- 30.1 Subject to Clause IB.32, the Owner will award the Contract to the Bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be eligible in accordance with the provisions of clause IB.2 qualified to satisfactorily perform the Contract in accordance with the provisions of Clause IB.29.

IB.31 Owner's Right to Vary Quantities (not used)

IB.32 Owner's Right to Reject all Bids

- 32.1 Notwithstanding Clause IB.30, the Owner reserves the right to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or any obligation to inform the affected Bidders of the grounds for the Owner's action except that the grounds for its rejection shall upon request be communicated, to any Bidder who submitted a bid, without justification of grounds. Rejection of all bids shall be notified to all Bidders promptly.
- 32.2 No negotiations with the Bidder having been evaluated as lowest responsive or any other Bidder shall be permitted. However, the Owner may have clarification meeting(s) to get clarify any item(s) in the bid evaluation report.

IB.33 Notification of Award

- 33.1 Prior to expiration of the period of bid validity prescribed by the Owner, the Owner will notify the successful Bidder in writing ("Letter of Acceptance") that his Bid has been accepted. This letter shall name the sum which the Owner will pay the Operator in

consideration of the execution and completion of the Works/Services by the Operator as prescribed by the Contract (hereinafter and in the Conditions of Contract called the "Contract Price").

- 33.2 The Letter of Acceptance and its acceptance by the Bidder will constitute the formation of the Contract, binding the Owner and the Bidder till signing of the formal Contract Agreement.
- 33.3 Upon furnishing by the successful Bidder of a Performance Security, the Owner will promptly notify the other Bidders that their bids have been unsuccessful and return their bid securities.

IB.34 Performance Security

- 34.1 The successful Bidder shall furnish to the Owner a Performance Security in the form and the amount stipulated in the Conditions of Contract within a period of Seven (07) days after the receipt of Letter of Acceptance.
- 34.2 Failure of the successful Bidder to comply with the requirements of Sub-Clause IB.34.1 or Clause IB.35 or Clause IB.43 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

IB.35 Signing of Contract Agreement

- 35.1 Within three (03) days from the date of furnishing of acceptable Performance Security under the Conditions of Contract.
- 35.2 The contract Agreement between the Owner and the successful Bidder shall be executed.

G. ADDITIONAL INSTRUCTIONS

IB.36 Instructions not Part of Contract

- 36.1 Bids shall be prepared and submitted in accordance with these Instructions which are provided to assist Bidders in preparing their bids, and do not constitute part of the Bid or the Contract Documents.

IB.37 Contract Documents

- 37.1 The Documents which will be included in the Contract are listed in the Form of Contract Agreement set out in these Bidding Documents.

IB.38 Sufficiency of Bid

- 38.1 Each Bidder shall satisfy himself before Bidding as to the correctness and sufficiency of his Bid and of the rates and prices entered in the Schedule of Prices. Except insofar as it is otherwise expressly provided in the Contract, the rates and prices entered in the Schedule of Prices shall cover all his obligations under the Contract and all matters and

things necessary for the proper completion of the Works/Services.

IB.39 One Bid per Bidder

39.1 Each Bidder shall submit only one bid either by himself, or as a partner in a joint venture. A Bidder who submits or participates in more than one bid (other than alternatives pursuant to Clause IB.41) will be disqualified and bids submitted by him shall not be considered for evaluation and award.

IB.40 Bidder to Inform Himself

40.1 The Bidder is advised to obtain for himself at his own cost and responsibility all information that may be necessary for preparing the bid and entering into a Contract for execution of the Works/Services. This shall include but not limited to the following:

- (a) inquiries on Pakistani Income Tax/Sales Tax to the Commissioner of the Income Tax and Sales Tax, Lahore Pakistan.
- (b) inquiries on customs duties and other import taxes, to the concerned authorities of Customs and Excise Department.
- (c) information regarding port clearance facilities, loading and unloading facilities, storage facilities, transportation facilities and congestion at Pakistan seaports.
- (d) investigations regarding transport conditions and the probable conditions which will exist at the time the Goods will be actually transported.

IB.41 Alternate Proposals by Bidder

- 41.1 Not used
- 41.2 Not used

IB.42 Local Conditions

42.1 Bidder must verify and supplement by his own investigations the information about site and local conditions. However, Owner will assist the Bidder wherever practicable and possible.

IB.43 Pre-Bid Meeting

A Pre-Bid meeting shall be arranged, if required and notified by the owner, in the office of:

General Manager/Head, Coordination Division,
NESPAK House 1-C, Block-N, Model Town Extension, Lahore-54700
Tel: 092-42-99231919 / 99090000, Ext: 211,
Fax:0092-42-99231950

to clarify and answer any questions on matters related to Bidding Document. Minutes of the Pre-Bid meeting shall be issued to all prospective Bidders.

IB.44 Integrity Pact

The Bidder shall sign and stamp the Integrity Pact provided at Appendix-G to Bid in the Bidding Document for all Federal Government procurement contracts exceeding Rupees ten (10) million. Failure to provide such Integrity Pact shall make the bid non-responsive.

NAME OF ELIGIBLE COUNTRIES

All Services to be provided by the operator under this contract shall be from within Pakistan. The Good/Spare parts if required to be supplied by the operator under this contract pursuant to Sub-Clause SP.02.1.2 of special provisions shall be from the countries of the world with whom Islamic Republic of Pakistan has commercial trade relations except the countries upon which international sanctions are imposed.

EVIDENCE OF BIDDER'S CAPABILITY

The Appendix B contains the following forms:

- i. General Information;
- ii. General Experience Record;
- iii. Joint Venture Summary (not Used);
- iv. Particular Experience Record;
- v. Detail of Contracts of Similar Nature and Complexity;
- vi. Current Contract Commitments/Works in Progress;
- vii. Personal Capabilities;
- viii. Financial Capabilities;
- ix. Litigation History; and
- x. Evaluation Criteria

Application Form B – 1

General Information

All individual firms applying for the said Works/Services are requested to complete the information in this form.

1.	Name of Firm	
2.	Head Office Address	
3.	Telephone	Contact Person: Name: Title:
4.	Fax	Telex
5.	Place of Incorporation/Registration	Year of incorporation/registration

NATIONALITY OF OWNERS		
	NAME	NATIONALITY
1.		
2.		
3.		
4.		
5.		

Application Form B – 2

General Experience Record

Name of Bidder

All individual firms are requested to complete the information in this form. The information supplied should be the annual turnover of the Bidder, in terms of the amounts billed to clients for each year for work in progress or completed over the past three years.

Annual Turnover	
Year	Turnover (PKR)
1.	
2.	
3.	

Application Form B - 3

Joint Venture Summary (NOT USED)

Application Form B – 4

Particular Experience Record

Name of Bidder

To qualify, the Bidder shall be required to pass the specified requirements applicable to this form, as set out in the: "Evaluation Criteria".

*On a separate page, using the format of Application Form B-5, each Bidder is required to list all contracts of a value equivalent to Pak **Rs. 1 million** (Rupees one million) and above of a similar nature and complexity to the contract for which the Bidder wishes to qualify, undertaken during the last five years. The information is to be summarized, using Application Form B-5, for each contract completed or under execution by the Bidder.*

Application Form B – 5**Details of Contracts of Similar Nature & Complexity**

Name of Bidder

Use a separate sheet for each contract.

1.	Name of Contract
	Country
2.	Name of Employer
3.	Employer Address.....
4.	Nature of works and special features relevant to the contract for which the Bidder wishes to pre-qualify
5.	Contract Role (Tick One) (a) Sole Constructor (b) Sub- Contractor (c) Partner in a Joint Venture
6.	Value of the total contract (in specified currencies) at completion, or at date of award for current contract Currency Currency Currency
7.	Equivalent in Pak/Rs.
8.	Date of Award
9.	Date of Completion
10.	Contract Duration (Years and Months) ___ Years ___ Months

Application Form B – 6**Summary Sheet: Current Contract Commitments/Works in Progress**

<i>Name of Bidder</i>

Bidders to an application should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which substantial Completion Certificate has yet to be issued.

Name of Contract	Value of Outstanding Work (Pak Rs. Millions)	Contract Period	Estimated Completion Date
1.			
2.			
3.			
4.			
5.			
6.			

Application Form B – 7

Personnel Capabilities

<i>Name of Bidder</i>

For specific positions essential to contract implementation, Bidders should provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one Form for each candidate (Application Form B-8).

1.	Proposed Position
	Name of Prime Candidate
	Name of Alternate Candidate
2.	Proposed Position
	Name of Prime Candidate
	Name of Alternate Candidate
3.	Proposed Position
	Name of Prime Candidate
	Name of Alternate Candidate
4.	Proposed Position
	Name of Prime Candidate
	Name of Alternate Candidate

Application Form B – 8

Candidate Summary

<i>Name of Bidder</i>

Position	Candidate [Tick appropriate one] <input type="checkbox"/> Prime <input type="checkbox"/> Alternate	
Candidate information	1. Name of Candidate	2. Date of Birth
	3. Professional Qualification	4. PEC Registration No.
Present employment	5. Name of employer	
	Address of employer	
	Telephone	Contact (manager/personnel officer)
	Fax	Telex
	Job title of candidate	Years with present employer

Summarize professional experience over the last 5 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the Project.

Month/ Dates/Years		Company/Project/Position/Relevant technical and management experience
From	To	

**Application Form B - 9
Equipment Capabilities**

<i>Name of Bidder</i>

The Bidder shall provide adequate information to demonstrate clearly that he has the capability to meet the requirements for each and all items of equipment listed in the Evaluation Criteria. A separate Form shall be prepared for each item of equipment listed in para 1.2C of the Evaluation Criteria, or for alternative equipment proposed by the Bidder.

Item of Equipment		
Equipment information	1. Name of manufacturer	2. Model and power rating
	3. Capacity	4. Year of manufacture
Current status	5. Current location	
	6. Details of current commitments	
Source	7. Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased	

Omit the following information if it is owned by the Bidder or partner.

Owner	8. Name of owner	
	9. Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreement	Details of rental/lease specific to the Project	

Application Form B - 10 Financial Capability

Name of Bidder

Bidders should provide financial information to demonstrate that they meet the requirements stated in the Evaluation Criteria. Each Bidder must fill-in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets should be attached.

Banker	Name of banker	
	Address of banker	
	Telephone	Contact name and title
	Fax	Telex

Summarize actual assets and liabilities in Pak Rupees (Equivalent at the current rate of exchange at the end of each year) for the previous three years, based upon known commitments, projected assets and liabilities in pak Rupees equivalent for the next two years.

Financial information in Pak Rs. or equivalent	Actual: previous three year			Projected next two years	
	1	2	3	4	5
1. Total assets					
2. Current assets					
3. Total liabilities					
4. Current liabilities					
5. Profits before taxes					
6. Profits after taxes					

Specific proposed sources of financing to meet the cash flow of the Project, net of current commitments (Instructions to Bidders, para 2.2.5).

Source of financing	Amount (Pak Rs. or equivalent)
1.	
2.	
3.	
4.	

Attach audited financial statements for the last three (03) years (for individual Bidder).

Application Form B - 11 Litigation History

Name of Bidder

Bidders should provide information on any history of litigation or arbitration resulting from contracts executed or currently under execution (Instructions to Bidders, Para 2.2.5 (vi)).

Year	Award FOR or AGAINST Bidder	Name of client, cause of litigation, and matter in dispute	Disputed amount (current value Pak Rs.)

EVALUATION CRITERIA

1.1 Eligibility Criteria

Keeping in view the complexity of the project, eligibility of Bidders for qualification evaluation is as mentioned below:

- a) Duly licensed by the Pakistan Engineering Council (PEC) in the appropriate category relevant to the works/services.
- b) Registered with Income Tax and sales Tax Department and is on active Tax payer list of Federal Board of Revenue (FBR).
- c) Has not been blacklisted/debarred by the Employer or any other Government/Semi Government Department

1.2 Qualification Criteria

Keeping in view the complexity of the Project works, criteria for qualification is mentioned below:

Sr. No.	Category	Weightage/Marks
a.	Experience Record	30
b.	Personnel Capabilities	25
c.	Equipment Capabilities	25
d.	Financial Soundness	20
Total:		100

Qualification will be carried out on the point scoring basis. Any Bidder securing overall minimum score of 60 % as total will be considered as qualified.

An Bidder may score below 60% in any one category provided it is not less than 50%.

Bidders having score of less than 60% in any two categories shall not be considered for further evaluation.

Qualification Criteria

a. Experience Record

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
i)	Projects of similar nature and complexity operated & maintained or in hand in last ten years.	26	<ul style="list-style-type: none"> • 16 Marks are given if the Bidder has at least 5 projects of similar nature in last ten years. • For less than 5 projects completed use the following weight age. 16 x (A/5) • For more than 5 projects but less than 10 projects completed use the following weight age. 16 + (A/5) x 5 <p>A = No of projects of similar nature completed in last ten years</p> <ul style="list-style-type: none"> • Full Marks are given in case of 10 projects or more.
ii)	Enlistment record with Organizations & other agencies	04	<ul style="list-style-type: none"> • 1 Mark for each enlistment up to maximum of four enlistments.
Total Marks Allocated			30

b. Personnel Capabilities

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
i)	B.Sc. Engineers registered with Pakistan Engineering Council (PEC)	03	<p><u>Experience (2-Marks)</u></p> <ul style="list-style-type: none"> 2 Marks will be given if the individual relevant experience of at least 01 numbers of B.Sc. Engineers (professional) in relevant field is equal to 05 years or above. <p><u>Strength of Engineers (1 Marks)</u></p> <ul style="list-style-type: none"> 0.5 Marks will be given if the total no. of Engineers registered with PEC is 1. 1 Mark will be given if the total no. of engineers registered with PEC is 2 or above.
ii)	Associates Engineers (DAE in relevant field)/RAC Technician Certificate	17	<p><u>Experience (07-Marks)</u></p> <ul style="list-style-type: none"> 7 Marks will be given if the individual relevant experience of at least 1 number of Associates Engineers (DAE) is equal to 7 years or above. <p><u>Strength of Associate Engineers/HVAC Technicians (10 Marks)</u></p> <ul style="list-style-type: none"> 10 Marks will be given if the total no. of Associate Engineers (DAE)/HVAC Technicians are 5 or above. For less than 5 use the following weight-age formula $10 \times (5/A)$ A= No. of Associate

			Engineers (DAE)/HVAC Technicians offered.
iii)	Technician/Welder/ Fabricator	05	<p><u>Experience (2-Marks)</u></p> <ul style="list-style-type: none"> • 2 marks will be given if the individual relevant experience of Technician/welder/fabricator is 10 years <p><u>Strength of Technician/welder/fabricator (3 Marks)</u></p> <ul style="list-style-type: none"> • 3 Marks will be given if total no. of technician/welder/fabricator are 5 or above • For less than 5 use the following weight-age formula <p>3x (5/A) A= No. of technician/welder/fabricator offered.</p> <p>.</p>
Total Marks Allocated			25

c. Equipment Capabilities

Sr. No.	Description	Marks Assigned	Explanation for Marks Obtained
i) 1. Spanner set-Open 2. Spanner set-Ring 3. Ratchet Die set 4. Drill machine with stone cutter 5. Adjustable spanner set 6. Roller Cutter Machines 7. Welding transformer 8. Wrench set all size 9. Pipe wrench set 10. Portable Hand Grinding Machines 11. Pipe Cutters 12. Air temperature gauge 13. General tool set 14. Gauge manifold 15. Electric Tool set 16. Tong Tester 17. Grease Gun 18. Vice Anvil 19. Flaring Tool set 20. Blower 21. Glycol meter 22. Allen Key set all size 23. Socket set all size 24. Star-Shaped Wrench Set	Equipment	20	<ul style="list-style-type: none"> • 5 Marks for each equipment are given. Total Marks = (Marks Obtained/120)x20
ii)	Workshop facilities	5	No point will be given if Constructor has no workshop facilities
Total Marks Allocated			25

d. Financial Soundness

Sr. No.	Description	Marks Assigned	Criteria for Marks Obtained
i)	Bank Certificate including Bank Credit Line (Evidence in Original from Guarantor Bank)	05	<p><u>Bank Certificate (2-Marks)</u></p> <ul style="list-style-type: none"> • 2 Marks are given if Original Bank Certificate is provided. <p><u>Bank Credit Line (3-Marks)</u></p> <ul style="list-style-type: none"> • 1.5 Marks are given if the available bank credit line limit is equal to 0.5 Million. • For limit less than 0.5 Million, use following weight-age: 1.5 x A • For the limit more than 0.5 million but less than 3 million use following weight-age: 1.5 + (A/3) A = Available Bank Credit Line Limit in millions • Full Marks are given in case of limit is 3 million or more.
ii)	Audited Balance Sheets for at least last two years	02	<ul style="list-style-type: none"> • No points will be given if Audited Balance Sheets are not attached. One (01) point will be given for one year audited balance sheets and Three (03) point for two years
iii)	Working Capital in last	3	<ul style="list-style-type: none"> • 3 Marks are given if the

	three years		<p>available average working capital for last three years is equal to 3 Million or more.</p> <ul style="list-style-type: none"> For the capital less than 3 million use following weight-age: $3 \times (A/3)$
iv)	Copy of Valid electrical license from Sub-Contractor	1	<ul style="list-style-type: none"> No points will be given if license is not attached and 2 points will be added in case of valid license.
v)	Litigation History in which no Decision has been given against the firm(s)	7	<ul style="list-style-type: none"> In case the firm is involved in any litigation, -5 will be given and 7 points will be added in case original affidavit of no litigation is attached.
vi)	Description of Internal Quality Control assurance program for Construction/ Erection/Maintenance	2	<ul style="list-style-type: none"> two (02) Mark will be given if Description is provided.
Total Marks Allocated			20

