NATIONAL GRID COMPANY OF PAKISTAN (NGC)

BIDDING DOCUMENT NO. DG/FON/P&S/T-368-2026

(Local Competitive Bidding)

SUPPLY & APPLICATION OF ROOM TEMPERATURE VULCANIZING (RTV) SILICONE RUBBER HIGH VOLTAGE COATING MATERIAL (HVIC) ON GRID EQUIPMENT INSTALLED AT 500kV GRID STATION NGC SHEIKHUPURA

UNDER NGC'S OWN RESOURCES

SINGLE STAGE TWO ENVELOPE

VOLUME-1
(Commercial & Technical Conditions)

PREPARED BY:

o/o Director General (Field Operations) North, NGC Lahore

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INVITATION FOR BIDS

Bid Reference No: DG/FO/P&S/T-368-2026

INVITATION FOR BID

1. NationalGrid (formerly NTDC), "The Purchaser", is responsible for development and control of power transmission system in the country, invites electronic bids on E-PADS v2.0 for execution of below mentioned RTV coating material application works through "Single Stage Two Envelope Procedure" (SSTE) on National Competitive Bidding (NCB) basis from eligible firms registered with Income Tax and Sales Tax Departments and who are on Active Tax payers List of the Federal Board of Revenue (detailed terms & conditions, types and quantities mentioned in the bidding document).

Tender No.	NAME OF WORK
T-368-2026	Supply & Application of Room Temperature Vulcanizing (RTV) Silicone Rubber High Voltage Coating Material (HVIC) on Grid Equipment installed at 500kV Grid Station NGC Sheikhupura

2. Bidding Documents, containing detailed terms and conditions, etc. can be accessed through **E-PAK Acquisition and Disposal System (**E-PADS v2.0) at **(www.epads.gov.pk)**. Interested eligible bidders are requested to register themselves on E-PADS v2.0 and submit their bid on E-PADS v2.0 before the date & time of submission of Bids. Manual bids shall not be accepted, in any case.

3. This advertisement is also available on PPRA and NationalGrid websites (www.ppra.org.pk & www.ntdc.gov.pk). All eligible bidders shall prepare their bids according to the instructions given in Bidding Document and submit their bids electronically through E-PAK Acquisition and Disposal System (E-PADS v2.0) up to 30.11.2026 at 10:30 hrs. The bids will be opened on the same day at 11:00 hrs through E-PADS v2.0 in the office of Director General (Field Operations) North, NGC Lahore at below mentioned address.

Director General (FO) North NationalGrid,
34, Industrial Area, Gulberg-III, NTDC House Lahore
Telephone: 042-99263023

5. All Bids must be accompanied by a Bid Security in favor of "Chief Engineer (AM) North, NTDC Lahore", equal to an amount mentioned in bidding document, in the form of CDR/ Banker's Cheque or Pay Order from a Bank in Pakistan. The Bid Security must be submitted in original to above-mentioned office on or before the date and time of submission of bids on E-PADS.

6. The NationalGrid reserves the right to reject all bids and to annul bidding process at any stage prior to contract award as defined in Clause 45 & 46 of Public Procurement Rules 2026.

7. The bidder should not be blacklisted from NationalGrid, DISCO or any Government organization at the time of bidding.

Director General (FO) North NationalGrid,
NTDC House Lahore.

C.C.

1. Executive Director (FO) North NGC, WAPDA House, Lahore.

2. Director (Media & Public Relations) NGC G-63, WAPDA House Lahore for publication in the leading newspapers as per Government policy.
3. Director (I.T) NGC, WAPDA House, Lahore with the request to upload the above tender notice on NGC website, please.
4. Dy. Director (Finance) o/o FO North NGC Lahore.

INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

A. GENERAL

IB.1 Scope of Bid and Source of Funds

1.1 **Scope of Bid**

National Grid Company of Pakistan (NGC), (hereinafter "the Employer") issues this Bidding Document for procurement of the following Works through Local Competitive Bidding (LCB):

Bidders must quote for the complete scope of work for the respective Lot, if any. Any bid covering partial scope of work will be rejected as non-responsive, pursuant to Clause IB.24.

1.2 Source of Funds

The Employer will make eligible payments under the Contract for which these Bidding Documents are issued, from his own resources.

1.3 **Throughout this Bidding Document**

(a) the term "in writing" means communicated in written form and delivered against receipt;

(b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and

(c) "day" means calendar day.

IB.2 Eligible Bidders

2.1 The Invitation for Bids is open to all bidders meeting the following requirements:

i) A bidder may be a natural person, private entity, or government-owned enterprise or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture (in which case all partners shall be jointly and severally liable). Subject to sub clause IB 2.1 (iii), the Bidder shall be duly licensed by the Pakistan Engineering Council (PEC) minimum in the category C-5 with EE-05 or had applied for renewal of license before submission of its bid. In case of Joint Venture, all the partners shall be duly licensed by PEC.

iv) The bidders/ JV partners shall be on Active Taxpayers List (both Income Tax and Sales Tax) of the Federal Board of Revenue and relevant Provincial Revenue Authority.

v) The Bidder shall not be blacklisted by NationalGrid/ WAPDA/DISCOs/any Government/Public department/Donor Agencies at the time of submission of bids. The Bidder should provide details of previous black listing, if any. An affidavit is to be provided by the Bidder that the Bidder is not black listed by NationalGrid/WAPDA/DISCOs/any Government/Public department/Donor Agencies at the time of submission of bids. Further, the bidder shall submit an Undertaking along with his bid that he has read and accepts the provisions of NationalGrid policy (attached with the bidding document as Annexure-A) for blacklisting of Contractors. Non-submission of this undertaking may result in the rejection of the bid. The said undertaking will subsequently become part of Contract Agreement as well.

vi) The bidder shall submit an unconditional "Comfort Letter" along with their bid as per Appendix-D to Bidding Data from a schedule bank (the Bank) in Pakistan extend banking facilities to the bidder including but not limited to opening of Letter of Credit, making payment through direct disbursement procedure, retirement of the shipping documents, issuance of electronic import form (EIF) for custom clearance purposes, in case of award of Contract.
NationalGrid however, shall bear no risk in case of non-commitment by the Bank after award of contract. Further, it shall not be binding upon NationalGrid to avail banking facility from the particular Bank.

vii) The bidder shall submit dully filled/complete Beneficial Ownership Declaration Performa as per S.R.O 592(I)/2022 available at https://www.ppra.org.pk/doc/sro592.pdf

IB.3 Eligible Goods and Services

3.1 All Goods and ancillary 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 or component parts thereof are mined, grown or produced or from where the ancillary 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 bid and the Employer 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 for Bids, the Bidding Documents are those stated below, and should be read in conjunction with any amendment or addenda issued in accordance with Clause IB.7.

1. Instructions to Bidders (ITB) with Appendices to ITB as follows:
   - (i) Appendix A to ITB: Name of Eligible Countries
   - (ii) Appendix B to ITB: Evidence of Bidder's/ Manufacturer's Capability
     - (a) Form ELI-1: Bidder's Information Sheet
     - (b) Form ELI-2: General Information & Evidence of Manufacturer's Capability
     - (b) Form ELI-3: Joint Venture Information Sheet
     - (c) Form FIN-1: Historical Financial Performance
     - (d) Form FIN-2: Average Annual Turnover
     - (e) Form FIN-3: Availability of Financial Resources
     - (f) Form FIN-4: Financial Requirements of Current Contract Commitments
     - (g) Form EXP-1: Contracts of Similar Size and Nature
     - (h) Form EXP-2: Experience in Key Activities
     - (i) Form EXP-3: Experience of Manufacturers
   - (iii) Appendix C to ITB: Domestic Goods
   - (iv) Appendix D to ITB: Comfort Letter
   - (v) Appendix E to ITB: Form of Bid Security

2. **Letter of Technical Bid & Schedules to Bid as follows:**
   - (i) Schedule A: Specific Works data (Schedule of Technical Data)
   - (ii) Schedule B: Proposed Organization for the Project & Work Methodology
     - (a) Form 1: Site Organization & Method Statement
     - (b) Form 2: Mobilization Schedule
   - (iii) Schedule C: Implementation Schedule
   - (iv) -
   - (v) Schedule E: Manufacturer
     Form MANUFACTURER: Proposed Manufacturers for

Major Items of Plant and Services

(vi) Schedule F: Country of Origin Declaration Form

(vii) Schedule G: Deviations from Technical & Contractual Provisions

(viii) Schedule H: Specimen JV Agreement (if applicable)

(ix) Schedule I: Equipment

(x) Schedule K: An Undertaking that the Bidder has read and accepts NTDC's SOP for Blacklisting of Contractors pursuant to Sub-Clause 2.1(v)

(xi) Schedule L: Manufacturer's Authorization

(xii) Company Legal Registration Proof

3. **Letter of Price Bid & Schedules to Bid**
   Schedules to Bid are the following:
   (i) Schedule J: Integrity Pact
4. Schedule of Prices
5. Preamble to Conditions of Contract
6. General Conditions of Contract (GCC)
7. Particular Conditions of Contract (PCC)
8. Standard Forms
   Forms include the following:

   (i) Form of Contract Agreement
   (ii) Form of Performance Security
   (iii) Form of Bank Guarantee for Advance Payment (N/A)
   (iv) Indemnity Bond for Secured Advance (N/A)
9. Specifications - Special & Technical Provisions
10. Drawings

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 Bidder's 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 Employer with a copy to the Engineer in writing at the address:

Employer Address: **Director General (Field Operations) North Lahore, NGC**
NTDC House, Gulberg-III Lahore,
Telephone No. 92-42-99263023

E-mail address: ce.amnl@ntdc.com.pk

Engineer Address: **Director General (Field Operations) North NGC,**
NTDC House, Gulberg -III Lahore

Employer will examine the request for clarification of the Bidding Documents which it receives not later than Seven (07) days prior to the deadline for the submission of bids and if needed will issue the clarification/amendment of the Bidding Documents before the date of submission of Bids (without identifying the source of enquiry) to all prospective bidders.

IB.7 Amendment of Bidding Documents

7.1 At any time prior to the deadline for submission of bids, the Employer 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 IB 7.1 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 Employer. 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 Employer 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 relating to the Bid, exchanged by the Bidder and the Employer shall be written in the **English language**, provided that any printed literature furnished by the Bidder may be written in another 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 submitted by the Bidder shall be prepared in two (02) separate Parts, one containing the "Technical Bid" and the other containing "Price Bid", both

parts to be submitted on PPRA e-PADS v2.0 accordingly. The Bidders are also required to provide an electronic version (in USB Drive) of both, the technical bid and price bid separately, in PDF format scanned from the Original bids and Price Schedules in MS Excel format too. Electronic version of Technical and Price bids, in two USBs, should be submitted separately in their respective envelopes. The Bid prepared by the Bidder shall comprise the following components:

I. Technical Bid

(a) Covering Letter for Technical Bid

(b) Letter of Technical Bid duly filled, signed and sealed, in accordance with Clause IB.17.

(c) Bid Security furnished in accordance with clause IB 15 on prescribed format (Appendix-E to ITB). Original Bid Security must be submitted in the office of Director General (FO) North, NGC Lahore on or before the time of bid submission.

(d) Power of Attorney, duly notarized, authorizing the signatory of the bid to act for and on behalf of the Bidder in accordance with Clause IB 17.5

(e) Documentary evidence established in accordance with Clause IB.14 that the Material and ancillary Services to be supplied by the Bidder are eligible Material and Services and conform to the Bidding Documents.

(f) Documentary evidence in accordance with Clause IB.13, the Bidder's eligibility and qualifications to perform the Contract if its Bid is accepted.

(g) Technical Proposal in accordance with clause IB 14A.

(h) in the case of a bid submitted by a Joint Venture, the Bid shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed agreement. A foreign Bidder is entitled to bid only in a joint venture with a Pakistani constructor in accordance with the provisions of relevant PEC bye-laws.

(i) An affidavit that the Bidder (or any partner in case of joint venture) has not been black listed pursuant to Sub-Clause 2.1(v) (Schedule K to Bid);

(j) List of Proposed Manufacturers for Major Items of Plant and Services (Form MANUFACTURER of Schedule E to Bid)

(l) Letter of Comfort/ Credit Lines (Appendix-D to ITB)

(m) PEC license pursuant to Sub-Clause 2.1; and

(n) Any other documents prescribed in Particular Conditions of Contract or Technical Provisions to be submitted with the Bid.

(o) Electronic/Soft copy of complete Technical Bid in USB/Pen Drive (READ-ONLY MODE/END TO END ENCRYPTED MODE ONLY) containing an electronic version of the Bid in PDF format scanned from the original bid and will be submitted in sealed envelope before the time of bid submission on e-PADS. In case of any discrepancy, the bid uploaded on e-PADS v2.0 shall prevail.

II. Price Bid

(a) Covering Letter for Price Bid

(b) Letter of Price Bid duly filled, signed, in accordance with Clause IB.17.

(c) **Schedule of Prices** completed in accordance with Clauses IB.11 and IB.12 as a separate part/ file. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. The units and rates in figures entered into the Price Schedules should be typewritten or if written by hand, must be in print form. Price Schedules not presented accordingly may be considered nonresponsive.

(d) Schedule J to Bid, duly filled and signed, in accordance with the instructions contained therein.

(e) Appendix C to ITB, duly filled and signed, in accordance with the instructions contained therein, if applicable.