Domestic Goods (Value added in Pakistan)

(NOT USED)

FORM OF BID

Bid Reference No. _____

OPERATION AND MAINTENANCE (O&M) OF HEATING, VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM AT NESPAK HOUSE, LAHORE

To:

General Manager/Head, Coordination Division
NESPAK House 1-C,
Block-N, Model Town
Extension, Lahore-54700.
Tel: 092-42-99231919 / 99090000, Ext: 211,
Fax:0092-42-99231950
Gentleman,

1. Having examined the Bidding Documents including Instructions to Bidders, Conditions of Contract, Specifications, Schedule of Prices and Addenda Nos. _____ for the execution of the above-named Works/Services, we, the undersigned, being a company doing business under the name of and address _____
_____ and being duly incorporated under the laws of Islamic Republic of Pakistan hereby offer to execute and complete such Works/Services and remedy any defects therein in conformity with the said Documents including Addenda thereto for the Total Bid Price comprising of PKR _____ (Rupees _____) or such other sum as may be ascertained in accordance with the said Documents.
2. We understand that all the Appendices to Bid attached hereto form part of this Bid.
3. As security for due performance of the undertakings and obligations of this Bid, we submit herewith a Bid Security in the amount of _____ (Rs.) _____ drawn in your favor or made payable to you and valid for a period of twenty eight (28) days beyond the period of validity of Bid.
4. We undertake, if our Bid is accepted, to commence the Works/Services and to deliver and complete the whole of the Works/Services comprised in the Contract within the time stated in the Conditions of Contract (PCC 1.2).
5. We agree to abide by this Bid for the period of 90 days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us.

7. We undertake, if our Bid is accepted, to execute the Performance Security referred to in Sub-Clause 15.15 of Conditions of Contract for the due performance of the Contract.
8. We understand that you are not bound to accept the lowest or any Bid you may receive.
9. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other Bidder making a Bid for the Works/Services.

Dated this _____ day of _____ 20_____

Signature _____ in the capacity of _____ duly

authorized to sign bids for and on behalf of _____
(Name of Bidder in Block Capitals)
(Seal)

Address

Witness:

(Signature) _____

(Name) _____

Address: _____

Occupation _____

SCOPE OF SERVICES

Operator shall perform each of the Services listed in this Appendix A in accordance with the standards required under Sub-Clause 3.2 of GCC.

I. Programs

In addition to those responsibilities described in the Agreement, Operator shall be responsible for the establishment and implementation of the following programs, standards and procedures, which require Owner's approval and which are included in the "Services" to be provided by the Operator.

- A. The program for establishing specific operating goals for each functional Project area, for managing resources to minimize personnel turnover, and for qualifying personnel, to operate and maintain the Project (including the basis for qualification of personnel).
- B. The program for communicating and cooperating with Owner and governmental agencies.
- C. The Project management standards for conduct of operations, Project safety, Project security conduct of maintenance, housekeeping, material condition, and records management.
- D. The program for preparing supporting documentation, meter readings and information necessary to accurately prepare, justify and support monthly invoices in accordance with the terms and conditions of the Project Agreements.
- E. Developing the procedures used to operate the Project as well as monitoring, evaluating, and proposing revisions to such procedures.
- F. The Project operations and monitoring program which provides the requirements for:
 - 1. Monitoring of Project Performance
 - 2. Monthly Project Performance Calculations and Report
 - 3. Monthly Fuel Consumption Calculations and Report
 - 4. Project Permitting and Environmental Reporting
 - 5. Shift Routines / Operating Practices
 - 6. Control of Equipment
 - 7. Project Chemistry Control and Water Treatment
 - 8. Training Programs
 - 9. Operator Qualifications
 - 10. Operating Procedures
 - 11. Status of Major Equipment
- G. The maintenance program which provides the requirements for:
 - 1. Maintenance Planning
 - 2. Maintenance Procedures
 - 3. Preventive Maintenance
 - 4. Predictive Maintenance

5. Maintenance Training

- H. The materials management program which provides the requirements for:
 - 1. Procuring Materials and Tools
 - 2. Inventory Levels and Control
 - 3. Renewal of Inventories
- I. The diagnostic testing program for maintaining the Project and Project equipment, including both system and component level testing.
- J. The housekeeping / cleanliness program which provides the requirements for:
 - 1. Hazardous Material Control
 - 2. General Project Cleanliness
 - 3. Equipment Condition Inspections
 - 4. Hazardous Waste Program
- K. The problem assessment program which provides the procedure for determining the cause(s) of operational or equipment failures and preventing future failures through recommended improvements, including justification for such recommendations (i.e., basis of recommendation and economic analysis).
- L. The records management program for maintaining the traceability and documentation of Project performance.
- M. The Project safety program which provides the requirements for establishing:
 - 1. Safety Monitoring
 - 2. Accident Prevention Program
 - 3. Accident Reporting
- N. Monthly and yearly reporting systems of Project performance to Owner.
- O. The security program for maintaining the security of the Project and surrounding area.

II. Specific Requirements

Operator's scope of Services is based on the Project design as described in certain of the Project Agreements, the Project Operating Manuals, vendor manuals and design/as built drawings. Operator will prepare Annual Project Operating Plans, which, in part, will define the operations procedural requirements for the Project to meet the requirements of the Project Agreements. Operator, as part of the Services, is responsible for:

- A. Providing such trained personnel as is reasonably necessary to operate and maintain the Project and provide the Services set forth in this Agreement.
- B. Operating and maintaining the Project in accordance with the approved Annual Project Operating Plan.
- C. Submitting an Annual Project Operating Plan. Not later than ninety (90) days prior to the first day of each Contract Year, Operator will submit an Annual Project Operating Plan to Owner. In addition to the requirements set forth in Sub-Clause 6.2 of GCC (Annual Operating

Budget and Plan), the Annual Project Operating Plan will detail maintenance, outage, and overhaul schedules, Project staffing, known capital and expense budget items, operating plans, and will provide the underlying assumptions used in developing the proposed budgets and anticipated availability for the period. Owner will review and approve the Annual Project Operating Plan. Such approval will become the basis for reimbursement under the Annual Budget.

D. Planning and managing on-site operations and maintenance activities, including:

1. Assuring that operational goals and operating plans are consistent with the Annual Project Operating Plan.
2. Assuring that the Project is operated in accordance with this Agreement and in a safe, reliable, efficient, and prudent manner.
3. Assuring that operations and maintenance personnel are trained and qualified for their assigned responsibilities and tasks, and that such qualification is maintained.
4. Assuring that the Project meets Contract, regulatory, and environmental requirements set forth in the Project Agreements or otherwise identified by the Owner or Operator.
5. Managing and controlling costs consistent with budget requirements.
6. Planning, scheduling and managing work and maintenance activities.
7. Defining and documenting operational technical requirements.
8. Defining and delineating responsibilities between Operator and Owner and identifying reporting requirements.
9. Establishing labor relations and personnel programs that will meet state federal and provincial requirements and encourage employee retention.
10. Maintaining a current inventory of materials and procuring all Services, spare parts, operational materials, consumables, office equipment, tools and shop equipment, or any other items or materials required to operate or maintain the Project. Operator will identify required items, cost, quantity and need date. The cost of any item or service shall be reimbursed by Owner in accordance with this Agreement.
11. Controlling outages, both planned and unplanned, by using detailed and integrated plans and schedules, and resource management.
12. Maintaining Project performance levels by using routine system and component performance testing.
13. Maintaining a file of preplanned outage-related work to allow for efficient use of any forced outage downtime.
14. Establishing open purchase order or Contract agreements with Project equipment vendors, industrial suppliers, jobbers, and maintenance contractors in accordance with Project Agreements to ensure timely response to Project maintenance needs in compliance with Public Procurement Rules, 2004 (in case of federal funding source).
15. Promptly notifying Owner in writing of any teardowns and overhauls of major equipment or capital improvements that Operator believes are necessary or advisable together with a proposed schedule for completing such repairs or improvements.

- E. Performing such other tasks which Operator deems appropriate, from time to time, in connection with operation of the Project.
- F. Performing such other tasks and Services Which Owner may reasonably request from time to time in connection with operation of the Project.

REIMBURSABLE COSTS

Reimbursable Cost items shall be paid as per actual without overheads and profit, to Operator in accordance with the requirements of Clauses 5 and 7 or 8 of GCC, as required. Reimbursable Costs may include the following:

1. Spare and replacement parts pursuant to Sub-Clause SP-02.1.2 of Special Provisions
2. All material, necessary to operate and maintain the Project
3. Chemicals
4. Lubricants (including proper disposal costs)
5. Consumables and general supplies
6. Cleaning supplies
7. Major equipment overhauls
8. Building repairs and maintenance (not caused by contractors under the Project Agreements)

All Services by Operator that support Project activities and all Reimbursable Costs shall be approved by Owner, through the Annual Budget or otherwise, prior to implementation by Operator.

NOTICES AND COMMUNICATION PROTOCOLS

The Operator shall use the following contact address for all the notices and communication protocols with Owner.

General Manager/Head, Coordination Division,
NESPAK House 1-C, Block-N, Model Town Extension, Lahore-54700
Tel: 092-42-99231919 / 99090000, Ext: 211
Fax:0092-42-99231950

The Operator shall provide the following information for all the notices and communication Protocols from the Owner.

Name of Operator Firm.....
Contact Person Name.....
Head Office Address.....
Telephone.....
Fax.....

WORKS/SERVICES TO BE PERFORMED BY SUBCONTRACTORS

(NOT USED)

METHOD OF PERFORMING THE WORKS/SERVICES

The Bidder is required to submit a narrative outlining the method of performing the Works/Services. The narrative should indicate in detail and include but not be limited to:

- The sequence and methods in which he proposes to carry out the Works/Services, including the number of shifts per day and hours per shift, he expects to work.
- A list of all major items of constructional and erection system, tools and vehicles proposed to be used in carrying out the Works/Services at Site, including number of each kind, make, type, capacity of all equipment, working condition, which shall be deployed by him for Civil Work and Erection, Testing and Commissioning of the Works, in sufficient detail to demonstrate fully that the equipment will meet all the requirements of the Technical Provisions.
- The procedure for installation of equipment, machinery, transportation of equipment and materials to the site.
- Details regarding mobilization in Pakistan, the type of facilities including personnel accommodation, office accommodation, provision for maintenance and for storage, communications, security and other services to be used.
- Organization chart indicating head office & field office personnel involved in management, supervision and engineering Works to be done and Services to be performed under the Contract.

PROPOSED ORGANISATION

The Bidder shall list in this Schedule the key personnel he will employ together with their names, qualifications, experience, positions held and their nationalities.

Following is the minimum required operation and maintenance staff for the complete operation summer and winter of HVAC system managed in two shifts as mentioned below. Minimum staff required for night shift will be One (01) Operator and One (01) Helper and to be managed out of below mentioned staff. The CV's shall be submitted with bid for evaluation and final approval.

A) Morning Shift Six (06) days in a week for 10 hour /day

B) Night Shift Six (06) days in a week

Sr. No	Post Title	No. of Post	Minimum Qualification	Minimum Required Experience	Status
1	Resident Supervisor /coordinator O & M	One (01)	B-Tech/DAE (HVAC/Mechanical)	5 to 7 Years working O & M experience of HVAC system.	Full Time
2	Chiller Operator	Two (02)	-	05 to 08 Years working O & M experience of HVAC system on screw and reciprocating chillers.	Full Time
3	Electrician	One (01)	-	05 years working experience of building electrification system.	Full Time
4	Pump Operator/Plumber/ Pipe Fitter	One (01)	-	03 to 05 Years working O & M experience of HVAC system.	Full Time
5	Helper	Three(03)	-	03 Years of relevant working experience.	Full Time

C) Back Up Support And Workshop Facilities (Available From Head Office)

The backup support and workshop facilities will be required only when there will be requirement for them on project site.

Sr. No	Post Title	No. of Post	Minimum Qualification	Minimum Required Experience	Status
1	Welder	One (01)	-	05 Years working experience of welding, cutting and installation of MS pipes.	As and when required
2	Fabricator	One (01)	-	05 Years working experience of cutting, fabrication and installation of GI ducts.	As and when required
3	Chiller Technician	One (01)	DAE (HVAC/Mechanical)/RAC Technician Certificate	5 to7 Years working O & M experience of HVAC system on screw and reciprocating chillers.	As and when required

(INTEGRITY PACT)

**DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC.
PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN
CONTRACTS WORTH RS. 10.00 MILLION OR MORE**

Contract No. _____ Dated _____
Contract Value: _____
Contract Title: _____

..... [name of Bidder] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, [name of Bidder] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[name of Bidder] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Bidder] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [name of Bidder] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Name of Owner:
Signature:
[Seal]

Name of Bidder:
Signature:
[Seal]

LIST OF EQUIPMENT

The following equipment/tools shall be available at Project site.

1. Spanner set-Open
2. Spanner set-Ring
3. Ratchet Die set
4. Drill machine with stone cutter
5. Adjustable spanner set
6. Roller Cutter Machines
7. Welding transformer
8. Wrench set all size
9. Pipe wrench set
10. Portable Hand Grinding Machines
11. Pipe Cutters
12. Air temperature gauge
13. General tool set
14. Gauge manifold
15. Electric Tool set
16. Tong Tester
17. Grease Gun
18. Vice Anvil
19. Flaring Tool set
20. Blower
21. Glycol meter
22. Allen Key set all size
23. Socket set all size
24. Star-Shaped Wrench Set
25. CFM Meter
26. Differential Pressure Gauge
27. Water Flow meter
28. DB level Meter

PREAMBLE TO SCHEDULE OF PRICES

1. General

- 1.1 The Schedule of Prices shall be read in conjunction with the Conditions of Contract together with the Technical and special provisions.
- 1.2 The Contract shall be for the whole of the Works/services as described in these Bidding Documents. Bids must be for the complete scope of Works/services.

2. Description

- 2.1 The general directions and descriptions of works/services and materials are not necessarily repeated nor summarized in the Schedule of Prices. References to the relevant sections of the Bidding Documents shall be made before entering prices against each item in the Schedule of Prices.
- 2.2 The quantities shown in the Schedule of Prices are estimated quantities only as an indication of the Scope of Works/services to enable the bidder to bid for different items of the Works/services for his estimate of costs. The estimated quantities shall be used for comparing the bids. It is, however, to be noted that in the event of any increase or decrease in the quantity of any item of Works/services and subject to provisions of the Conditions of Contract herein, the actual quantities executed will be paid.