Bidders applying for eligibility for domestic preference in bid evaluation shall supply all information & evidence to establish the claim for domestic preference required to satisfy the criteria for eligibility as described in Clause IB.27. The particulars for domestic Goods prescribed in Appendix C to these Instructions shall also be filled in to substantiate claim for domestic preference.

(f) Any other documents prescribed in Particular Conditions of Contract or Technical Provisions to be submitted with the Bid.

(g) Further, Electronic/Soft copy (READ-ONLY MODE/END TO END ENCRYPTED MODE ONLY) of complete Financial Bid in USB/Pen Drive containing an electronic version of the Bid in PDF and Excel format and will be submitted in sealed envelope before the time of bid submission on e-PADS. In case of any discrepancy, the bid uploaded on e-PADS v2.0 shall prevail.

IB.10 Letters of Bids and Schedules

10.1 The Bidder shall complete, sign and seal the Letters of Bids, Schedules (A to L, or as modified) to Bid, Appendices to ITB and Schedule of Prices furnished in

the Bidding Documents and shall also enclose other information as detailed in Clause IB.9.

10.2 For the purpose of granting a margin of domestic preference pursuant to Clause IB.27, the Employer will classify the Bids, when submitted in one of three groups as follows subject to change, if any, as per policy of the Federal Government as applicable on the date of bid opening:

(a) **Group 'A' Bid.** (i) For Goods for which labour, raw materials and components from within Pakistan account for at least 20% of the ex-factory bid price of the products offered (ii) For Goods for which labour, raw materials and components from within Pakistan account for over 20% and up to 30% of the ex-factory bid price of the products offered (iii) For Goods for which labour, raw materials and components from within Pakistan account for over 30% of the ex-factory bid price of the products offered;

(b) **Group 'B' Bid.** For Goods manufactured in Pakistan for which the domestic value added in the manufacturing cost is less than 20% of the ex-factory bid price; and

(c) **Group 'C' Bid.** For Goods of foreign origin.
In preparing their bids, the Bidders, whether local or foreign, shall enter in the Schedule of Prices, ex-factory price for indigenously manufactured products and CIP price as well as customs duty and sales tax and other import charges for products to be imported from outside Pakistan. The said quoted prices should be in PKR.

The value addition will be established by the Certificate issued by Engineering Development Board (EDB) Pakistan for this purpose.

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 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. The units and rates in figures entered into Schedules of Prices shall be typewritten, or if written by hand, shall be in print form. Bidder shall quote for the entire Works on a "single responsibility" basis such that the total Bid price covers all the Contractor's commercial, contractual and technical obligations mentioned in or to be reasonably inferred from the Bidding Document in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation, and completion of the Works. This includes all requirements under the Contractor's responsibilities for testing, pre-commissioning and commissioning of the Works and, where so required by the Bidding Document, the acquisition of all permits, approvals, and licenses, etc.; the operation, maintenance, and training services and such other items and

services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions and Particular Conditions of Contract.

11.2 Bidders shall provide Schedule of Bid Prices filled in all respect, indicating its bid price to be entered in the Letter of Price Bid. Absence of the total bid price in the Letter of Price Bid may result in the rejection of the Bid.

11.3 In the Schedules, Bidders shall give the required details and a breakdown of their prices as follows:

(a) RTV coating material, its application and other services (Schedule of Bid Prices) shall be quoted collectively and shall include rates or prices all labor, contractor's equipment, temporary works, materials, consumables, and all matters and things of whatsoever nature, including operations and maintenance services, the provision of operations and maintenance manuals, training, etc., where identified in the Bidding Document, as necessary for the proper execution of the coating application and other services, including all direct taxes, duties, levies, and charges payable in the Employer's country as of 28 days prior to the deadline for submission of bids. PST shall be quoted separately in given column and shall not be made part of total price.

11.4 The current edition of Incoterms, published by the International Chamber of Commerce shall govern.

11.5 The prices shall be either fixed or adjustable as specified in the Conditions of Contract.

(a) In the case of Fixed Price, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price quotation will be treated as nonresponsive and rejected pursuant to Clause IB 27A.

(b) In the case of Adjustable Price, prices quoted by the Bidder shall be subject to adjustment during performance of the contract to reflect changes in the cost elements such as labor, material, transport, and contractor's equipment in accordance with the procedures specified in the corresponding appendix to the Contract Agreement. A Bid submitted with a fixed price quotation will be treated as non-responsive and be rejected. *(Not Applicable)*

11.6 If Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer any price reduction (discount) for the award of more than one contract shall specify in their Letter of Price Bid the price reductions applicable to each package, or alternatively, to individual contracts within the package, and the manner in which the price reductions will apply. *(Not Applicable)*

11.7 The bidder shall fill in rates and prices for all items of the Works 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 Employer when executed and shall be deemed covered by rates and prices for other items in the Schedule of Prices.

11.8 The bidder's separation of price components in accordance with Sub-Clauses IB 11.1 & IB 11.3 above, will be solely for the purpose of facilitating the comparison of bids by the Employer/Engineer and will not in any way limit its right to Contract on any of the terms offered.

11.9 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

12.1 Prices shall be quoted by all prospective bidders in PKR only.

12.2 Further, a bidder expecting to incur a portion of its expenditure in the performance of the Contract in more than one currency (but use no more than 3 foreign currencies), and wishing to be paid accordingly, shall so indicate in its bid. *(Not Applicable as payment shall be made in PKR only.)*

12.3 The currencies of payment shall be in PKR only.

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 establishing the bidder's eligibility to bid and its qualifications to perform the Contract if its bid is accepted.

13.2 The documentary evidence of the bidder's eligibility to bid (Form-ELI-1 of Appendix-B to ITB along with documents mentioned therein) shall establish to the Employer's satisfaction that the bidder, at the time of submission of its bid is from an eligible source country as defined under Clause IB.2.

13.3 Bidder shall submit with its bid the following to establish its qualification to perform the Contract if its bid is accepted, to the Employer's/Engineer's satisfaction:

(a) documentary evidence that the Bidder has the experience required as per sub-clauses IB 13.4 (a) necessary to perform the Contract i.e. Forms EXP-1, and EXP-2 of Appendix-B to ITB along with document required therein; and

(b) documentary evidence that the Bidder has the financial capability and has access to financial resources required as per sub-clauses IB 13.4 (b)

(c) & (d) necessary to perform the Contract i.e. Forms FIN-1, FIN-2, FIN-3 & FIN-4 of Appendix-B to ITB along with document required therein.

(c) The bidder shall have his own RTV coating facility/ machinery along with all other accessories necessary to execute the RTV coating and disc insulators testing works, complete in all respect, with associated T&P and critical equipment duly supported with documentary evidence/catalogues/drawings for undertaking such like works in good working condition.

Alternatively, if not so, the bidder will identify the confirmed source of the said machinery, T&P etc. along with documentary evidence/catalogues/drawings and shall provide necessary guarantee/surety that he will arrange the said equipment in good working condition through its own resources prior to start of said activity. The aforementioned documentary evidence shall be submitted with the bid.

13.4 **Bidder's Qualification Criteria:**

Qualification of a bidder shall be evaluated based on following criteria which the bidder must fulfill:

a) Contract Experience:

The bidder (as main contractor, Management contractor or JV / Consortium partner) shall have successfully executed, during the past ten (10) years, contract(s) involving both:

1. Supply of RTV coating material, and
2. Application of RTV coating material for 132 kV or higher-voltage Grid Station or Transmission Line equipment/ project(s), involving a minimum of 25 million cm^2 of surface area or 3500kg of RTV material, on a cumulative basis, covering both supply and application works.

The aforementioned project(s) must have been in operation for at least two (2) years as of the bid opening date.

If the Bidder has executed these contract(s) as a JV partner, he shall have carried out all the activities mentioned here before.

b) Historical Financial Performance:

The audited Financial "Standalone" Statements (Balance Sheet along with Notes, Profit & Loss Accounts and Cash Flow Statement) audited by Chartered

Accountant for the last three (03) years shall be submitted by the Bidder. The audited Financial Report issued for year 2024 and onwards should have UDIN as per ICAP letter circular No. 12/2024 dated 12.09.2024. The Bidder's Financial Statements for the last three years of the audited accounts should show that it has positive "NET WORTH" calculated as a difference between total assets and total liabilities.

The Employer will take into account the following criteria to verify the financial qualification of the Bidder.

c) Average Annual Turnover

The Bidder's Income & Expenditure/Profit and Loss Accounts should show minimum average annual turnover for the best three years out of last five years not less than **PKR 24 million**. The Average Annual Turnover may include turnover of affiliates and subsidiaries to the extent of shareholding percentage of the Bidding company provided the turnover is accrued from similar business activity as the Bidding company.

In case of JV, all the JV partners shall jointly meet the requisite criteria with the lead partner and other partner(s) meeting not less than 40% and 25% respectively of the said criteria.

d) Financial Resources

The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, lines of credit, and other financial means to meet the total cash flow demands of this contract which is being considered equal to **PKR 24 million** plus 25% of the Bidder's commitments for running contracts.

The Bidder shall provide his current work commitments in form specified in the Bidding Documents.

The bidder shall provide bank certificate for his lines of credit on the prescribed Form specified in the Bidding Documents.

[Note: Credit Lines submitted after opening of bids shall not be acceptable. Any withdrawal of the credit lines from the bidder's creditors during validity of bid shall be considered a withdrawal of bid.]

In case of JV, all the JV partners shall jointly meet the above criteria with lead partner and other partner(s) meeting not less than 40% and 25% respectively of the said criteria.

Joint Venture Related Requirements

(a) One of the joint venture partners shall be nominated as being in-charge and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners.

(b) The partner-in-charge shall be authorized to incur liabilities, receive payments and receive instructions for and on behalf of any or all partners of the joint venture.

(c) A copy of the agreement entered into by the joint venture partners shall be submitted with the bid stating the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it and which persons will be directly responsible for due performance of the Contract and can give valid receipts on behalf of the joint venture, the proportionate participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. No amendments / modifications whatsoever in the joint venture agreement shall be agreed to between the joint venture partners without prior written consent of the Employer.

(d) The maximum J.V. partners shall not be more than two (02).

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 To establish the eligibility of the plant and services in accordance with IB 3, Bidders shall submit following with the bid.:

(i) The Country of Origin Declaration Form (Schedule F to Bid).

(ii) Manufacturer's Authorization (Schedule L to Bid) in the case of a bidder offering to supply plant under the Contract which the bidder did not manufacture or otherwise produce.

(iii) Equipment/goods supplied by the manufacturer should have been in satisfactory operation for a continuous period of at least three years [atleast one end user certificate to be outside country of manufacturer] or satisfactory operational experience of one year in NationalGrid/ DISCOs/ K-Electric prior to deadline for submission of Bids.

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, essential technical and performance characteristics in response to the Section 9 (Specifications – Special Provisions) and Section 10 (Specifications – Technical Provisions) .

(b) Completely filled Schedule of Technical Data (Schedule-A to Bid) of each item.

(c) Complete set of technical information, description data, literature and drawings as required in accordance with Schedule A to Bid, Specific Works Data. This will include but not 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/Plant to be furnished.

(ii) Details of equipment and machinery with capacity.

(iii) The approximate weight and dimension of the main components, a brief description of the principal materials and fabrication processes to be used and recommended methods of assembly.

(iv) Any other information which is required for evaluation purposes.

(d) Type Test Reports of offered equipment/ RTV material as per clause 4, Section-9 (Technical Provisions). The Report shall also include complete identification of the RTV material/ equipment along with drawings stamped by the concerned lab;

(e) An unconditional Undertaking duly signed and stamped by bidder that in case of award of contract if submitted type test reports are not according to NationalGrid type test policy, he will carry out type tests as per NationalGrid Type Test Policy within the quoted Bid price and without affecting the delivery/ completion period as mentioned in the Bidding Documents.

(f) A list giving full particulars, including available sources, of all spare parts and special tools necessary for the proper and continuing functioning of the plant for the period of 10 years, following completion of Works in accordance with provisions of the contract; and

(g) 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 as required in Schedule G to Bid.

14.4 For purpose of the commentary to be furnished pursuant to Sub-Clause 14.3(g) above, the Bidder shall note that standards for workmanship, material and

equipment, and references to brand names or catalogue numbers, designated by the Engineer 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 Engineer'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.

14.5 The Bidder shall propose, in order of his priority; plant, equipment or goods of not more than two Manufacturers. Employer at his own jurisdiction may evaluate the plant, equipment or goods of only one of such Manufacturers. (Not Applicable)

IB 14A Technical Proposal, Subcontractors

14A.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Bidding Documents, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time. To furnish Technical Proposal, bidder shall submit following with the bid:

(i) Forms given in Schedule B to Bid, mentioning details of Site Organization, work methodology and Mobilization Schedule.

(ii) Implementation Schedule (Schedule C to Bid) giving detail of activities along with timelines thereof.

(iii) Detail of equipment to be used in construction/ RTV Application etc. (Schedule I to Bid).

14A.2 For major items of Works as listed by the Employer in sub-clause IB 14.2 (iii) above and key activities as listed in sub-clause IB 13.4 (a), which the Bidder intends to purchase, the Bidder shall give details of the name and nationality of the proposed Manufacturers, for each of those items in Form MANUFACTURER of Schedule E to Bid. In addition, the Bidder shall include in its Bid Form EXP-3 of Appendix B to ITB along with information establishing compliance with the requirements specified by the Employer for these items.