3. Units & Abbreviations

- 3.1. The following abbreviations shall be used in the Schedule of Prices:

Abbreviation

Pakistani Rupees	PKR
Calendar Month	Month

4. Rates and Prices

- 4.1 Except as otherwise expressly provided under the Conditions of Contract, the rates and amounts entered in the Schedule of Prices shall be the rates at which the Contractor shall be paid and shall be the full inclusive value of the works/services set forth after deduction of rates and amounts entered in the schedule of Prices for dismantling/ disposal works or implied in the Contract; except for the amounts reimbursable, to the Contractor under the Contract.

- 4.2 Unless otherwise stipulated in the Conditions of Contract, the rates and prices entered by the bidder shall not be subject to adjustment during the performance of the Contract.
- 4.3 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date twenty eight (28) days prior to the deadline for submission of bids shall be included in the rates and prices and the total Bid Price submitted by a bidder.

Additional/reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be reimbursed/ deducted as per provisions of the Conditions of Contract.

- 4.4 The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Schedule of Prices, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the Works/services and no separate payment will be made for those items.

The rates, prices and amounts shall be entered against each item in the Schedule of Prices. Any item against which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates and prices for other items in the Schedule of Prices.

- 4.5 Notwithstanding that any details, accessories, etc., required for the complete satisfactory operation of the Project, are not specifically mentioned in the Technical and special provisions, such details shall be considered as included in the Contract Price.

SCHEDULE OF PRICES

Sr. No.	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
1-	Operation & Maintenance services charges/cost per month for the first contract year	Month	08		
2-	Operation & Maintenance services charges/cost per month for the 2 nd contract year	Month	12		
3-	Operation & Maintenance services charges/cost per month for the 3 rd contract year	Month	04		
TOTAL BID PRICE					

Total Bid Price (The amount to be entered in Paragraph 1 of the Form of Bid)
(In Words)-----

Note: Total Price, shall be provided in figures as well as in words.

GENERAL CONDITIONS OF CONTRACT (GCC)

1 CONTRACT

1.1 CONTRACT

The Contract consists of the terms and conditions set forth in the sections captioned by numbered clause designations ("Clauses") and the following appendices, which are incorporated and made part of the Contract by this reference and are included in any reference to this Contract:

Appendix A - Scope of Services

Appendix B - Reimbursable Costs

Appendix C - Notices and Communication Protocols

Appendix D - Works to be performed by Subcontractors/Operator

Appendix E - Method of Performing the Works

Appendix F - Proposed Organization

Appendix G - Integrity Pact

Appendix H- List of Equipments

If the terms and conditions of the Clauses of this Contract vary or are inconsistent with any portion of the Appendices, the terms of the Clauses this Contract shall control and be given priority, and the provisions of the Appendices shall be subject to the terms of the Clauses. The Contract contains the entire Contract between the parties and supersedes all prior Contracts, whether oral or written, between the parties with respect to the subject matter of the Contract. Neither party will be bound by or be deemed to have made any representations, warranties, commitments or other undertakings with respect to the subject matter of the Contract that are not contained in this Contract.

1.2 EFFECTIVE DATE AND TERM

The Contract shall be effective and shall govern the rights and obligations of the parties from and after the date of the Contract for a period as mentioned in PCC.

1.3 RELATIONSHIP OF THE PARTIES

Operator has been retained by Owner as an independent contractor to operate, maintain and manage the Project on behalf of Owner, in accordance with Prudent Utility Practice and the requirements of the Project Contracts. Owner has delegated to Operator overall responsibility for operating, maintaining and managing the Project to ensure that the Project is available for its function namely as provided in PCC for Owner and meets all requirements under the Project Contracts. Neither Operator nor any of its employees, subcontractors or agents shall be deemed to have any other status, except that Operator is the agent of Owner to the limited extent that this Contract expressly grants Operator the authority to act on behalf of Owner.

1.4 REPRESENTATIVES

Owner and Operator shall each designate a representative ("Designated Representative") to act on its behalf in overseeing the performance of this Contract. Owner and Operator may change their respective Designated Representatives upon written notice to the other party given as provided in this Contract. Designated Representatives shall be the primary means for communication and all other interactions between Owner and Operator that are required under this Contract. Designated Representatives shall have the power and authority to bind their respective principals under the terms of this Contract, with any required internal corporate approvals with respect to such authority being the responsibility of each representative to obtain from his or her principal.

1.5 INTEGRITY PACT

For Contracts of worth Rupee ten million or more, which relate to federal finance, the Integrity Pact duly signed between the Operators and the Owner shall be binding till completion of the Contract. In other cases, this Sub-Clause is not applicable.

2 DEFINITIONS

Unless otherwise required by the context in which a defined term appears, the following terms shall have the meanings specified in this Clause 2. Terms that are defined in other Clauses shall have the meanings given to them in those Clauses.

"Annual Project Operating Plan" has the meaning set forth in Sub-Clause 6.2.

"Annual Operating Fee" means an annual operating fee paid to Operator during each Contract Year as set forth in Sub-Clause 5.2.

"Annual Budget" has the meaning set forth in Sub-Clause 6.2

"Bankruptcy" means a situation in which (i) a party's actions under applicable debtor relief laws demonstrate an inability to pay its debts as they mature or a need for protection from its creditors; (ii) a court of competent jurisdiction approves a petition filed against a party, which petition sought relief for the party's creditors, and the action of the court remains in effect for an aggregated period of 60 days (whether or not consecutive); (iii) a party admits in writing its inability to pay its debts as they mature; (iv) a party gives notice to any person or entity of its current (or pending) insolvency or suspension of operations; or (v) a party makes an assignment for the benefit of creditors or takes other similar action for the protection or benefit of its creditors.

"Business Day" means any day other than a Sunday or any other day on which commercial banks are authorized or required to close the business as mentioned in PCC.

"Contract Year" means: (i) for the first Contract Year, that period from the date of the Contract to and including June 30 of such year; and (ii) for each Contract Year thereafter, the fiscal year.

"Five-Year Budget" has the meaning set forth in Sub-Clause 6.2(e).

"Force Majeure Event" means an event, condition or circumstance beyond the reasonable control of, and not due to the fault or negligence of, the party affected, and which could not have been avoided by due diligence and use of reasonable efforts, which prevents the performance by such affected party of its obligations hereunder; provided, that a "Force Majeure Event" shall not be deemed to have occurred or to be continuing unless the party claiming Force Majeure complies with the requirements of Sub-Clause 15.3 (Force Majeure). Subject to the foregoing, "Force Majeure Event" shall include, as to either party, explosion and fire (in either case to the extent not attributable to the negligence of the affected party), flood, earthquake, storm or other natural calamity or act of God, strike or other labor dispute, war, insurrection or riot, actions or failures to act by governmental entities or officials, failure to obtain governmental permits or approvals (despite timely application thereof and due diligence) and changes in laws, rules, regulations, orders or ordinances affecting operation of the Project, which events were not pending on the date of this Contract.

"Operating Manuals" means the operating data, design as-built drawings, specifications, vendors' manuals, warranty requirements, procedures (including those for maintenance of the Project and environmental and safety compliance), and similar materials with respect to the Project.

"Procedures Manual" has the meaning set forth in Sub Clause 6.1.

"Project" means the project as mentioned in PCC and related assets, together with other facilities and related assets, to be constructed on certain real property, as mentioned in PCC.

"Project Contracts" means the Contracts relating to the Project, as mentioned in PCC, Interconnection Contract, this Contract and all other Contracts applicable to the Project, permits, and licenses required for the operation, maintenance and management of the Project, as identified in writing by Owner.

"Prudent Utility Practice" means (i) any of the practices, methods, and acts engaged in or approved by a significant portion of the project related industry in the country and geographic region where the Project is located during the relevant time period, or (ii) practices, methods and acts that, in the exercise of reasonable judgment on the facts known (or that reasonably should have been known) at the time a decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition.

"Reference Rate" means the discount rate published by the State Bank of Pakistan from time to time.

"Reimbursable Costs" has the meaning set forth in Sub-Clause 5.3.

"Services" has the meaning set forth in Sub-Clause 3.1.

3 SERVICES

3.1 SCOPE OF SERVICES

Operator shall (i) operate, maintain and manage the Project on behalf of Owner (“Services”) and (ii) also perform the specific duties set forth in the Contract if they are not otherwise required by the standards defined in Sub-Clause 3.2.

3.2 STANDARDS FOR PERFORMANCE OF THE SERVICES.

Operator shall perform the Services required under the Contract, including those set forth in Appendix A, in a prudent, reasonable, and efficient manner and in accordance with (i) Operating Manuals, the Administrative Procedures Manual and applicable vendor warranties, (ii) the applicable Annual Project Operating Plan and Annual Budget, (iii) all applicable Laws, (iv) Prudent Utility Practices, (v) the Project Contracts, (vi) the requirements of any System Operator. Operator shall use all reasonable efforts to optimize the useful life of the Project and to minimize Reimbursable Costs and Project outages or other unavailability.

3.3 OPERATOR'S PERSONNEL STANDARDS

Operator shall provide as reasonably necessary all labor and professional, supervisory and managerial personnel as are required to perform the Services. Such personnel shall be qualified to perform the duties to which they are assigned and shall meet any requirements for Project personnel under the Project Contracts. All individuals employed by Operator to perform the Services shall be employees of Operator, and their working hours, rates of compensation and all other matters relating to their employment shall be determined solely by Operator (subject to Owner's approval rights with respect to the Annual Budget). With respect to labor matters, hiring personnel, and employment policies, Operator shall comply with all applicable Laws. Operator also shall act in a reasonable manner that is consistent with the intent and purpose of this Contract and with Operator's acknowledgment (hereby given) that Operator has no authority to enter into any contracts with respect to labor matters that purport to bind or otherwise obligate Owner.

3.4 COMPLIANCE

Operator shall comply with all Laws applicable to the operation, maintenance and management of the Project and the performance of the Services. Operator shall apply for and obtain, and Owner shall assist Operator in applying for and obtaining, all necessary permits, licenses and approvals (and renewals of the same) required to allow Operator to do business or perform the Services in the jurisdictions where the Services are to be performed. Operator shall provide reasonably necessary assistance to Owner, to secure permits, licenses, and approvals (and renewals of the same) that Owner is required to obtain from or file with any governmental agency regarding the Project. Operator also shall file such reports, notices, and other communications as may be required by any governmental agency regarding the Project.

3.5 OPERATING RECORDS AND REPORTS

Operator shall maintain, at a location acceptable to Owner, the Project operating logs, records, and reports that document the operation and maintenance of the Project, all in form and substance sufficient to meet Owner's reporting requirements under the Project Contracts. Operator shall maintain current revisions of drawings, specifications, lists, clarifications and other materials related to operation and maintenance of the Project provided to Operator by Owner and vendors. Operator shall provide Owner reasonably necessary assistance in connection with Owner's compliance with reporting requirements under the Project Contracts, applicable Laws or any other Contract to which Owner is a party relating to the Project. Such assistance shall include providing reports, records, logs and other information that Owner may reasonably request as to the Project or its operation.

3.6 NO LIENS OR ENCUMBRANCES

Operator shall maintain the Project free and clear of all liens and encumbrances resulting from any action of Operator or work done at the request of Operator, except for such liens or encumbrances that result directly from nonpayment by Owner of amounts due and owing to Operator under this Contract.

3.7 NO ACTION

Except where such action is expressly permitted by this Contract, Operator shall not take any action that would cause a default under any Project Contract.

3.8 EMERGENCY ACTION

If an emergency endangering the safety or protection of persons, the Project, or property located near the Project occurs, Operator shall promptly notify Owner and take all necessary action to attempt to prevent or mitigate any such threatened damage, injury or loss. Operator shall make reasonable efforts to minimize any cost associated with remedial action in case of such an emergency.

3.9 ACTION IN EXTRAORDINARY CIRCUMSTANCES

In the event that:

- (A) The Project or major Project equipment suffers an unplanned outage (or Operator reasonably believes that such an occurrence is imminent), and
- (B) Operator has made reasonable, but unsuccessful, efforts to notify and communicate with Owner regarding such occurrence or imminent occurrence in accordance with the terms of this Contract, then Operator shall:
 - (i) take all necessary action to prevent or to mitigate such unplanned outage,
 - (ii) make reasonable efforts to minimize any cost associated with such remedial action,
 - (iii) continue to attempt to notify and communicate with Owner regarding the occurrence and the remedial action, and
 - (iv) not expend for such purposes more than an aggregate as mentioned in PCC in any Contract Year.

4 OWNER RESPONSIBILITIES

4.1 INFORMATION

Owner shall provide Operator with all vendor manuals, spare parts lists, Project data books and drawings which are provided to Owner pursuant to any Project Contract or by any contractor responsible for construction, installation, repair or maintenance of the Project or a part thereof. Subject to the standards of performance set forth in Sub-Clause 3.2, Operator shall be entitled to rely upon such information in performance of the Services. Owner shall also provide Operator with copies of all Project Contracts and any amendments thereto and any other documents that define the Project's operating requirements.

4.2 OVERHAUL OF MAJOR EQUIPMENT AND CAPITAL IMPROVEMENT

The cost of all major equipment teardowns and overhauls and all capital improvements shall be the responsibility of Owner. Operator shall promptly notify Owner in writing of any such teardowns and overhauls of major equipment or capital improvements that Operator believes are necessary or advisable together with a proposed schedule for completing such repairs or improvements. To the extent reasonably possible, the costs of all major equipment teardowns and overhauls and all capital improvements shall be incorporated into the applicable Annual Budget. If such costs have been incorporated into the applicable approved Annual Budget, or if Owner has otherwise consented in writing to reimburse Operator for such costs, Operator shall schedule, coordinate, contract and oversee the performance of such activities. Operator also shall be responsible for monitoring and enforcing contract compliance by the contractor performing such work, including taking such steps, short of litigation, to enforce any warranties granted to Owner by such contractor.

4.3 ANNUAL BUDGET AND PROJECT OPERATING PLAN

In accordance with Clause 6, Owner shall be responsible for approval of the Annual Budget, the Annual Project Operating Plan and the Five-Year Budget.

5 COMPENSATION AND PAYMENT

5.1 PAYMENTS

As compensation to Operator for performance of the Services hereunder, Owner shall pay Operator the Annual Operating Fee (or a pro rata portion thereof in the case of a Contract Year of less than 12 months). In addition, Owner shall (at Owner's Option) either (i) reimburse Operator, in the manner and at the times specified in this Clause 5 and Appendix B, as modified from time to time, for all Reimbursable Costs or (ii) pay such Reimbursable Costs directly to the applicable third parties.

5.2 ANNUAL OPERATING FEE

For the first Contract Year and each subsequent Contract Year, Owner shall pay to Operator the sum as mentioned in PCC per month of the Contract Year, for an annual fee as mentioned in PCC (the "Annual Operating Fee"). Beginning on the first day of the second Contract Year and on the first day of each Contract Year thereafter, the Annual

Operating Fee (and the corresponding monthly operating fee) shall be adjusted to reflect changes as mentioned in PCC.

5.3 REIMBURSABLE COSTS

Owner shall reimburse Operator for all costs incurred by Operator in performing the Services, including the costs set forth in Appendix B (collectively, the "Reimbursable Costs"). Owner's obligation under this provision is subject to (i) Owner's express approval of the costs as part of an Annual Budget or separately in writing, or (ii) Operator incurring costs in accordance with Sub-Clauses 3.8 (Emergency), 3.9 (Extraordinary Circumstances). Expenditures made by Operator in excess of the Annual Budget that are required to comply with any Law applicable to the Services or to the Project, shall be approved and reimbursed by Owner. Subject to Owner's right to modify the provisions of this Sub-Clause 5.3 from time to time, Owner shall pay Reimbursable Costs as follows:

- (a) Owner will advance to Operator on a mutually agreed basis, funds required for given Operator to make payments as they become due in accordance with the Annual Budget. Not less than fifteen (15) days before the first day of each calendar month during the term of this Contract, Operator shall submit to Owner an estimate of funds required for such month, which estimate shall be in accordance with the Annual Budget. Owner shall pay to Operator the amount of such estimate prior to the time such funds are required by Operator. Such advances shall be deposited in a separate account in Operator's name, as agent for Owner, in a scheduled Bank of Pakistan, subject to withdrawal by Operator solely for the purpose of making required payments. Within fifteen (15) days of the end of each month, Operator shall submit to Owner a statement of receipts and disbursements, in detail satisfactory to Owner, together with supporting documentation.
- (b) Operator shall not incur Reimbursable Costs unless they are incurred in accordance with the applicable Annual Budget, or are permitted by Sub-Clauses 3.8 (Emergency), 3.9 (Extraordinary Circumstances). If Operator becomes aware that Reimbursable Costs exceed or will exceed the amount provided in the applicable Annual Budget by 5% or more, Operator shall use all reasonable efforts to notify Owner within ten (10) days and shall not, without Owner's approval to amend the applicable Annual Budget or Owner's authorization for Operator to make such expenditure, perform any further Services that will cause or increase a budget overrun, except as provided in Sub-Clauses 3.8 (Emergency), 3.9 (Extraordinary Circumstances). If Owner refuses to authorize expenditures in excess of the Annual Budget, Operator shall be relieved of those duties or obligations of this Contract that cannot be performed without the expenditures Owner refuses to approve.
- (c) In all cases, Operator shall use reasonable commercial efforts to mitigate any adverse effect from Owner's refusal to authorize expenditures in excess of the Annual Budget. Owner's reimbursement of any cost related to the Services shall not be construed as Owner's approval or acceptance of the Services.