14A.3 The Bidder shall be responsible for ensuring that any Subcontractor proposed complies with the requirements of sub-clauses IB 2.1 (i), (ii), (iv), (v) & (vii) as applicable, and that any plant, or services to be provided by the Subcontractor comply with the requirements of clause IB 3 and clause IB 14. *(Not Applicable)*

IB.15 Bid Security

15.1 Each bidder shall furnish, as part of his Technical Bid and will be submitted before the opening of technical bid, a Bid Security in the amount of **PKR 1.5 Million**. The bid security shall be submitted in original on or before the time of bid submission.

15.2 The Bid Security shall be, at the option of the Bidder, in the form of Deposit at Call (CDR, Pay Order or Banker's Cheque) or a Guarantee issued by a Scheduled Bank in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank in Pakistan in favor of the Employer **(Chief Engineer (AM) North, NTDC Lahore)** on the prescribed Form annexed to these Documents valid for a period 28 days beyond the Bid Validity date or beyond any period of extension if requested under sub-clause IB 16.2. The bid security of Joint Venture shall be in the name of Joint Venture submitting the Bid or in the name of all members of JV (JV may authorize any of its member to submit bid security. However, it will be clearly mentioned that Bid Security is submitted on behalf of JV).

For avoidance of doubt, a Bid Security issued by a foreign bank but not counter guaranteed by a Scheduled Bank in Pakistan*[or a counter guarantee which impacts rights of Employer to encash the Guarantee on 1st written notice from Bank in Pakistan]* shall not be acceptable and rejected as non-responsive.

[Any mode for submission of bid security apart from aforementioned like Swift Code or Crossed Cheque shall not be acceptable]

15.3 The Bid Security is required to protect the Employer against the risk of bidder's conduct which would warrant the security's forfeiture, pursuant to Sub-Clause 15.7 hereof.

15.4 A bid must be accompanied by an acceptable Bid Security that is unconditional, irrevocable and callable. If a Bidder submits a Bid Security that has following discrepancies (to the extent mentioned against each), the Purchaser shall request the Bidder to submit a compliant Bid Security within fourteen (14) calendar days of receiving such request. Failure to provide a compliant Bid Security within the prescribed period of receiving such a request shall cause the rejection of the Bid. Any bid accompanied by bid security with deviation greater than the extent mentioned below shall be rejected pursuant to clause IB 27A

i. Bid Security amount is short within 10% of Bid Security amount; and/or
ii. Bid Security validity period is short by a maximum of two days.
iii. Any changes with respect to format/text which does not hurt the right of Employer for encashment of the guarantee and does not limit the obligation of the bidder as required in the Bidding Document/Bid Security format.

15.5 The bid securities of unsuccessful bidders will be returned upon award of 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 its bid during the period of bid validity, except as provided in sub-clause IB 16.2; or

(b) if a bidder does not accept the correction of his Bid Price, pursuant to Sub-Clause 26.2 hereof; or

(c) if the bidder is involved in Corrupt and/or fraudulent practices.

(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 **180 days** after the date of bid opening as prescribed in Clause IB.19. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.

16.2 In exceptional circumstances prior to expiry of bid validity period, the Employer may request the bidders to extend the period of validity for a specified additional 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 be required to extend the validity of his Bid Security 28 days beyond the deadline of extended bid validity period, 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 Letter of Price Bid shall be for performing the Contract strictly in accordance with the Bidding Documents.

17.2 All Forms, Appendices to ITB, Schedules to Bid (A to L), Schedules of Prices are to be properly completed and signed.

17.3 No alteration is to be made in the Form of Bid nor in the Schedules 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 The Bidder shall prepare one original set of the Technical Bid and one original set of the Price Bid comprising the Bid as described in clause IB 9 and clearly mark it “ORIGINAL - TECHNICAL BID” and “ORIGINAL - PRICE BID”.

Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE". In addition, the Bidder shall submit three (03) copies of the Bid, and clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail. (Not Applicable)

17.5 The authorization shall consist of written Power of Attorney, duly notarized, authorizing the signatory of the bid to act for and on behalf of the Bidder.

i. For foreign firm/bidder, board resolution and power of attorney **(duly attested by Consulate General of Pakistan/Pakistan Embassy)** are required.
ii. For local firm, board resolution and/or power of attorney provided on stamp paper worth Rs.1000 or as per governing law, whichever is higher, are required.

All pages of the Bid and Schedules to Bid shall be initialed and stamped by the person or persons signing the Bid. If either the Letter of Technical Bid or Letter of Price Bid are not signed, the Bid shall be rejected.

In case of non-submission or non-compliance of a valid power of attorney, post bid clarification shall be sought to submit the same or an undertaking for submission of board resolution and power of attorney **(duly attested by Consulate General of Pakistan/Pakistan Embassy)** within Seven (07) calendar days of receiving such request and its failure shall lead to rejection of the bid.

17.6 The Bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the Employer, 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 Submission of Bids

18.1 The Bidder shall submit its Bid as under:

Bid (Technical & Financial Proposals) shall be separately uploaded to e-PADS v2.0 in their respective sections before the closing date and time of bid submission. The bids will be opened through e-PADS only.

IB.19 Deadline for Submission of Bids

19.1 (a) Bids must be received by the Employer at the address specified in Sub-Clause 6.1 hereof not later than the time and date stipulated in the Invitation for 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. *(Not Applicable)*

(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. *(Not Applicable)*

(d) Upon request, acknowledgment of receipt of bids will be provided to those making delivery in person or by messenger. *(Not Applicable)*

19.2 Bids submitted through telegraph, telex, fax or e-mail shall not be considered.

19.3 The Employer may, at its 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 Employer 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 Employer after the deadline for submission of bids prescribed in Clause IB.19 will be not be accepted. Any bid submitted by any other mean than e-PADS will not be accepted.

(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. (Not Applicable)

IB.21 Modification, Substitution and Withdrawal of Bids

21.1 Any bidder may modify, substitute or withdraw its bid after bid submission provided that modification, substitution or written notice of the withdrawal is received by the Employer prior to the deadline for submission of bids. (As per provisions of e-PADS)

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. (As per provisions of e-PADS)

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 Sub-Clause IB.15.7. (As per provisions of e-PADS)

E. BID OPENING AND EVALUATION

IB.22 Bid Opening

22.1 The Employer shall open the Technical Bids through e-PADS in public at the address, on the date, and time specified in the Invitation For Bids in the presence of Bidder's designated representatives and anyone who choose to attend. The Price Bids will remain unopened and will be retained on e-PADS until the specified time of their opening.

22.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. (As per provisions of e-PADS)

22.3 Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner envelopes containing the Substitution Technical Bid and/or Substitution Price Bid shall be exchanged for the corresponding envelopes being substituted, which are to be returned to the Bidder unopened. Only the Substitution Technical Bid, if any, shall be opened, read out, and recorded. Substitution Price Bid will remain unopened in accordance with IB 22.1. (As per provisions of e-PADS)

22.4 Next, outer envelopes marked "MODIFICATION" shall be opened. Only the Technical Bids, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Price Bids, both Original as well as Modification, will remain unopened in accordance with IB 22.1. (As per provisions of e-PADS)

22.5 All other envelopes holding the Technical Bids shall be opened one at a time, and the following read out and recorded: *(Not Applicable)*

(a) the name of the Bidder;

(b) whether there is a modification or substitution;

(c) the presence of undertaking of bid security; and

(d) any other details as the Employer may consider appropriate.

Only Technical Bids and alternative Technical Bids read out and recorded at bid opening shall be considered for evaluation. All pages of the Letter of Technical Bid are to be initialed by all representatives of the Employer attending the bid opening. No Bid shall be rejected at the opening of Technical Bids except for late Bids, in accordance with IB 20.1, and as per IB 22.1.

22.6 The Employer shall prepare a record of the opening of Technical Bids that shall include, as a minimum: the name of the Bidder and whether there is a

withdrawal, substitution, or modification; and alternative Bids; and the presence or absence of an undertaking of bid security. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders who submitted Bids on time.

22.7 At the end of the evaluation of the Technical Bids, the Employer will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Employer. Bidders shall be given reasonable notice of the opening of Price Bids.

22.8 The Employer will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially nonresponsive to the requirements of the Bidding Document.

22.9 The Employer shall conduct the opening of Price Bids of all Bidders through e-PADS who submitted substantially responsive Technical Bids, in the presence of Bidders` representatives who choose to attend at the address, on the date, and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.

22.10 All envelopes containing Price Bids shall be opened one at a time and the following read out and recorded: (Not Applicable)

(a) the name of the Bidder;

(b) whether there is a modification or substitution;

(c) the presence and amount of bid security

(d) the Bid Prices, including any discounts and alternative offers; and

(e) any other details as the Employer may consider appropriate.

Only Price Bids, discounts, and alternative offers read out and recorded during the opening of Price Bids shall be considered for evaluation. All pages of the Letter of Price Bid and Price Schedules are to be initialed by all representatives of the Employer attending bid the opening. No Bid shall be rejected at the opening of Price Bids.

22.11 The Employer shall prepare a record of the opening of Price Bids that shall include, as a minimum: the name of the Bidder, the presence or absence of bid security with the amount, the Bid Price, any discounts, and alternative offers. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders who submitted Bids on time.

IB.23 Clarification of Bids

23.1 To assist in the examination, evaluation and comparison of Bids the Employer may, at its discretion, ask the Bidder for a clarification of its 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, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with IB 26.2. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing.

23.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.

IB 23A Deviations, Reservation and Omissions

23A.1 During the evaluation of Bids, the following definitions apply:

(a) "Deviation" is a departure from the requirements specified in the Bidding Document;

(b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and

(c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.

IB.24 Preliminary Examination & Determination of Responsiveness of Bids

24.1 The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in IB 9.1(I) have been provided, and to determine the completeness of each document submitted. If any of these documents or information is missing, the Bid may be rejected.

24.2 A Technical Bid shall be rejected as non-responsive if:

(a) Letter of Technical Bid is unsigned pursuant to IB 17.5 or altered pursuant to IB 17.3 or is missing altogether from technical proposal.
(b) its validity is less than the specified period pursuant to IB 16.1
(c) it indicates completion period later than specified limits.
(d) it is not accompanied by power of attorney
(e) bidder or its any member in case of Joint Venture has participated in more than one bid;
(f) it covers scope of work given in Bidding Documents partially.
(g) if Technical Bid and Price Bid are found in one envelope
(h) Bid is not accompanied by a substantially compliant bid security as per IB 15.4
(i) The bid is not accompanied by Beneficial Ownership Declaration Performa as per requirements/Performa delineated in S.R.O 152(I)/2022.
(j) Any other discrepancy is found that constitutes ground for rejection

pursuant to Bidding Documents.

24.3 Prior to the detailed evaluation, pursuant to Clause IB.25 the Employer will determine the substantial responsiveness of each Bid to the Bidding Documents. The Employer's determination of a Bid responsiveness will be based on the contents of the Bid itself without recourse to irrelevant evidence. A substantially responsive Bid is one which conforms to all the terms and conditions of the Bidding Documents without material deviations, reservation or omission. A material deviation, reservation or omission is one:

(i) which affect in any substantial way the scope, quality or performance of the Works;

(ii) which limits in any substantial way, inconsistent with the Bidding Documents, the Employer's rights or the Bidder's obligations under the Contract; or

(iii) whose rectification/adoption would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

24.4 The Employer shall examine the technical aspects of the Bid submitted in accordance with IB 14A, Technical Proposal, in particular to confirm that all requirements of Section 9 (Specifications – Special Provisions) and Section 10 (Specifications – Technical Provisions)have been met without any material deviation, reservation, or omission.

24.5 A Bid determined as substantially non-responsive will be rejected and will not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

24.6 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid that do not constitute a material deviation, reservation, or omission.

24.7 Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Price Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

24.8 Provided that a Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall

be made As per IB 27A.

IB.25 Detailed Evaluation of Technical Bids

25.1 The Employer will carry out a detailed technical evaluation of the Bids not previously rejected as being substantially nonresponsive, to determine whether the technical aspects are in compliance with the Bidding Document. The Bid that does not meet minimum acceptable standards of completeness, consistency, and detail, and the specified minimum and/or maximum requirements for specified functional guarantees, will be treated as nonresponsive and hence rejected. To reach such a determination, the Employer will examine and compare the technical aspects of the bids on the basis of the information supplied by the Bidders, taking into account the following:

(a) overall completeness and compliance with the Technical Provisions; deviations from the Technical Provisions; conformity of the plant and services offered with specified performance criteria; suitability of the plant and services offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the Bid. The Bid that does not meet minimum and/or maximum acceptable standards of completeness, consistency, and detail will be rejected for non-responsiveness;

(b) Evaluation of Bidder's experience pursuant to IB 13.4 and IB 13.5 if applicable.

(c) Evaluation of manufacturer's experience pursuant to IB 14.2, IB 14A.2 & IB 14A.3 as applicable.

(d) Evaluation of Operational Experience of equipment offered pursuant to IB 14.2.

(e) Compliance of offered equipment, listed in Form of Proposed Manufacturer for Major item of Plant and Services (Form MANUFACTURER of Schedule E to Bid) to Technical Provisions and Specifications therein. This shall include but not limited to evaluation of Schedule of Technical Data of the equipment pursuant to clause-5.6 of Section-IX (Specification – Technical Provisions). Non-compliance of offered equipment including but not limited to non-submission of Schedule of Technical Data may result in rejection of Bid.