5.4 ADJUSTMENT AND CONDITIONS

Notwithstanding the payment of any amount pursuant to the foregoing provisions, Owner shall remain entitled to conduct a subsequent audit and review of all Reimbursable Costs incurred and paid by Owner and of any supporting documentation for a period of two 2 years after the applicable Contract Year. If such audit and review shows that any amount previously paid by Owner to Operator did not constitute a Reimbursable Cost, Owner may (a) recover such amount from Operator, plus interest at the Reference Rate, calculated from the date the audit commenced, or (b) deduct such amount from any payment that thereafter may become due to Operator.

5.5 BILLING AND PAYMENT

Within 15 days following the end of each month, Operator shall submit the receipts and disbursements showing Reimbursable Costs for such month in accordance with Sub-Clause 5.3(a). Within 15 days after receipt of any such invoice, Owner shall:

- (a) pay Operator the sum specified in such invoice, less (i) any amounts previously deposited with Operator relating to such invoice as well as net interest (if any) earned on the bank deposit, and (ii) any portion of such invoice amount that Owner disputes in good faith or is permitted to offset under this Contract; and
- (b) with respect to any disputed portion of such invoice, provide Operator with a written statement explaining, in reasonable detail, the basis for such dispute. The parties shall attempt to resolve any such disputed portion in accordance with Clause 14.

6 PROCEDURES, PLANS AND REPORTING

6.1 PROCEDURES MANUAL

The parties have approved a procedures manual that includes procedures for (i) reporting and correspondence pursuant to this Contract, (ii) procurement and contracting, and (iii) accounting, bookkeeping and record-keeping ("Procedures Manual"). The Procedures Manual shall govern the covered activities of Operator for the term of this Contract, subject to such revision and amendment as agreed in writing by Owner and Operator.

6.2 ANNUAL PROJECT OPERATING BUDGET AND PLAN

- (a) **Proposal:** At least ninety (90) days before the beginning of each Contract Year, Operator shall prepare and submit to Owner a proposed annual budget for the Contract Year, established on a monthly basis. The proposed annual budget shall include separate operating and capital budgets. The proposed annual budget shall also set forth, in detail acceptable to Owner, (i) anticipated operations, repairs and capital improvements, (ii) maintenance and overhaul schedules, (iii) planned procurement (including equipment, spare parts, and consumable inventories), (iv) labor activities (including staffing, labor rates, and holidays), (v) administrative activities, and (vi) other work proposed to be undertaken by Operator, together with an itemized estimate of all Reimbursable Costs to be incurred. Each proposed annual budget shall be accompanied by a proposed annual operating plan setting forth the assumptions and

implementation plans underlying the proposed annual budget. Any actions to be performed by Operator under the proposed annual operating plan shall be consistent with Operator's obligations set forth in this Contract.

- (b) **Adoption:** Owner shall review Operator's proposed annual budget and annual operating plan within thirty (30) days following receipt of the proposals. Owner may, by written request, propose changes, additions, deletions and modifications to the proposals. If requested by Operator, Owner shall provide Operator any cost information in Owner's possession from previous Contract Years applicable to items in the proposed annual budget. Owner and Operator will then meet and use their reasonable commercial efforts to agree upon a final budget and plan (the "Annual Budget" and "Annual Project Operating Plan", respectively), which shall be approved in writing by both parties. Except to the extent that the terms of Sub-Clause 3.8 and 3.9 permit Operator to take actions which are outside the final Annual Budget without the consent of Owner, the final Annual Budget and Annual Project Operating Plan shall remain in effect throughout the applicable Contract Year, subject to revisions and amendments proposed by either party and consented to in writing by the other party.
- (c) **Changes:** Operator shall notify Owner as soon as reasonably possible of any significant deviations or discrepancies from the projections contained in the Annual Budget or Annual Project Operating Plan.
- (d) **Failure to Adopt:** If, by the first day of any Contract Year after the first Contract Year, the parties are unable to reach Contract concerning any item or portion of the Annual Budget for such Contract Year, then the amount(s) of such item or portion of the Annual Budget for such Contract Year shall be equal to 105% of the amount for the corresponding item or portion of the Annual Budget for the preceding Contract Year.
- (e) **Five-Year Budget.** At least ninety (90) days before the first day of each Contract Year, Operator shall prepare and submit to Owner a proposed budget for the next 5 Contract Years or the remaining term of the Contract, whichever period is shorter. The proposed five-year budget shall be established on an annual basis and shall include separate operating and capital budgets. The proposed five-year budget shall also set forth, in detail acceptable to Owner,
 - (i) anticipated operations, repairs and capital improvements;
 - (ii) maintenance and overhaul schedules;
 - (iii) planned procurement (including equipment, spare parts, and consumable inventories);
 - (iv) labor activities (including staffing, labor rates, and holidays);
 - (v) administrative activities; and
 - (vi) other work proposed to be undertaken by Operator, together with an itemized estimate of all Reimbursable Costs to be incurred, accompanied by the underlying assumptions and implementation plans of the proposed five-year budget. Owner shall review Operator's proposed five-year budget within 30 days following receipt of the proposal. Owner may, by

written request, propose changes, additions, deletions and modifications to the proposals. Owner and Operator will then meet and use their reasonable commercial efforts to agree upon a final five-year budget (the "Five-Year Budget"), which shall be approved in writing by both Parties. If a final Five-Year Budget is not approved in its entirety by both parties, the proposed five-year budget submitted by Operator, together with Owner's final suggested changes, additions, deletions and modifications shall serve as the Five Year Budget. The Five-Year Budget shall be used only for planning and comparison purposes, and shall not constrain Operator in its actions or expenditures, provided, however, that Operator shall be required to conform in its operations to the Annual Budget and Annual Project Operating Plan as provided in this Contract.

6.3 OPERATING DATA AND RECORDS

Operator shall monitor and record all operating data and information that (i) Owner must report to any person or entity under any Project Contract, (ii) Owner must report to any government agency or other person or entity under applicable Laws and (iii) Owner reasonably requests. Operator shall report required or requested operating data and information to Owner as specified by Owner to support monthly invoicing under the Project Contracts, and within fifteen (15) Calendar Days following a request by Owner. Operating data to be reported include information from operating (logs, meter and gauge readings) and maintenance records.

6.4 ACCOUNTS AND REPORTS

Operator shall cooperate with Owner in complying with reporting requirements set forth in the Project Contracts and shall, during the term of this Contract, furnish or cause to be furnished to Owner the following reports concerning the Project operations and the Services:

- (a) **Monthly Reports:** Within ten (10) calendar days following the last day of each calendar month, Operator shall submit: (i) a progress report, in detail acceptable to Owner, covering all activities during such month with respect to operations and maintenance (including information regarding the inputs and outputs of the project / facility.

(Specify) capital improvements, labor relations, other significant matters, and Services. The monthly report shall include a comparison of such items to the corresponding values for the preceding month and for the corresponding portion of the previous Contract Year, a listing of any significant operating problems along with immediately planned remedial actions, and a brief summary of major activities planned for the next reporting period, and (ii) a statement setting forth all Reimbursable Costs paid or incurred in such month, which statement shall itemize, in detail acceptable to Owner, the computation of such Reimbursable Costs including documentary evidence and shall state whether or not the Project operations have conformed to the applicable Annual Project Operating Plan and Annual Budget during such reporting period and if not, the extent and reasons for any deviation and the planned remedial action.

- (b) **Annual Reports:** As soon as available, and in any event within sixty (60) days after the end of each Contract Year, Operator shall submit an annual report describing, in detail substantially similar to that contained in the monthly reports referred to in Sub-Clause 6.4(a), the Project activities and operating data for such Contract Year. The annual report shall present a comparison of such Project activities and operating data with the goals set forth in the Annual Project Operating Plan and Annual Budget for such Contract Year, and with those achieved during the preceding Contract Year (if applicable) and an explanation of any substantial deviations. Within thirty (30) days after submission of each annual report, Operator shall meet with Owner to review and discuss the report and any other aspects of Project operations that Owner may wish to discuss.
- (c) **Litigation, Permit Lapses:** Upon obtaining knowledge thereof, Operator shall promptly notify Owner in writing of: (i) any event of default under any of the Project Contracts; (ii) any litigation, claims, disputes or actions, threatened or filed, concerning the Project or the Services; (iii) any refusal or threatened refusal to grant, renew or extend (or any action pending or threatened that might affect the granting, renewal or extension of) any license, permit, warranty, approval, authorization or consent relating to the Project or the Services; and (iv) any dispute with any governmental authority relating to the Project or the Services.
- (d) **Other Information:** Operator shall promptly submit to Owner any material information concerning new or significant aspects of the Project's activities and, upon Owner's request, shall promptly submit any other information concerning the Project or the Services.

6.5 ADDITIONAL COMMUNICATIONS

Operator shall communicate certain additional events specified in Appendix C to Owner and third parties in accordance with the communication protocols set forth in Appendix C to this Contract.

7 LIMITATIONS ON AUTHORITY

7.1 GENERAL LIMITATIONS

Notwithstanding any provision in this Contract to the contrary, unless previously approved by Owner in writing or through Owner's approval of the Annual Budget, Operator and any employee, representative, contractor or other agent of Operator are prohibited from taking the specified actions with respect to the matters indicated below.

- (a) **Disposition of Assets:** Sell, lease, pledge, mortgage, convey, or make any license, exchange or other transfer or disposition of any property or assets of Owner, including any property or assets purchased by Operator where the purchase cost is a Reimbursable Cost;
- (b) **Contract:** Make, enter into, execute, amend, modify or supplement any contract or Contract (i) on behalf of, in the name of, or purporting to bind Owner or (ii) that prohibits or otherwise restricts Operator's right to assign such contract or Contract to Owner at any time;

- (c) **Expenditures:** Make or consent or agree to make any expenditure for equipment, materials, assets or other items which would be a Reimbursable Cost, except in conformity with the Annual Budget; provided, however, that solely in connection with actions taken by Operator pursuant to Sub-Clauses 3.8 (Emergency), 3.9 (Extraordinary Circumstances), Operator may, without prior approval from Owner, make limited expenditures outside the Annual Budget in accordance with those provisions;
- (d) **Other Actions:** Take or agree to take any other action that materially varies from the applicable Annual Project Operating Plan, Annual Budget or the requirements of any Project Contract;
- (e) **Lawsuits and Settlements:** Settle, compromise, assign, pledge, transfer, release or consent to the compromise, assignment, pledge, transfer or release of, any claim, suit, debt, demand or judgment against or due by, Owner or Operator, the cost of which, in the case of Operator, would be a Reimbursable Cost hereunder, or submit any such claim, dispute or controversy to arbitration or judicial process, or stipulate in respect thereof to a judgment, or consent to do the same;
- (f) **Liens:** Create, incur or assume any lien upon the Project;
- (g) **Transactions on Behalf of Others:** Engage in any other transaction on behalf of Owner or any other person or entity not expressly authorized by this Contract or that violates applicable Laws, this Contract or any Project Contract; or
- (h) **Contracts:** Enter into any Contract to do any of the foregoing.

7.2 EXECUTION OF DOCUMENTS

Any Contract, contract, notice or other document that is expressly permitted hereunder (or under written approval of Owner) to be executed by Operator shall be executed by the authorized representative of Operator or, subject to prior written notice to Owner, by such other representative of Operator who is authorized and empowered by Operator to execute such documents.

8 TERM AND TERMINATION

8.1 TERM

The term of the Contract shall be from and including the date of the Contract Agreement to and including as mentioned in PCC. This Contract is subject to earlier termination pursuant to Sub-Clauses 8.2, 8.3, 8.4, 8.5 or 8.6.

8.2 IMMEDIATE TERMINATION BY OWNER

Subject to the terms of any Project Contracts, Owner may terminate this Contract immediately:

- (i) upon the Bankruptcy of Operator; or

- (ii) upon the occurrence of a Force Majeure Event that is not remedied within one hundred and twenty (120) days of its initial occurrence. If the Contract is terminated by Owner pursuant to Sub-Clause 8.2(i) or 8.2(ii), Operator shall be compensated for all Reimbursable Costs incurred by Operator to and including the date of termination. In addition, if the Contract is terminated by Owner pursuant to Sub-Clause 8.2(ii), Operator shall be paid all unpaid Annual Operating Fees to and including the date of termination.

8.3 TERMINATION UPON NOTICE BY OWNER

Subject to the terms of any Project Contracts, Owner may terminate this Contract upon ten (10) days prior written notice to Operator in the event:

- (i) that Operator violates, or consents to a violation of, any Laws applicable to the Services or the Project, where the violation has or may have a material adverse effect on the maintenance or operation of the Project or Owner's interest, and Operator does not cure such violation within thirty (30) days (or, if not curable within thirty (30) days, within such period of time as is reasonably necessary, but in no event more than ninety (90) days, provided Operator diligently commences and pursues such cure and indemnifies Owner for all related costs, of whatever kind), or
- (ii) of a material breach by Operator in the performance of the Services, if Operator does not cure such breach within thirty (30) days from the date of Operator's receipt of notice from Owner demanding cure (or, if not curable within thirty (30) days, within such period of time as is reasonably necessary, but in no event more than 90 days, provided Operator diligently commences and pursues such cure and indemnifies Owner for all related costs, of whatever kind). If the Contract is terminated by Owner pursuant to this Sub-Clause 8.3, Operator shall be compensated for all Reimbursable Costs incurred by Operator and all unpaid Annual Operating Fees to and including the date of termination.

8.4 OTHER TERMINATION UPON NOTICE BY OWNER

Subject to the terms of any Project Contracts, Owner may terminate this Contract with sixty (60) days prior written notice to Operator, upon the occurrence of :

- (a) a sale or transfer by Owner of its rights in the Project or a sale or transfer of all or substantially all of the assets of or interests in Owner, (b) Operator's Reimbursable Costs for Services exceeding 110% of the approved Annual Budget with respect to Reimbursable Costs, for any 2 consecutive Contract Years, where such overruns are the fault of, or due to the negligent operation of the Project by, Operator, (c) a determination by Owner that, for any reason, it no longer intends to continue operation of the Project or (d) a determination by Owner that it does not wish to extend this Contract pursuant to Sub-Clause 8.1. If the Contract is terminated by Owner pursuant to this Section 8.4, Operator shall be compensated for all Reimbursable Costs incurred by Operator and all unpaid Annual Operating Fees to and including the date of such termination under this Sub-Clause 8.4.

8.5 TERMINATION BY OWNER WITHOUT CAUSE

In addition to its rights set forth in this Clause 8, subject to the terms of any Project Contracts, Owner reserves the right to terminate this Contract without cause upon ninety (90) days written notice to Operator. If the Contract is terminated by Owner pursuant to this Sub-Clause 8.5, Operator shall be compensated for all Reimbursable Costs incurred by Operator and all unpaid Annual Operating Fees to and including the date of such termination under this Sub-Clause 8.5. Such payments, together with the termination payment set forth in Sub-Clause 8.8, shall be Operator's sole remedy in respect of such termination and shall be made by Owner within 30 days of receipt of a final invoice from Operator.