(f) Evaluation of Type Test Reports of the equipment/ RTV Material, listed in Form of Proposed Manufacturer for Major item of Plant and Services, pursuant to Clause 4 subsection-2 (Technical Specifications) of Section-IX (Specification – Technical Provisions).

Pursuant to IB 14.3(e), in case of failure to submit an Undertaking of type tests as per NationalGrid type test policy along with the bid or in

response to post bid clarification, such bidder/ manufacturer shall not be accepted and in case of such noncompliance, the bid shall be rejected.

All Type Test certificates/reports, reference list, etc. shall be in English language.

(g) An assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section 9.

Non-compliance with equipment and personnel requirements described in Section 9 shall not normally be a ground for bid rejection and such non-compliance will be subject to clarification during bid evaluation and rectification prior to contract award.

If Bidder proposes to subcontract any key activity **on site** (given in IB 13.4, then he shall submit relevant information above in respect of subcontractor. *(Not Applicable)*

25.2 The determination of qualification of Bidder, or manufacturer shall be based upon an examination of the documentary evidence of the Bidder's, or manufacturer's qualifications submitted by the Bidder. The determination shall not take into consideration the qualifications of other firms such as the Bidder's, or manufacturer's subsidiaries, parent entities, affiliates, or any other firm(s) different from the Bidder, or manufacturer else otherwise specified. The Employer/Engineer will have the right to verify the particulars regarding the plant and other related information furnished with the bid, and the joint venture as well as the partners thereof shall be liable for disqualification in the event of any mis-statement/mis-representation on their part

25.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. The Employer reserves the right to reject the bid of any bidder found to be in circumstances described in GCC 45.2 (c). A negative determination shall result into the disqualification of the Bid, in which event the Employer shall return the unopened Price Bid to the Bidder.

25.4 The participation of the proposed manufacturers should be confirmed with a letter of intent between the parties, as needed. Should a manufacturer be determined to be unacceptable, the Bid will not be rejected, but the Bidder will be required to propose, without changing its bid price, an acceptable substitute manufacturer or subcontractor meeting the minimum technical specifications stated in Section IX (Specification – Technical Provisions). If a Bidder does not provide an acceptable substitute manufacturer or subcontractor by the date and time set in the Employer's request for substitution of manufacturer or subcontractor, its Bid may be rejected. *(Not Applicable as change of manufacturer is not allowed)*

IB.26 Conversion to Single Currency, Correction of Arithmetic Errors

26.1 To facilitate evaluation and comparison, the Employer/Engineer will convert, all Bid Prices/values expressed in the amount in various currencies in which Bid Price is payable, to Pak. Rupees at the Telegraphic Transfer and Over Draft (TT&OD) composite (selling) exchange rates published/authorized by National Bank of Pakistan and applicable to similar transactions, on the date of the opening of technical Bids. *(Not Applicable)*

26.2 During the evaluation of Price Bids, the Employer shall correct arithmetical errors on the following basis:

(a) where there are errors between the total of the amounts given under the column for the price breakdown and the amount given under the Total Price, the amounts given under the column for the price breakdown shall prevail and the Total Price will be corrected accordingly, unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line-item total as quoted will govern and the unit rate will be corrected.

if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetical error, in which case the amount in figures shall prevail subject to (a) above. If the Bidder does not accept the corrected amount of Bid, his Bid will be rejected and his Bid Security forfeited.

IB.27. Domestic Preference

27.1 In the comparison of evaluated Bids, the Goods manufactured in Pakistan, will be granted a margin of preference in accordance with the following procedures, provided the bidder shall have established to the satisfaction of Employer that the manufacturing cost of such Goods includes a domestic value addition equal to at least 20% of the ex-factory Bid price of such Goods as certified by Engineering Development Board (EDB) . Bidders applying for domestic preference shall fill in Appendix C to these Instructions to substantiate their claim. In case of Non submission of information required under Appendix-C, admissibility for price preference shall not be applicable without any further communications/clarifications.

27.2 The Employer**/**Engineer will first review the Bids to determine, the Bid group classification in accordance with Sub-Clause 10.2 hereof.

27.3 The comparison shall be Ex-factory price of the Goods to be offered from within Pakistan (such prices to include all costs as well as custom duties and taxes paid or payable on raw materials and components incorporated or to be incorporated in the Goods) and the DDP (CIP + Customs duty, sales tax and

other import charges) Pakistan seaport price of the Goods to be offered from outside Pakistan.

27.4 The lowest evaluated bid of each Group shall first be determined by comparing all evaluated bids in each Group among themselves taking into account:

(a) In the case of Goods manufactured in Pakistan, sales tax, local body charges and other similar taxes which will be payable on the furnished Goods in Pakistan.

(b) In the case of Goods of foreign origin offered from abroad, customs duties, sales tax and other import charges which will be payable on furnished Goods in Pakistan.

(c) In the case of Goods of foreign origin already located in Pakistan, customs duty, sales tax and import charges on CIP price as applicable for Sub-Clause 27.4(b) here above.

27.5 The price preference to Group A bids will be:

(i) 15% of the ex-factory bid price, if the value addition through indigenous manufacturing is at least 20%;

(ii) 20% of the ex-factory bid price, if the value addition through indigenous manufacturing is over 20% and up to 30%; and

(iii) 25% of the ex-factory bid price, if the value addition through indigenous manufacturing is over 30%.

27.6 The applicable price preference i.e., as per Sub-Clause 27.5 here above will be applied to Group A Bid by reducing the ex-factory bid price.

(Note: - Landed cost will be calculated irrespective of the application of domestic preference.)

IB 27A Evaluation and Comparison of Price Bids

27A.1 Prior to detailed evaluation of Price Bids, the Employer shall examine:

(a) signature and alteration of Letter of Price Bid.
(b) fixation or adjustability of quoted price.
(c) Without limiting the particular criteria, the Employer may take into account the following in the Evaluation of Bids:

i. Non-performance by a Bidder on previous contracts with Employer or others;
ii. The quality of a Bidder's performance on previous contracts with Employer or others;
iii. Anticipated or ongoing claims with or in connection with a Bidder;

iv. Any security or safety concerns which Employer may have in respect of a Bidder or its facilities, subcontractors or suppliers;
v. The results of any interview with a Bidder or supplied references: or
vi. Any knowledge of or experience with a Bidder or its principals, directions, officers and employees.

27A.2 Price Bid shall be rejected if:

(a) Letter of Price Bid is unsigned pursuant to IB 17.5 or altered pursuant to IB 17.3 or missing altogether in the price bid.