8.6 TERMINATION BY OPERATOR

Subject to the terms of any Project Contracts, Operator may terminate this Contract for cause upon fifteen (15) days prior written notice to Owner in the event of: (i) Owner's Bankruptcy; or (ii) Owner's failure to perform in a timely manner any of its material obligations under this Contract and such failure is not cured within thirty (30) days of Owner's receipt of a notice from Operator demanding cure (or, if not curable within thirty (30) days, within such period of time as is reasonably necessary, but in no event more than 90 days, provided that Owner diligently commences and continues to pursue such cure).

8.7 PROJECT CONDITION AT END OF TERM

Upon expiration or termination of the Contract, Operator shall remove its personnel from the Project. Operator shall leave the Project in as good condition as it was on the Effective Date, normal wear and tear and casualty excepted. Operator shall be paid all unpaid Reimbursable Costs. All special tools, improvements, inventory of supplies, spare parts, safety equipment, Operating Manuals and Procedures Manuals, operating logs, records and documents maintained by Operator pursuant to Sub-Clause 3.5 and any other items furnished on a Reimbursable Cost basis under this Contract will be left at the Project and will become or remain the property of Owner without additional charge. Owner shall also have the right, in its sole discretion, to assume and become liable for any contracts or obligations that Operator may have undertaken with third parties in connection with the Services. Operator shall cooperate in taking all reasonable steps requested by Owner required to effect the assumption of the contracts, provided that Owner agrees to indemnify and hold harmless Operator for all liabilities arising out of events and obligations arising from the assumption of contract rights and obligations after the date of any such assumption. Operator shall use commercially reasonable efforts to cooperate with Owner or a succeeding operator to assure that the operation, maintenance and management of the Project are not disrupted.

8.8 TERMINATION PAYMENT

- (a) In the event of a termination of this Contract pursuant to the above Sub-Clauses 8.2 (ii), 8.4 (a), 8.4 (c), 8.4 (d) or 8.5, Operator shall be entitled, in addition to all other amounts due under this Contract as of the date of termination, to a demobilization and cancellation payment equal to the total of all relocation and costs incurred with respect to Operator's employees and all costs Operator is at such time contractually or legally obligated to pay to its employees, or which are

incurred with the prior written approval of Owner. Subject to Owner's right to conduct a subsequent audit and review pursuant to Sub-Clause 8.8(b), such amounts shall be due and payable by Owner within 30 days of Operator's submission of an invoice, which invoice shall include a statement of all such costs and expenses in the form and with the substantiation required by Sub-Clause 6.2(a). Owner shall pay any and all legal costs incurred by Operator to collect payments under this Sub-Clause 8.8.

- (b) **Audit.** Notwithstanding payment of any amount pursuant to this Section 8.8, Owner shall remain entitled to conduct a subsequent audit and review of all costs incurred and paid by Owner pursuant to this Section 8.8, together with any supporting documentation requested by Owner, for a period of 2 years from and after the date of such payment. If, pursuant to such audit and review, it is determined that any amount previously paid to Operator did not constitute, in whole or in part, a reimbursable item pursuant to this Sub-Clause 8.8, Owner may recover such amount from Operator plus interest at the Reference Rate calculated from the date such audit commences, or Owner may deduct or cause to be deducted such amount from any payment that may be due to Operator.

9 WARRANTY

9.1 VENDOR'S WARRANTIES

For Owner's benefit, Operator shall obtain from sellers of equipment, material, or services (other than the Services), warranties against defects in materials and workmanship to the extent such warranties are reasonably obtainable, and, to the extent of any such warranties actually obtained, Owner releases Operator from any further liability arising in respect of such equipment, material or services (other than the Services) to the extent such liability is covered by any such warranty. Operator itself shall not be liable for any such warranties or for any defects or damage caused by such equipment, material or services (other than the Services). Upon Owner's request, Operator agrees to take such steps as are necessary, short of litigation, to enforce said warranties. Each such warranty shall be enforceable by Owner for Owner's benefit or assignable by Operator to Owner without any further action or consent by or on the part of any third party. Unless otherwise requested, Operator shall administer such warranties and immediately notify Owner of any defects discovered or suspected that may be covered by such warranties. When requested, Operator shall assign any such warranty to Owner and assist Owner with the administration and enforcement of such warranty, or, if such warranty is not assignable to Owner, assist Owner with the administration and enforcement of such warranty.

10 INDEMNIFICATION AND LIABILITIES

10.1 INDEMNIFICATION

- (a) **Indemnification by Operator:** Operator shall indemnify, defend and hold harmless Owner, the members thereof, and their respective officers, directors, employees, agents, Affiliates and representatives (the "Owner Indemnified Parties"), from and against any and all claims (in whatever form and to the fullest extent permitted by law) arising out of or in any way connected with, but only to the extent of, any gross negligence, fraud or willful misconduct of Operator or

anyone acting on Operator's behalf or under its instructions, in connection with this Contract and Operator's obligations thereunder. Any costs or expenses incurred by Operator pursuant to its indemnity obligations under this Sub-Clause 10.1(a) shall be the sole responsibility of the Operator.

- (b) **Indemnification by Owner:** Owner shall indemnify, defend and hold harmless Operator, its officers, directors, employees, agents, Affiliates and representatives (the "Operator Indemnified Parties") from and against any and all claims (in whatever form and to the fullest extent permitted by law) arising out of or in any way connected with, but only to the extent of, any gross negligence, fraud or willful misconduct of Owner or anyone acting on Owner's behalf or under its instructions (other than Operator and its suppliers, subcontractors, vendors, and their subcontractors and vendors and any employee or agent of the foregoing), in connection with this Contract and Owner's obligations thereunder.

10.2 ENVIRONMENTAL LIABILITY

- (a) **Operator Liability:** Operator shall not be responsible for claims directly or indirectly related to hazardous materials present at the Project before the date of this Contract, except to the extent Operator acted with respect to such materials in a grossly negligent manner. Owner shall defend, indemnify and hold Operator harmless against such claims, except to the extent such claims arise from Operator's grossly negligent or intentional acts.
- (b) **Owner's Liability:** Owner shall not be responsible for claims directly related to hazardous materials at the Project arising out of the grossly negligent or intentional acts of Operator. This provision of the Contract shall not be construed to require Operator to take corrective action with respect to any hazardous materials at the Project before the date of this Contract.
- (c) **Governmental Actions:** If action is required at the Project to comply with any applicable environmental laws during the term of this Contract, Owner (with Operator's assistance) shall be responsible for the costs of compliance. Costs for such compliance action shall only be incurred by Operator only with Owner's prior written consent, unless a governmental authority requires Operator to incur such costs and expenses prior to obtaining such written consent.

11 LIMITATIONS OF LIABILITY

11.1 LIMITATIONS OF LIABILITY

- (a) **Consequential Damages:** Notwithstanding any provision in this Contract to the contrary, Operator and Owner each agree not to assert against the other any claim, demand or suit for consequential, incidental, indirect or special damages arising from any aspect of the performance or nonperformance of the other party or any third-party engaged by such other party under this Contract, and each party hereto waives any such claim, demand or suit against the other in connection with this Contract.
- (b) **Damages Limited to Annual Operating Fee:** The aggregate liability of Operator [except for those claims that are subject to the provisions of Sub-Clause

10.1(a) (Indemnification by Operator)] shall in no event exceed, during any Contract Year, the Annual Operating Fee payable to Operator during such Contract Year plus the amount necessary to satisfy Operator's indemnification responsibilities under Clause 10.

- (c) **Limited Personal Liability** : Operator and Owner each understand and agree that there shall be absolutely no personal liability on the part of any of the members, partners, officers, employees, directors, agents, authorized representatives or Affiliates of Owner or Operator for the payment of any amounts due hereunder, or performance of any obligations hereunder. Operator shall look solely to the assets of Owner for the satisfaction of each and every remedy of Operator in the event of any breach by Owner. Owner shall look solely to the assets of Operator for the satisfaction of each and every remedy of Owner in the event of any breach by Operator.
- (d) **Survival**: The parties further agree that the waivers and disclaimers of liability, indemnities, releases from liability, and limitations on liability expressed in this Contract shall survive termination or expiration of this Contract, and shall apply at all times (unless otherwise expressly indicated), regardless of fault, negligence, strict liability, or breach of warranty of the party indemnified, released or whose liabilities are limited, and shall extend to the members, partners, principals, officers, employees, controlling persons, executives, directors, agents, authorized representatives, and affiliates of such party.
- (e) **Exclusivity**. The provisions of this Contract constitute Operator's and Owner's exclusive liability, respectively, to each other, and Operator's and Owner's exclusive remedy, respectively, with respect to the Services to be performed hereunder and Owner hereby releases Operator performing Services hereunder, and Operator hereby releases Owner performing its obligations hereunder, from any further liability.

12 CONFIDENTIALITY

12.1 Operator

Operator agrees to hold in confidence from the date of disclosure, any information supplied to Operator by Owner or others acting on its behalf. Operator further agrees, to the extent requested by the supplier of such information, to require its subcontractors, vendors, suppliers and employees to enter into appropriate nondisclosure Contracts relative to such information, prior to the receipt thereof.

12.2 Owner

Owner agrees to hold in confidence from the date of disclosure, any information supplied to Owner by Operator or others acting on its behalf, provided that Owner may disclose such information as is reasonably necessary but without affecting the proprietary (intellectual property) rights, if any of the Operator or others. Owner further agrees, to the extent requested by the supplier of such information, to require its members and contractors to enter into such appropriate nondisclosure Contracts relative to such information, prior to their receipt thereof.

12.3 Exceptions

The provisions of this Clause shall not apply to information that was in the public domain, was already in the receiving party's possession, or was received lawfully and free of any obligation to treat it as confidential.

12.4 Required Disclosure

If a receiving party or any of its respective representatives is required by applicable law to disclose any of the information that is otherwise required to remain confidential pursuant to this Clause 12, the receiving party will notify the other party promptly in writing so that the other party may seek a protective order or other appropriate remedy (which the receiving party will not oppose), or, in the other party's sole discretion, waive compliance with the terms of this Contract.

13 TITLE, DOCUMENTS AND DATA

13.1 Materials and Equipment

Title to all materials, equipment, tools, supplies, consumables, spare parts and other items purchased or obtained by Operator on a Reimbursable Cost basis hereunder shall pass immediately to and vest in Owner upon the passage of title from the vendor or supplier thereof, provided, however, that such transfer of title shall in no way affect Operator's obligations as set forth in this Contract.

13.2 Documents

All materials and documents prepared or developed by Operator, its employees, representatives or contractors in connection with the Project or performance of the Services, including all manuals, data, drawings, plans, specifications, reports and accounts, shall become Owner's property when prepared, and Operator, its agents, employees, representatives, or contractors shall not use such materials and documents for any purpose other than performance of the Services, without Owner's prior written approval. All such materials and documents, together with any materials and documents furnished to Operator, its agents, employees, representatives, or contractors by Owner, shall be delivered to Owner upon expiration or termination of this Contract and before final payment is made to Operator.

13.3 Review By Owner

All materials and documents referred to in Sub-Clause 13.2 hereof shall be made available for review by Owner (including their agents or advisors) at all reasonable times during development and promptly upon completion. All such materials and documents required to be submitted for approval by Owner shall be prepared and processed in accordance with the requirements and specifications set forth in the Administrative Procedures Manual. However, Owner's approval of materials and documents submitted by Operator shall not relieve Operator of its responsibility for the correctness thereof or of its obligation to meet all requirements of this Contract.

13.4 Proprietary Information

Where materials or documents prepared or developed by Operator or its agents, employees, representatives or contractors contain proprietary information, systems, techniques, or know-how acquired from third parties by Operator or others acting on its behalf, such persons or entities shall retain all rights to use or dispose of such information, provided, however, that Owner shall have the right to the same to the extent necessary for operation or maintenance of the Project.

14 RESOLUTION OF DISPUTES

14.1 Resolution through Discussions

If any dispute or difference of any kind (a Dispute") arises between Owner and Operator in connection with, or arising out of, this Contract, the Owner and Operator within thirty (30) days shall attempt to settle such Dispute in the first instance through discussions. The designated representatives of Owner and Operator shall promptly confer and exert their best efforts in good faith to reach a reasonable and equitable resolution of such Dispute. If the representatives are unable to resolve the Dispute within five (5) calendar days, the Dispute shall be referred within two (2) calendar days of the lapse of the five (5) calendar day period to the responsible senior management of each party for resolution. Neither party shall seek any other means of resolving any Dispute arising in connection with this Contract until the responsible senior management of Owner and Operator have had at least five (5) Business Days to resolve the Dispute following referral of the Dispute to them. If the parties are unable to resolve the Dispute using the procedure described in this Clause, either party may deliver notice to the other party of its intent to submit the Dispute to arbitration ("Arbitration Notice"). The Arbitration Notice shall include the specific issues concerning the Dispute which must be resolved by the arbitration.

14.2 Arbitration

Any Dispute arising out of, or in connection with, this Contract and not settled by the procedure prescribed in Sub-Clause 14.1, shall (regardless of the nature of the Dispute) be finally settled in accordance with Arbitration Act 1940 as amended or any statutory modification or re-enactment thereof for the time being in force the place of arbitration shall be as mentioned in PCC.

14.3 Continued Performance

During the pendency of any arbitration, Operator and Owner shall continue to perform their obligations under this Contract.

15 MISCELLANEOUS PROVISIONS

15.1 Assignment

Neither Owner nor Operator party may assign its rights or obligations under this Contract without the prior written consent of the other party hereto, except that this Contract may be assigned by Owner without such prior consent to any successor of Owner, to a person or entity acquiring all or substantially all of the Project, or any purchaser of the Project upon the exercise of remedies under a Project Contract.

15.2 Access to Project

(a) Owner: Owner, and their respective agents and representatives shall have access at all times to the Project and any documents, materials and records and accounts relating to Project operations for purposes of inspection and review. Upon the request of Owner, or their respective agents and representatives, Operator shall make available to such persons or entities and provide them with access to any operating data and all operating logs.

(b) Cooperation: During any such inspection or review of the Project, each of Owner, and their respective agents and representatives shall use its reasonable commercial efforts to cause authorized visitors to comply with Operator's safety and security procedures and to conduct such inspection and review in a manner which causes minimal interference with Operator's activities. Operator agrees to cooperate fully with Owner, and their respective agents and representatives in providing requested information and documentation for the support of any financial or legal transactions associated with the Project.

15.3 Force Majeure

If either Owner or Operator is rendered wholly or partially unable to perform its obligations under this Contract (other than payment obligations) due to a Force Majeure Event, the party affected by such Force Majeure Event shall be excused from whatever performance is impaired by such Force Majeure Event, provided that the affected party promptly, upon learning of such Force Majeure Event and ascertaining that it will affect its performance hereunder, (i) promptly gives notice to the other party stating the nature of the Force Majeure Event, its anticipated duration, and any action being taken to avoid or minimize its effect and (ii) uses its reasonable commercial efforts to remedy its inability to perform. The suspension of performance shall be of no greater scope and no longer duration than that which is necessary. No obligations of either party which arose before the occurrence causing the suspension of performance and which could and should have been fully performed before such occurrence shall be excused as a result of such occurrence. The burden of proof shall be on the party asserting excuse from performance due to a Force Majeure Event.

15.4 Amendments

No amendments or modifications of this Contract shall be valid unless evidenced in writing and signed by duly authorized representatives of both parties.

15.5 Survival

Notwithstanding any provisions herein to the contrary, the obligations set forth in Clauses 7, 10, 12 and 14, and the limitations of liabilities set forth in Clause 11, shall survive in full force despite the expiration or termination of this Contract.

15.6 No Waiver

It is understood and agreed that any delay, waiver or omission by Owner or Operator with respect to enforcement of required performance by the other under this Contract

shall not be construed to be a waiver by Owner or Operator of any subsequent breach or default of the same or other required performance on the part of Owner or Operator.

15.7 Notices

All notices required or permitted under this Contract shall be in writing and shall be given to each party at its address given in PCC .

15.8 Fines and Penalties

If during the term of this Contract any governmental or regulatory authority or agency assesses any fines or penalties against Operator or Owner arising from Operator's failure to operate and maintain the Project in accordance with applicable Laws without Owner's prior written consent, such fines and penalties shall, subject to the limitations set forth in Clause 11, be the sole responsibility of Operator and shall not be deemed a Reimbursable Cost.

15.9 Representations and Warranties

Each party represents and warrants to the other party that:

(a) such party has the full power and authority to execute, deliver and perform this Contract and to carry out the transactions contemplated hereby;

(b) to the best of such party's knowledge, the execution, delivery and performance by such party of this Contract, does not and will not materially conflict with any legal, contractual, or organizational requirement of such party; and

(c) there are no pending or threatened legal, administrative, or other proceedings that if adversely determined, could reasonably be expected to have a material adverse effect on such party's ability to perform its obligations under this Contract.

15.10 Counterparts

The parties may execute this Contract in counterparts, which shall, in the aggregate, when signed by both parties constitute one instrument. Thereafter, each counterpart shall be deemed an original instrument as against any party who has signed it.

15.11 Governing Law

This Contract is executed and intended to be performed as mentioned in PCC and the laws of country shall govern its construction, interpretation and effect.

15.12 Partial Invalidity

If any term, provision, covenant or condition of this Contract is held by a court of competent jurisdiction to be invalid, void or unenforceable, the rest of this Contract shall remain in full force and effect and in no way be affected, impaired or invalidated.

15.13 Captions

Titles or captions of Clauses contained in this Contract are inserted as a matter of convenience and for reference, and do not affect the scope or meaning of this Contract or the intent of any provision hereof.

15.14 Amounts

All amounts of money in this Contract are denominated in the currency as mentioned in PCC.

15.15 Performance Security

The Operator shall provide Performance Security in the currency and amount, as mentioned in PCC, to the Owner before signing the Contract. The security shall be in the form of Bank Guarantee, which shall be valid 28 days beyond the Term of the Contract.

PARTICULAR CONDITIONS OF CONTRACT

1. CONTRACT

- 1.2 The Contract shall be valid for a period of Two (02) years with effect from date of signing of the Contract by both parties.
- 1.3 The text “as provided in PCC the project Agreement” appearing in 5th and 6th lines are deleted.

2. DEFINITIONS

“Contract” means the agreement between the Owner and the Operator for operation and maintenance of the HVAC system incorporating the conditions, fixed schedule of prices, completed appendices to Bid, Technical and Special Provisions, Operation & Maintenance Proforma and such further documents as may be incorporated by the Letter of Acceptance

“Conditions” means the General Conditions of Contract and Particular conditions of the Contract.

“Operation” means to operate the HVAC system for 10 hours round the year, so as to provide a comfortable air-conditioning in the Owner’s building premises till these premises are occupied.

“Maintenance” means to carryout corrective, preventive and periodic servicing of the system including routine checks, maintenance and repair of all parts and for dismantling and re-assembly of all equipment, sub-assemblies and all separate components.

The word “Contractor” is synonymous with “Operator”.

“Month” means calendar month according to Gregorian calendar.

“Project” means Operation and Maintenance of Heating, Ventilation and Air Conditioning (HVAC) System for NESPAK House, Lahore.

“The Operation and Maintenance Manuals” means instructions for operations, servicing and maintenance of the System not only for the period of the Contractor’s liability but more particularly during its operating life.

“The Operator’s Representative” means a competent and skilled person approved by the Owner (which approval may at any time be withdrawn by the Owner) and who shall be present at the Site during all working hours. He shall be fluent in English language. He shall not be transferred from Site without the consent of the Owner.

3. SERVICES

- 3.4 “Photographs of Works and Advertisement Prohibited” Except with the prior written authorization of the Owner the Contractor shall not exhibit or permit to be exhibited any photographs or advertisements on the Works. Any authorized exhibition shall be immediately removed if the Owner so requires.

“Employment of Persons in the Service of Others” the Contractor shall not recruit staff and labor from amongst the persons in service of the Owner or working at other project at the same time.

3.9 Paragraph (iv) of this Sub- Clause is deleted.

5. COMPENSATION AND PAYMENT

5.2 *The monthly payment shall be made to the operator as per rates stated in schedule of prices*

Operating Fee shall remain fixed during the Operator’s performance of the Contract and not subject to variation on any account.

5.3 Paragraph (a), (h) & (c) of this Sub-Clause are deleted

5.5 The cost quoted by the Contractor shall include all taxes applicable as per prevailing Government laws and regulations.

6. PROCEDURES, PLANS AND REPORTING

6.2 The sub-Clause 6.2 is deleted in its entirety

8. TERM AND TERMINATION

8.1 The terms of this Contract shall be for two (02) Years.

14. RESOLUTION OF DISPUTES

14.2 The place for arbitration shall be Lahore, Pakistan.

15. MISCELLANEOUS PROVISIONS

15.7 Complete address of the Owner :

General Manager /Head,
Coordination Division,
NESPAK House 1-C,
Block-N, Model Town
Extension, Lahore-54700.
Tel: 092-42-99231919 / 99090000, Ext: 211,
Fax:0092-42-99231950

Mention the Complete address of Operator:

[Name of O&M firm]
[Address of O&M firm]

15.8 The Sub-Clause is deleted in its entirety

15.11 Governing Law shall be of [Islamic Republic of Pakistan].

- 15.14 All amounts of money shall be dominated in currency of Islamic Republic of Pakistan i.e., Pak Rupees.
- 15.15 The **Performance Security** shall be in the Pak Rupees for an amount equal to 10% of the Contract Price.

FORM OF BID SECURITY

(Bank Guarantee)

Guarantee No. _____

Executed on _____

Expiry date _____

Name of Guarantor (Bank) with address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with address: _____

Penal Sum of Security (express in words and figures): _____

Bid Reference No. _____ Date of Bid Opening _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid and at the request of the said Principal, we the Guarantor above-named are held and firmly bound unto the NESPAK (hereinafter called the "Owner") in the sum stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Bid numbered dated as above for Operation and Maintenance of Heating, Ventilation and Air Conditioning (HVAC) System at NESPAK House, Lahore to the said Owner; and

WHEREAS, the Owner has required as a condition for considering the said Bid that the Principal furnishes a Bid Security in the above said sum to the Owner, conditioned as under:

- (1) that the Bid Security shall remain valid for a period 28 days beyond the period of validity of the Bid;
- (2) that in the event of;
 - (a) the Principal withdraws his Bid during the period of validity of Bid, or
 - (b) the Principal does not accept the correction of his Bid Price, pursuant to Sub-Clause 24.2 of Instructions to Bidders, or
 - (c) failure of the successful bidder to
 - (i) furnish the required Performance Security, in accordance with Clause 34 of Instructions to Bidders, or
 - (ii) sign the proposed Contract Agreement, in accordance with Clause 35 of Instructions to Bidders,

then the entire sum be paid immediately to the said Owner as liquidated damages and not as penalty for the successful bidder's failure to perform.

NOW THEREFORE, if the successful bidder shall, within the period specified therefore, on the prescribed form presented to him for signature enter into a formal Contract with the said Owner in accordance with his Bid as accepted and furnish within twenty eight (28) days of his being requested to do so, a Performance Security with good and sufficient surety , as may be required, upon the form prescribed by the said Owner for the faithful performance and proper fulfilment of the said Contract or in the event of non-withdrawal of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Guarantor shall forthwith pay to the Owner the said sum stated above upon first written demand of the Owner without cavil or argument and without requiring the Owner to prove or to show grounds or reasons for such demand notice of which shall be sent by the Owner by registered post duly addressed to the Guarantor at its address given above.

PROVIDED ALSO THAT the Owner shall be the sole and final judge for deciding whether the Principal has duly performed his obligations to sign the Contract Agreement and to furnish the requisite Performance Security within the time stated above, or has defaulted in fulfilling said requirements and the Guarantor shall pay without objection the sum stated above upon first written demand from the Owner forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above bounden Guarantor has executed the instrument under its seal on the date indicated above, the name and seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

Witness:	_____ Guarantor (Bank)
1. _____	Signature _____
_____	Name _____
Corporate Secretary (Seal)	Title _____
2. _____	_____
_____	_____
(Name, Title & Address)	Corporate Guarantor (Seal)

FORM OF CONTRACT AGREEMENT

This Contract AGREEMENT (hereinafter called the "Agreement") is made and entered into the _____ day of _____(month) 2018 by and between the national Engineering Services Pakistan (Pvt.) Ltd. (hereinafter called the "Owner"), and _____ (hereinafter called the "Operator").

WHEREAS, Owner owns HVAC system installed at NESPAK House, Lahore ("Project") and desires to contract for its operation and maintenance of the Project,

WHEREAS, Operator provides operation and maintenance and management services for the **Project** and has agreed to provide those services for the Project on the terms and conditions set forth in this Agreement,

NOW this Agreement witnesseth as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents after incorporating addenda, if any except those parts relating to Instructions to Bidders shall be deemed to form and be read and construed as part of this Agreement, viz:
 - a) The Contract Agreement;
 - b) The Letter of Acceptance;
 - c) The completed Form of Bid;
 - d) The General Conditions of Contract;
 - e) The Particular Conditions of Contract;
 - f) The priced Schedule of Prices;
 - g) Completed Appendices to Bid;
 - h) Technical & Special Provisions;
 - i) Operation & Maintenance Performas;
 - j) any other
3. In Consideration of the payments to be made by the Owner to the Operator as hereinafter mentioned, the Operator hereby covenants with the Owner to operate and maintain the HVAC System therein in conformity and in all respects with the provisions of the Contract.;
4. The Owner hereby covenants to pay the Operator, in consideration of the operation of the HVAC System as per provisions of the Contract, the Contract price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the Parties hereto have caused this Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

[Legal Name of Owner]

By: _____

Witness: _____

Name:
Title:
Seal:

Name:
Address:

[Legal Name of Operator]

By: _____

Witness: _____

Name:
Title:
Seal:

Name:
Address:

**FORM OF PERFORMANCE SECURITY
(Bank Guarantee)**

Guarantee No. _____
Executed on _____
Expiry date _____

Name of Guarantor (Bank) with address: _____

Name of Principal (Contractor/Operator) with address: _____

Penal Sum of Security (express in words and figures)

Letter of Acceptance No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the NESPAK (hereinafter called the "Owner") in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Owner, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has accepted the Owner's above said Letter of Acceptance for Operation and Maintenance of Heating, Ventilation and Air Conditioning (HVAC) System at NESPAK House, Lahore.

NOW THEREFORE, if the Principal (Operator) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Owner, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Sub-Clause 8.7 "Project Condition at End of Term" of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defenses under the Contract, do hereby irrevocably and independently guarantee to pay to the Owner without delay upon the Owner's first written demand without cavil or arguments and without requiring the Owner to prove or to show grounds or reasons for such demand any sum

or sums up to the amount stated above, against the Owner's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Owner's designated Bank & Account Number.

PROVIDED ALSO THAT the Owner shall be the sole and final judge for deciding whether the Principal (Operator) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Owner forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

	_____ Guarantor (Bank)
Witness:	
1. _____	Signature _____
_____	Name _____
Corporate Secretary (Seal)	Title _____
2. _____	
_____	_____
Name, Title & Address	Corporate Guarantor (Seal)

SPECIFICATIONS

SPECIAL PROVISIONS

SP-01 LOCATION OF PROJECT

The HVAC system is installed at NESPAK House, 1-C, Block-N, Model Town Extension, Lahore.

The NESPAK House building consists of four (04) floors and one (01) basement. The building comprises of office halls, office rooms, library and meeting rooms etc. The central HVAC system is installed in the basement.

SP-01.1 HVAC SYSTEM

a) Type of System

Central HVAC system with water cooled water/glycol chillers, thermal storage tanks, hot water generators, cooling towers, air handling units, fan coil units, and pumps (primary & secondary) is installed in the building. Glycol water solution (20% concentration) is used as chilled medium in chilled water piping circuit. The central HVAC system is supplemented with independent split air conditioners installed at some critical locations.

b) Summer

During the peak cooling season, three (3) chillers with three (3) primary chilled water pumps, four (4) secondary chilled water pumps, three (3) condenser water pumps, twenty two (22) AHUs and seventy nine (79) FCUs shall be operated to meet the cooling load requirements of the building. Split air conditioners shall be used as per the requirement.

Thermal storage tanks shall be used to make ice at night by operating one (01) chiller at -4°C chilled water out temperature. The thermal energy stored in the ice shall be used during the day time, which will indirectly enhance the system capacity. The Glycol water solution will makes the ice possible in thermal storage tanks at -4°C.

c) Winter

During most of the heating season, one (1) hot water generator, one (1) primary hot water pump and three (3) secondary chilled water pumps satisfy the total heat demand of the building.

d) Plant Operation during Power Failures. During periods of power break down or load shedding one (01) Chiller can be operated on emergency power. However planned to operate complete plant on emergency generator in near future.

SP-01.3 SERVICE CONDITIONS FOR AUXILIARIES

a) Power Supply

Electrical Circuit Voltages:

Nominal, 3 phase; 415 volts

1- phase : 240 volts

For equipment ratings, 3- phase: 400 volts

1- phase: 230 volts

Fluctuations in voltage applied (+/-) 10% to equipment rated voltage.

Frequency: 50 HZ

b) Water Supply is available near cooling towers located in the rear side of the building, AHU rooms and central plant room.

c) Water Disposal:

Floor drains are connected to sewerage system of the building.

SP-01.4 UNITS

The units used in these specifications are as under;

Unit system: SI/British/FPS

TR: Ton of refrigeration equivalent to 12000 BTUH or 3519 W

SP-02 WORK BY THE OPERATOR

SP-02.1 SCOPE OF WORK

SP-02.1.1 The Operator shall be responsible for the operation of the complete air conditioning plant, complete servicing and maintenance of all equipment, controls, components and accessories including minor repairs and annual servicing. Major repairs, when required, are not included in the Scope of Work.

SP-02.1.2 The Operator shall ensure that the air conditioning plant is operated, maintained and serviced efficiently to avoid breakdown during normal operation. The Operator shall also ensure economical consumption of the materials and spare parts supplied by the Owner. However, if the Owner desires same shall be reimbursed by the Owner as per Appendix B to Bid.

- SP-02.1.3** The owner is planning to replace the existing Carrier chillers, cooling tower, pumps and relevant accessories and associated retrofitting with screw chiller system. In second phase, the remaining plant will be replaced. The Operator will be responsible to operate the old plant before replacement and new plant after replacement.
- SP-02.1.4**
- a) The temperature on each floor at different locations shall be recorded daily as per format provided by the Employer.
 - b) The equipment operational observations shall be recorded at suitable intervals as per format provided by the employer.
 - c) All readings shall be recorded in approved printed log sheets (provided by the Owner) prepared in duplicate. One set would be supplied to the Employer's Representative every day.
 - d) The Operator's staff will have daily round of all AHU-Rooms and various other spaces to check general performance of various HVAC components/devices as per check list provided by the Owner.
- SP-02.1.5** The supervisor engineer of the Operator shall regularly submit a Monthly report in triplicate to the Employer's Representative by the 5th of each month regarding the overall performance of the complete plant during the preceding month and pinpoint any actions to be taken by the Owner.
- SP-02.1.6** The Operator shall submit an estimate to the Owner for approval before carrying out any major repair which become necessary in due course but not due to any negligence or default of the Operator, his agent or employees of which the Owner shall be the sole judge. The estimate shall be submitted expeditiously so as not to disrupt the Plant operation. The Operator shall undertake the work on approval of the estimate by the Owner.
- SP-02.1.7** The Operator shall be responsible for:
- a) Regular and effective chemical treatment of water for condenser chilled and hot water systems, taking of samples and testing and recording the results daily.
 - b) Cleaning, removal and re-fixing of all air devices.
 - c) Removal and re-fixing of false ceiling tiles as required by the Operator for carrying out his Works. The Operator shall be responsible for any damage to the false ceiling framing and tiles.
- SP-02.1.8** The work of routine servicing and maintenance as required must be completed by the Operator's staff every day.
- SP-02.1.9** The Operator will be responsible to prepare maintenance schedules and necessary inventory for equipment/material required for emergency breakdowns/shutdowns.

SP-02.1.10 The Operator will be responsible for the minor outsource Works which shall be deemed included under the contract fee.

SP-02.2 PLANT OPERATION

- a) Check for the working of all electrical and mechanical components of the equipment.
- b) Dosing of chemicals for treatment of condenser, chilled and hot water systems and testing of water samples.
- c) Maintenance of daily operation log sheets.
- d) Any servicing or running repairs required during the operation of the Plant.

SP-02.3 PREVENTIVE MAINTENANCE

The preventive maintenance of the HVAC plant shall be carried out on daily weekly/fortnightly/monthly basis as per schedules/formats provided by the Owner. This will include but not limited to following:

- a) Washing and cleaning of air filters.
- b) Flushing and cleaning of water strainers, chemical pot feeders, AHU - drain pans, etc.
- c) Servicing of automatic and safety controls of equipment and air conditioning systems.
- d) Checking of oil and other lubricant levels and changing the same when required for all equipment components.
- e) Checking of belt driven equipment and adjustment of belt tension and alignment.
- f) Checking of water levels and level control valves.
- g) Change of parts due to normal wear and tear when necessary.
- h) Adjustment and lubrication/greasing of bearings and glands of equipment.
- i) Checking and adjustment of all pressure and safety devices.
- j) Cleaning & dusting of Air inlets/outlets, all equipment and equipment rooms, cleaning of drain channels, drain sump etc.

SP-02.4 ANNUAL MAINTENANCE AND SERVICING

The Works shall be carried out under the supervision of a Senior Engineer. The parts shall be changed where necessary. Instructions given in the

Manufacturer's Manual shall be followed. Record of various checks and necessary tests shall be maintained for future reference. The annual maintenance and servicing shall be carried out as per approved maintenance schedule which will be prepared keeping following in view:

- All equipment/ system to be employed for cooling will be serviced/maintained during winter.
- All equipment/system to be employed for heating will be Serviced/maintained during summer.

SP-02.4.1 CHILLER

- a) De-scaling of condenser and evaporator tubes.
- b) Dry testing of all controls and safeties.
- c) Checking of oil level & filling as per requirement.
- d) Leak testing and charging of refrigerant gas.

SP-02.4.2 COOLING TOWER

- a) Servicing of all complete cooling towers including fins.
- b) Greasing of cooling tower motor bearings.
- c) Replacement/tightening of motor belts.

SP-02.4.3 WATER PUMPS

- a) Servicing of all water pumps.
- b) Greasing of pumps & motor bearings.
- c) Checking of pump/motor alignment.

SP-02.4.4 AIR HANDLING UNIT

- a) Flushing, cleaning and washing of water coils by using pressure pumps.
- b) Checking and adjustment of dampers
- c) Checking and adjustment of fan bearings and belts.
- d) Greasing of SA fan/motor bearings
- e) Greasing of RA fan/motor bearings.
- f) External cleaning/washing of AHUs.
- g) External cleaning/washing of RA fans.
- h) Painting of AHUs/RA fans if necessary.

SP-02.4.5 FANS

- a) Cleaning of fans
- b) Checking and adjustment of bearings & belts.

SP-02.4.6 AIR FILTERS

- a) Cleaning and replacement of air filters.

SP-02.4.7 AUTOMATIC CONTROLS

As per servicing/maintenance schedule to be provided by the Owner.

SP-02.4.8 ELECTRIC MOTORS AND STARTERS

- a) Cleaning and checking of all components.
- b) Tightening of wire connections.
- c) Cleaning and adjustment of contacts.
- d) Checking of earthing.
- e) Checking of motor winding insulation with a meggar.

SP-02.4.9 ELECTRIC CONTROL BOARDS AND ELECTRIC SYSTEMS

- a) Checking and servicing of all MCCBs, disconnect switches, fuses, contacts, relays, overload cutouts and other safety devices.
- b) Tightening of wiring connections.
- c) Checking of wiring insulation.
- d) Checking of earthing.

SP-02.4.10 EXPANSION TANKS

- a) General inspection, cleaning & flushing

SP-02.4.11 AIR DISTRIBUTION SYSTEM

- a) Cleaning of air devices.
- b) Repair/cleaning of exposed ducts, duct insulation, jacketing and covering.

SP-02.4.12 PIPING SYSTEMS

- a) Cleaning and flushing of all piping systems including chemical cleaning, if required.
- b) Servicing of all valves, strainers & specialties, etc.
- c) Repair of insulation, jacketing and covering of all insulated piping.

SP-02.4.13 PAINTING

Painting of all equipment, ducting and piping including supports, if the original paint has been scratched or has deteriorated.

SP-03 MAINTENANCE STAFF

The Operator shall operate, service and maintain the complete HVAC system. The Operator shall provide personnel of specified qualification for operation and maintenance as per staff schedule. No inexperienced staff shall be deployed.

SP-04**MAINTENANCE TOOLS, PLANT & INSTRUMENTS**

The Operator shall supply in a toolbox full set of tools suitable for the maintenance of all components of the system including the electrical equipment. List of tools shall be subject to approval of the Owner.

The Operator shall also furnish maintenance tools, plant and instruments of the HVAC Equipment. The Tools shall include not normally available in the market as standard tools and are generally manufactured especially for use with the HVAC Equipment. All lifting devices shall be accurately machined to fit the parts to be handled. The wrenches and tools for maintenance, insofar as practicable, shall be mounted on a suitable hardwood or steel board arranged for wall mounting and provided with means for ready identification. The Operator shall also provide refrigerant charging Plant if and when required. No separate payment shall be made for providing Plant and Tools.

SPECIFICATIONS TECHNICAL PROVISIONS

1-01 WORKMANSHIP

Workmanship and general maintenance shall be of the highest grade, in accordance with the requirements specified herein and the best modern standard practice.

1-02 CUTTING, PATCHING AND REPAIRING

Required for proper repair of HVAC works including masonry work, carpentry work, painting and re-painting shall be performed by the skilled craftsmen in respective trades, at the expense of the Contractor.

1-03 PROTECTION

The Contractor shall keep pipe, duct and other openings closed to prevent entry of foreign matter. All fixtures, apparatus, or equipment damaged including damaged shop coats of paint shall be protected and restored to original after completion of work. All bright finished shafts bearing housings and similar items shall be protected until in service: no rust will be permitted.

1-04 CHEMICALS FOR CHILLED/HOT WATER AND CONDENSER WATER

The quantities of chemicals shall be based on the system volume. Glycol is used as an anti freeze and anti rust agent. The concentration of Glycol is dependent of the temperature required to be attained, a recommended concentration of 20% (twenty percent) is recommended. The type, quality and concentration of chemicals shall be approved by the Engineer after its analysis.

1-05 OIL AND GREASES

The oils and greases shall be supplied in sealed containers. These shall be of suitable quality. The quantity, grade of oil and greases and their manufacturer shall be approved by the Engineer.

1-06 MAJOR HVAC EQUIPMENT

Heating, Ventilation and Air Conditioning (HVAC) System consists of the following major equipment:

1)	Chillers (Glycol solution)	Three	(3) Nos
2)	Cooling Towers	Three	(3) Nos
3)	Condenser Water Pumps	Three	(3) Nos
4)	Primary Chilled Water Pumps	Three	(3) Nos
5)	Secondary Chilled Water Pumps	Four	(4) Nos

6)	Secondary Chilled Water Pumps (For Fan Coil Units)	Two	(2) Nos
7)	Thermal Storage Tanks	Six	(6) Nos
8)	Hot Water Generators	Two	(2) Nos
9)	Hot Water Pumps	Two	(2) Nos
10)	Air Handling Units (AHUs)	Twenty Two	(22) Nos
11)	Fan Coil Units (FCUs)	Seventy nine	(79) Nos
12)	Exhaust Fans	Ten	(10) Nos

Note:

The Owner is planning to replace the existing Carrier chillers, cooling tower, pumps and relevant accessories with screw chiller system. In second phase, the remaining plant will be replaced. The Operator will be responsible to operate the old plant before replacement and new plant after replacement.

NESPAK HOUSE - HVAC SYSTEM
(ABBREVIATIONS)

SR NO.	ABBREVIATIONS	DESCRIPTION
1	O&M	OPERATION AND MAINTENANCE
2	CPR	CENTRAL PLANT ROOM
3	CH	CHILLER
4	CT	COOLING TOWER
5	AHU	AIR HANDLING UNIT
6	FCU	FAN COIL UNIT
7	SAC	SPLIT AIR CONDITIONER
8	HWG	HOT WATER GENERATOR
9	TSP	THERMAL STORAGE PLANT
10	CHP	CHILLED WATER PRIMARY PUMP
11	CHSP	CHILLED WATER SECONDARY PUMP
12	CP	CONDENSER WATER PUMP
13	HP	HOT WATER PRIMARY PUMP
14	CV	CONTROL VALVE
15	T IN	INLET WATER TEMPERATURE
16	T OUT	OUTLET WATER TEMPERATURE
17	ΔT	TEMPERATURE DIFFERENCE
18	P IN	INLET WATER PRESSURE

SR NO.	ABBREVIATIONS	DESCRIPTION
19	P OUT	OUTLET WATER PRESSURE
20	ΔP	PRESSURE DIFFERENCE
21	PSI	POUND PER SQUARE INCH (lb/in ²)
22	°C	DEGREE CENTIGRADE
23	O.A TEMPERATURE	OUTSIDE AIR TEMPERATURE
24	SUC.	SUCTION
25	DISCHG.	DISCHARGE
26	LWT	LEAVING WATER TEMPERATURE
27	EWT	ENTERING WATER TEMPERATURE
28	PH	PHASE
29	FLA	FULL LOAD AMPERE
30	S.A	SUPPLY AIR
31	R.A	RETURN AIR
32	HRS	HOURS

FORM - 1
NESPAK HOUSE - HVAC SYSTEM
DAILY LOG SHEET (SUMMER)
CENTRAL PLANT ROOM (CPR)

DATE _____
 SHEET 1 OF 2

TIME		HRS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
EQUIPMENT			UNITS																									
CH-1	E V A P O R A T O R	T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
		P IN	PSI																									
		P OUT	PSI																									
		ΔP	PSI																									
CH-1	C O N D E N S E R	T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
		P IN	PSI																									
		P OUT	PSI																									
		ΔP	PSI																									
CH-2	E V A P O R A T O R	T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
		P IN	PSI																									
		P OUT	PSI																									
		ΔP	PSI																									
CH-2	C O N D E N S E R	T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
		P IN	PSI																									
		P OUT	PSI																									
		ΔP	PSI																									
CH-3	E V A P O R A T O R	T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
		P IN	PSI																									
		P OUT	PSI																									
		ΔP	PSI																									
CH-3	C O N D E N S E R	T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
		P IN	PSI																									
		P OUT	PSI																									
		ΔP	PSI																									
TSCWP		T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
SYSTEM (LOAD SIDE)		T IN	°C																									
		T OUT	°C																									
		ΔT	°C																									
O.A. TEMPERATURE			°C																									

RECORDED BY _____

O & M INCHARGE _____

(CONTRACTOR)

NAME & SIGNATURES

(CONTRACTOR)

NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

FORM - 1
NESPAK HOUSE - HVAC SYSTEM
DAILY LOG SHEET (SUMMER)
CENTRAL PLANT ROOM (CPR)

DATE _____
SHEET 2 OF 2

TIME	HRS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
EQUIPMENT		UNITS																									
P	CHP-1	P IN	PSI																								
		P OUT	PSI																								
U	CHP-2	P IN	PSI																								
		P OUT	PSI																								
M	CHSP-1	P IN	PSI																								
		P OUT	PSI																								
P	CHSP-2	P IN	PSI																								
		P OUT	PSI																								
S	CHSP-3	P IN	PSI																								
		P OUT	PSI																								
Stand by	CHSP-4	P IN	PSI																								
		P OUT	PSI																								
Stand by	CHSP-5	P IN	PSI																								
		P OUT	PSI																								
Stand by	CHSP-6	P IN	PSI																								
		P OUT	PSI																								
CP-1	P IN	P IN	PSI																								
		P OUT	PSI																								
CP-2	P IN	P IN	PSI																								
		P OUT	PSI																								
CP-3	P IN	P IN	PSI																								
		P OUT	PSI																								
TSP	CHARGING	XXXX																									
MODE	DISCHARGING	XXXX																									
CV OPEN TO TSP		%																									
R E F R I G E R A N T	CH-1	SUC.	PSI																								
		DISCHG.	PSI																								
		OIL	PSI																								
	CH-2	SUC.	PSI																								
		DISCHG.	PSI																								
		OIL	PSI																								
	CH-3	SUC.	PSI																								
		DISCHG.	PSI																								
		OIL	PSI																								

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

FORM - 2
NESPAK HOUSE
HVAC SYSTEM
DAILY LOG SHEET (WINTER)
CENTRAL PLANT ROOM (CPR)

DATE _____
SHEET 1 OF 1

TIME		HRS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
EQUIPMENT			UNITS																									
HWG-1	T IN		°C																									
	T OUT		°C																									
	ΔT		°C																									
	P IN		PSI																									
	P OUT		PSI																									
	ΔP		PSI																									
HWG-2	T IN		°C																									
	T OUT		°C																									
	ΔT		°C																									
	P IN		PSI																									
	P OUT		PSI																									
	ΔP		PSI																									
P R I M A R Y	HP-1	P IN	PSI																									
		P OUT	PSI																									
U	HP-2	P IN	PSI																									
		P OUT	PSI																									
M S E C O N D A R Y	CHSP-1	P IN	PSI																									
		P OUT	PSI																									
	CHSP-2	P IN	PSI																									
		P OUT	PSI																									
	CHSP-3	P IN	PSI																									
		P OUT	PSI																									
	CHSP-4	P IN	PSI																									
		Stand by	PSI																									
	CHSP-5	P IN	PSI																									
		P OUT	PSI																									
	CHSP-6	P IN	PSI																									
		Stand by	PSI																									
O.A. TEMPERATURE			°C																									
FUEL GAS PRESSURE			PSI																									

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

FORM - 3
NESPAK HOUSE
HVAC SYSTEM
DAILY LOG SHEET (AIR HANDLING UNITS)
SUMMER/WINTER

DATE _____
SHEET 1 OF 1

Sr. No.	AHU NO.	6000 TO 9000						1100 TO 1200						1400 TO 1500						ZONE / SPACE TEMPERATURE		
		CPR LWT ----- °C			O A T ----- °C			CPR LWT ----- °C			O A T ----- °C			CPR LWT ----- °C			O A T ----- °C			°C		
		EWT °C	LWT °C	ΔT °C	P IN PSI	P OUT PSI	ΔP PSI	EWT °C	LWT °C	ΔT °C	P IN PSI	P OUT PSI	ΔP PSI	EWT °C	LWT °C	ΔT °C	P IN PSI	P OUT PSI	ΔP PSI	Reading 1	Reading 2	Reading 3
1	AHU/B-1																					
2	AHU/B-2																					
3	AHU/G-1																					
4	AHU/G-2																					
5	AHU/G-3																					
6	AHU/G-4																					
7	AHU/G-L1																					
8	AHU/F-1																					
9	AHU/F-2																					
10	AHU/F-3																					
11	AHU/F-4																					
12	AHU/S-1																					
13	AHU/S-2																					
14	AHU/S-3																					
15	AHU/S-4																					
16	AHU/PH-1																					
17	AHU/PH-2																					
18	AHU/T-1																					
19	AHU/T-2																					
20	AHU/TC-1																					
21	AHU/T-3																					
22	AHU/T-4																					

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

FORM - 4
NESPAK HOUSE - HVAC SYSTEM
MONTHLY LOG SHEET
ELECTRICAL PARAMETERS (SUMMER)
CENTRAL PLANT ROOM (CPR)

MONTH _____

DATE _____
 SHEET 1 OF 1

DATE	LINE VOLTAGE AT MAINS (VOLTS)			FLA - CH-1 -----						FLA - CH-2 -----						FLA - CH-3 -----	CHILLED WATER PUMPS (FLA)						CONDENSER WATER PUMPS (FLA)			COOLING TOWERS (FLA)				
				FLA COMPRESSOR NO. -----						FLA COMPRESSOR NO. -----						FLA COMPRESSOR	PRIMARY			SECONDARY										
	PH/1-2	PH/2-3	PH/3-1	1	2	3	4	5	6	1	2	3	4	5	6	1	CHP-1	CHP-2	CHP-3	CHSP-1	CHSP-2	CHSP-3	CHSP-4	CHSP-5	CHSP-6	CP-1	CP-2	CP-3	CT-1	CT-2
1																														
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18																														
19																														
20																														
21																														
22																														
23																														
24																														
25																														
26																														
27																														
28																														
29																														
30																														
31																														

RECORDED BY _____
 (CONTRACTOR) NAME & SIGNATURES

O & M INCHARGE _____
 (CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
 NAME & SIGNATURES

FORM - 5
NESPAK HOUSE - HVAC SYSTEM
MONTHLY LOG SHEET
ELECTRICAL PARAMETERS (WINTER)
CENTRAL PLANT ROOM (CPR)

MONTH : _____

DATE _____
 SHEET 1 OF 1

DATE	LINE VOLTAGE AT MAINS (VOLTS)			HOT WATER GENERATORS (FLA)		HOT WATER PUMPS (FLA)							
	PH/1-2	PH/2-3	PH/3-1	HWG-1	HWG-2	PRIMARY		SECONDARY					
						HP-1	HP-2	CHSP-1	CHSP-2	CHSP-3	CHSP-4	CHSP-5	CHSP-6
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													

RECORDED BY _____
 (CONTRACTOR) NAME & SIGNATURES

O & M INCHARGE _____
 (CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
 NAME & SIGNATURES

FORM - 6

**NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR DAILY ROUND OF AHUs**

DATE : _____
SHEET 1 OF 2

S. NO.	DESCRIPTION		OBSERVATIONS AHU NO.																					
			B-1	B-2	G-1	G-2	G-3	G-4	G-L1	F-1	F-2	F-3	F-4	S-1	S-2	S-3	S-4	PH-1	PH-2	T-1	T-2	TC-1	T-3	T-4
1	Time	HRS																						
2	S.A. Fan	ON																						
		OFF																						
3	R.A. Fan	ON																						
		OFF																						
4	Damper Linkage Z1:	Manual																						
		Automatic																						
	Damper Linkage Z2:	Manual																						
		Automatic																						
	Damper Linkage Z3:	Manual																						
		Automatic																						
5	Condensate Drain	Blocked																						
		Flowing																						
6	O.A/R.A Damper linkage	Manual																						
		Automatic																						
7	Any leakage of water from piping.	No																						
		Yes																						
8	Any leakage of water from Valves	No																						
		Yes																						
9	Any leakage of Air from AHU Casing	No																						
		Yes																						
10	Any leakage of Air from R.A. Fan Casing	No																						
		Yes																						
11	Any abnormal noise from R.A. Fan	No																						
		Yes																						
12	OA/RA %age	-																						

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

FORM - 6

**NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR DAILY ROUND
BASEMENT/SHAFT
OUTSIDE PLANT ROOM**

DATE: _____
SHEET 2 OF 2

S. NO.	DESCRIPTION		OBSERVATION	REMARKS	TIME
1	Any leakage of water from piping	No			
		Yes			
		Location			
2	Any leakage of water from valves	No			
		Yes			
		Location			
3	Any damage to flue duct	No			
		Yes			
		Location			
4	Any damage to pipe	No			
		Yes			
		Location			
5	Any damage to valves	No			
		Yes			
		Location			

OBSERVED BY _____
(CONTRACTOR) NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

FORM - 7

**NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR DAILY ROUND OF FCUs
GROUND FLOOR**

DATE: _____
SHEET 1 OF 4

S. NO.	DESCRIPTION		OBSERVATIONS FCU NO.																	REMARKS						
			FCU-5-1	FCU-5-2	FCU-5-3	FCU-1	FCU-5-4	FCU-5-5	FCU-5-6	FCU-5-7	FCU-5-8	FCU-5-9	FCU-5-10	FCU-5-11	FCU-3-1	FCU-5-12	FCU-5-13	FCU-3-2								
1	Time	HRS.																								
2	FCU Fan	ON																								
		OFF																								
3	Condensate Drain	Blocked																								
		Flowing																								
4	Any leakage of water from pipes, valves, etc.	No																								
		Yes																								
5	Supply Air Temperature	°C																								

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

FORM - 7

**NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR DAILY ROUND OF FCUs
FIRST FLOOR**

DATE: _____
SHEET 2 OF 4

S. NO.	DESCRIPTION		OBSERVATIONS FCU NO.																		REMARKS				
			FCU-5-15	FCU-5-16	FCU-5-17	FCU-5-18	FCU-5-19	FCU-5-20	FCU-5-14	FCU-5-21	FCU-5-22	FCU-5-23	FCU-5-24	FCU-5-25	FCU-5-26	FCU-5-27	FCU-4-1	FCU-4-2	FCU-4-3	FCU-4-4					
1	Time	HRS.																							
2	FCU Fan	ON																							
		OFF																							
3	Condensate Drain	Blocked																							
		Flowing																							
4	Any leakage of water from pipes, valves, etc.	No																							
		Yes																							
5	Supply Air Temperature	°C																							

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

FORM - 7

**NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR DAILY ROUND OF FCUs
SECOND FLOOR**

DATE: _____
SHEET 3 OF 4

S. NO.	DESCRIPTION		OBSERVATIONS FCU NO.																				REMARKS			
			FCU-5-27	FCU-5-28	FCU-5-29	FCU-5-30	FCU-3-3	FCU-5-43	FCU-5-44	FCU-5-45	FCU-5-46	FCU-5-47	FCU-5-31	FCU-5-32	FCU-5-38	FCU-5-39	FCU-5-40	FCU-5-41	FCU-5-42	FCU-5-33	FCU-5-34	FCU5-35		FCU5-36	FCU5-37	
1	Time	HRS.																								
2	FCU Fan	ON																								
		OFF																								
3	Condensate Drain	Blocked																								
		Flowing																								
4	Any leakage of water from pipes, valves, etc.	No																								
		Yes																								
5	Supply Air Temperature	°C																								

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

FORM - 8A
NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR FORTNIGHT ROUND OF SACs

DATE: _____
SHEET 1 OF 5

SR. NO.	DESCRIPTION		OBSERVATIONS SAC NO.																		REMARKS
			SAC-1	SAC-2	SAC-3	SAC-4	SAC-5	SAC-6	SAC-7	SAC-8	SAC-9	SAC-10	SAC-11	SAC-12	SAC-13	SAC-14	SAC-15	SAC-16	SAC-17	SAC-18	
	LOCATION		MD OFFICE	MD SECRETARIATE			VP (C)	VP (M&IT)	ISOR MD (MD SE	SERVER ROOM (M&IT)	TEL EXCH.		CONF ROOM (HR)			UNION OFFICE		MGS			
1	Time	HRS.																			
2	Indoor Unit Fan	ON																			
		OFF																			
3	Outdoor Unit Fan	ON																			
		OFF																			
4	Any leakage of Condensate Drain Water	No																			
		Yes																			

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

FORM - 8A
NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR FORTNIGHT ROUND OF SACs

DATE: _____
SHEET 2 OF 5

SR. NO.	DESCRIPTION		OBSERVATIONS SAC NO.																	REMARKS	
			SAC-19	SAC-20	SAC-21	SAC-22	SAC-23	SAC-24	SAC-25	SAC-26	SAC-27	SAC-28	SAC-29	SAC-30	SAC-31	SAC-32	SAC-33	SAC-34	SAC-35		SAC-36
	LOCATION		A&P (BF)	A&P (BF)	EVP (FIN)	VP (A&P)	VP (CM)	VP (HR)	VP (HIGHWAY)	VP (E&PH)	VP (WR)	VP (W&A)	VP (ELECT)	GM (GT&G)	GM (CM)	HIEF (HIGHWA)	CPC (BF)	STORE			QMT
1	Time	HRS.																			
2	Indoor Unit Fan	ON																			
		OFF																			
3	Outdoor Unit Fan	ON																			
		OFF																			
4	Any leakage of Condensate Drain Water	No																			
		Yes																			

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

FORM - 8A
NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR FORTNIGHT ROUND OF SACs

DATE: _____
SHEET 3 OF 5

SR. NO.	DESCRIPTION		OBSERVATIONS SAC NO.																	REMARKS	
			SAC-37	SAC-38	SAC-39	SAC-40	SAC-41	SAC-42	SAC-43	SAC-44	SAC-45	SAC-46	SAC-47	SAC-48	SAC-49	SAC-50	SAC-51	SAC-52	SAC-53		SAC-54
	LOCATION		MNGR ADMIN	VP (WR)	HEAD FINANCE	TEL. OPERATOR	MNGR ADMIN	CANTEEN													
1	Time	HRS.																			
2	Indoor Unit Fan	ON																			
		OFF																			
3	Outdoor Unit Fan	ON																			
		OFF																			
4	Any leakage of Condensate Drain Water	No																			
		Yes																			

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

FORM - 8A
NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR FORTNIGHT ROUND OF SACs

DATE: _____
 SHEET 4 OF 5

SR. NO.	DESCRIPTION		OBSERVATIONS SAC NO.																	REMARKS	
			SAC-53	SAC-54	SAC-55	SAC-56	SAC-57	SAC-58	SAC-59	SAC-56	SAC-57	SAC-58	SAC-59	SAC-60	SAC-61	SAC-62	SAC-63	SAC-64	SAC-65		SAC-66
LOCATION																					
1	Time	HRS.																			
2	Indoor Unit Fan	ON																			
		OFF																			
3	Outdoor Unit Fan	ON																			
		OFF																			
4	Any leakage of Condensate Drain Water	No																			
		Yes																			

RECORDED BY _____
 (CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
 NAME & SIGNATURES

O & M INCHARGE _____
 (CONTRACTOR) NAME & SIGNATURES

FORM - 8A
NESPAK HOUSE
HVAC SYSTEM
CHECK LIST FOR FORTNIGHT ROUND OF SACs

DATE: _____
SHEET 5 OF 5

SR. NO.	DESCRIPTION		OBSERVATIONS SAC NO.																	REMARKS	
			SAC-67	SAC-68	SAC-69	SAC-70	SAC-71	SAC-72	SAC-73	SAC-74	SAC-75	SAC-76	SAC-77	SAC-78	SAC-79	SAC-80	SAC-81	SAC-82	SAC-83		SAC-84
LOCATION																					
1	Time	HRS.																			
2	Indoor Unit Fan	ON																			
		OFF																			
3	Outdoor Unit Fan	ON																			
		OFF																			
4	Any leakage of Condensate Drain Water	No																			
		Yes																			

RECORDED BY _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

FORM-9
NESPAK HOUSE
HVAC SYSTEM
PREVENTIVE MAINTENANCE SCHEDULE

SHEET 1 OF 3

S.No	Description	Daily	Weekly	Fort nightly	Monthly	Before seasonal startup	Remarks
1	<u>CHILLERS</u>						
	- Descaling of Condenser					*	
	- Dry Test of all Controls & Safeties					*	
	- Leak testing & charging of refrigerant gas					*	
	- Dusting of Chiller& Chiller Control panels with blower		*				
	- Balancing of Water Flow Rate					*	
2	<u>PUMPS</u>						
	- Checking of alignment				3 months		
	- Greasing of Pumps & Motor bearings				3 months		
	- Cleaning of Strainers				*		
	- Balancing of Water Flow Rate					*	
3	<u>COOLING TOWER</u>						
	- Descaling of Fill					*	
	- Descaling of Nozzles					*	
	- Cleaning of CT Basin					*	
	- Descaling of C.T. Basin					*	
	- Greasing of C.T. Fan/Motor Bearings				3 months	*	
	- General inspection of fan blades		*				
	- Tightening of Fan Belts		*				
	- Leakage Test and Repair					*	
	- Balancing of Water Flow Rate					*	
4	<u>THERMAL STORAGE SYSTEM</u>						
	- Cleaning of Glycol Filter				*	*	
	- General Inspection of TSP Tanks from inside & outside before filling					*	
	- Leakage test & repair					*	
	- Cleaning of Strainers at TSP Tanks				*	*	
5	<u>EXPANSION TANKS</u>						
	- General Inspection & Cleaning if required					*	
6	<u>HOT WATER GENERATOR</u>						
	- Inspection of tubes and de scaling if required					*	
	- Dry Test of Controls					*	
7	<u>CHEMICALS</u>						
A.	Condenser Water System						
	i) Testing of dosing Pump				*	*	
	ii) Dosing of Chemicals						
	- Initial dose					*	
	- Scale/corrosion inhibitor	*					
	- Biocides			*			
	-Testing of water				*		

FORM-9
NESPAK HOUSE
HVAC SYSTEM
PREVENTIVE MAINTENANCE SCHEDULE

SHEET 2 OF 3

S.No	Description	Daily	Weekly	Fort nightly	Monthly	Before seasonal startup	Remarks
B.	Hot Water System						
	i) Cleaning of Pot feeder					*	
	ii) Dosing of chemicals						
	- Initial dose					*	
	- Dosing of Corrosion inhibitor				*		
	- Testing of water		*				
C.	Ethylene Glycol						
	- Initial Dose (25% by value)					*	
	- Testing of Glycol solution		*				
	- Topping up if required		*				
8	<u>AIR HANDLING UNITS</u>						
	- Cleaning of filters (RA/OA) of all AHUs		*				
	Cleaning of strainers of all AHUs		*				
	- Washing of Coils and Drain pans of all AHUs			*			
	- Greasing of S.A. fan/motor bearings of all AHUs				3 months		
	- Greasing of R.A. fan/motor bearings of all AHUs				3 months		
	- Dry Testing of Controls of all AHUs					*	
	- Dusting of Control Panel of all AHUs		*				
	- External Cleaning/Washing of all AHUs					*	
	- External Cleaning/Washing of all R.A. fans					*	
	- Painting of AHUs/R.A. fans if necessary					*	
	- Tightening of fan belts and alignment of fan and motor				*		
	- Balancing of Water Flow Rate					*	
9	<u>EXHAUST FANS</u>						
	- Greasing of fan/motor bearings				3 months		
10	<u>SPLIT AIR CONDITIONERS</u>						
	- Air Filter Cleaning			*			
	- Servicing /Cleaning of Units					*	

FORM-9
NESPAK HOUSE
HVAC SYSTEM
PREVENTIVE MAINTENANCE SCHEDULE

SHEET 3 OF 3

S.No	Description	Daily	Weekly	Fort nightly	Monthly	Before seasonal startup	Remarks
11	<u>MISCELLANEOUS</u>						
	- Cleaning of CPR drain channel				*		
	- Cleaning of CPR sump					*	
	- Cleaning of Air Inlets/Outlets				*	*	
	Cleaning of strainers of all FCUs		*				
	Dusting/Cleaning of CPR & AHU rooms				*	*	
	- Dusting of Electrical Panels with Blower			*			
	Painting & Identification of exposed pipping in CPR & AHU rooms					*	
	- Inspection and repair of R.A false boxing outside the building if required					*	

NOTE:

1. APPROPRIATE FORMS TO MAINTAIN A RECORD OF SCHEDULED ACTIVITIES IN ACCORDANCE WITH THIS PREVENTIVE MAINTENANCE SCHEDULE MAY BE PREPARED BY THE MAINTENANCE CELL.
2. ALL INSTRUMENTS / TOOLS REQUIRED FOR PERVENTIVE/ REGULAR MAINTENANCE SHALL BE ARRANGED BY THE OPERATOR /CONTRACTOR.

FORM-11
NESPAK HOUSE - HVAC SYSTEM
SPARE PARTS STOCK POSITION

NAME OF EQUIPMENT: _____

DATE	PART No.	DESCRIPTION	QTY. IN STOCK	QTY. ISSUED	QTY. BALANCE	REMARKS

FORM-12
NESPAK HOUSE - HVAC SYSTEM
(COMPLAIN SHEET)

DATE	NAME & DESIGNATION OF COMPLAINANT	DIVISION	DESCRIPTION OF MAINTENANCE CARRIED OUT	REAMRKS

COMPLAINANT _____
SIGNATURES

O & M INCHARGE _____
(CONTRACTOR) NAME & SIGNATURES

NESPAK REPRESENTATIVE _____
NAME & SIGNATURES