(b) the quoted price is adjustable during currency of the contract when bidders are required to quote fixed price, and vice versa

27A.3 To evaluate a Price Bid, the Employer shall consider the following:

(a) the bid price, excluding provisional sums and the provision, if any, for contingencies in the Price Schedules;

(b) price adjustment for correction of arithmetical errors in accordance with IB 26.2;

(c) price adjustment due to discounts offered in accordance with IB 11.6;

(d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with IB 24.8;

(e) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with IB 26.1;

(f) application of domestic preference as per clause IB 27, if applicable;

(g) assessment whether the bid is abnormally low in accordance with IB 27A.6; and

(h) Financial Adjustment of Bid Price (Commercial Aspects)

The evaluation of a bid will take into account, in addition to the Bid Price, the following commercial factors (adjustments) in the manner and the extent indicated hereof, to determine the Evaluated Bid Price.

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 Employer, 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 rates:

- For foreign currency component: 8% per annum
- For local currency component: KIBOR + 4.5% per annum

and shall be added to the Corrected Total Bid Price for comparison purpose only.

(i) Financial Adjustment of Bid Price (Technical Aspects)

In addition to price adjustment due to commercial aspects, the price of

bid will also be adjusted on account of minor technical omission/non-compliance and due to minor omissions or missing items in the scope of work, services, etc. in the manner and to the extent indicated hereof, to determine the Evaluated Bid Price.

(I) Price Adjustment for Completeness in Scope of Work

(i) Scope of work of each bid will be examined for completeness and compliance with the contract requirements. Subject to IB 24.8, if minor item(s) appear to be excluded, or if any Bidder has not quoted price against any particular item or kept blank in price column (the same is considered as missing item), the price adjustment shall be based on the highest price offered for the same item among all responsive bidders. In case of non-availability of price from other Bidders, the price will be estimated by the Employer.

(ii) In case there is a discrepancy between the quantity of an item quoted by the Bidder and the quantity specified in the bidding documents, the quantity specified in the bidding documents shall prevail, and the total cost will be corrected by multiplying the unit rate and quantity.

Note: No price adjustment will be allowed if the major items are missing in the price schedules and the bid will be rejected. For this purpose major items is defined as an item constituting 10% (calculated in accordance with this provision) of the quoted bid price.

(II) Price Adjustment for Capitalization Losses of Auto Transformer, Power Transformer, Battery Charger & Battery
(May be added / modified subject to relevant procurement and Policy).

(III) Price Adjustment for Completion Schedule

Bids indicating completion in advance of the dates stated in Preamble to Conditions of Contract, no credit will be given in this evaluation.

Bids indicating completion period later than the period set out in Preamble to Conditions of Contract shall be adjusted in the evaluation by adding a factor of 0.05% of the Corrected Total Bid Price for each calendar day of completion later than specified period of the completion.

Bids indicating completion beyond **thirty (30) days** later than the dates set out in Preamble to Conditions of Contract, shall not be considered and rejected as non-responsive.

27A.4 The Employer's evaluation of a Bid will exclude and not take into account,

(a) in the case of supply of material, its application and other services (Schedule of Bid Prices), all indirect taxes including PST, applicable in Employer's country.

27A.5 If price adjustment is allowed in accordance with IB 11.5, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

27A.6 If the bid of the successful bidder is seriously unbalanced in relation to the Employer's estimate of the cost of work to be performed under the Contract, the Employer may require the bidder to produce detailed price analysis 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 Employer 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 Employer against financial loss in the event of default of the successful bidder under the Contract.

IB.28 Process to be Confidential

28. 1 Subject to Clause 23 heretofore, no Bidder shall contact Employer and/or Engineer on any matter relating to its Bid from the time of the Bid opening to the time the bid evaluation result is announced by the Employer. 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 Employer and/or Engineer in the Bid evaluation, Bid comparison or Contract Award decisions may result in the rejection of his Bid.

28.3 Mechanism for redressal of grievances shall be in accordance with PPRA rule No. 48.

F. AWARD OF CONTRACT

IB.29. Post-Qualification

29.1 The Employer, at any stage of the bid evaluation, having credible reasons for or *prima facie* evidence of any defect in supplier's or contractor's capacities, may require the suppliers or contractors to provide information concerning their

professional, technical, financial, legal or managerial competence whether already pre-qualified or not:

Provided that such qualification shall only be laid down after recording reasons therefore in writing. They shall form part of the records of that bid evaluation report.

29.2 The determination will take into account the bidder's financial, technical and production capabilities. It will be based upon an examination of the documentary evidence of the bidder's qualification submitted under Appendix B to Instructions to Bidders "Evidence of Bidder's Capability" by the bidder pursuant to Clause IB.13, as well as such other information as required under the Bidding Documents.

29.3 An affirmative determination will be a pre-requisite for award of the Contract to the lowest evaluated bidder. A negative determination will result in rejection of that bidder's bid in which event, Employer will proceed to undertake a similar determination of the next lowest evaluated bidder's capabilities to perform the Contract satisfactorily.

IB.30 Award Criteria

30.1 Subject to Clause IB.32, the Employer 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 qualified to satisfactorily perform the Contract in accordance with the provisions of Clauses IB.24 to 27A and IB 29.

IB.31 Employer's Right to Vary Quantities

31.1 Employer reserves the right at the time of award of Contract to increase or decrease by upto 15% the quantity of goods and services specified in the Schedule of Prices without any change in the unit price or other terms and conditions.

IB.32 Employer's Right to Accept any Bid and to Reject any or all Bids

32.1 Notwithstanding Clause IB.30, the Employer reserves the right to accept or reject any bid, and 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 Employer'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 Employer 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 Employer, the Employer will notify the successful bidder in writing ("Letter of Acceptance") that his bid has been accepted. This letter shall name the sum which the Employer will pay the Contractor in consideration of the execution and completion of the Works by the Contractor 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 Employer and the Bidder till signing of the formal Contract Agreement.

33.3 Upon furnishing by the successful bidder of a Performance Security, the Employer 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 Employer a Performance Security in the form and the amount stipulated in the Conditions of Contract within a period of fourteen 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.44 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 fourteen (14) days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Employer will send to the successful bidder the Form of Contract Agreement provided in the Bidding Documents, duly filled in and incorporating all agreements between the parties for signing and return it to the Employer.

35.2 The formal Agreement between the Employer and the successful bidder shall be executed within fourteen (14) days of the receipt of such Form of Contract Agreement by the successful bidder from the Employer.

G. ADDITIONAL INSTRUCTIONS

IB.36 Instructions not Part of Contract

36.1 Bids shall be prepared and submitted in accordance with the above Instructions to Bidders including Additional 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.

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.

Two or more firms partially or wholly owned or directed by common individuals, regardless of the extent of their shares or interest with each other shall not be eligible to bid or compete for the same tender. Only one such firm shall be eligible to bid for a tender. However, such firms may form a joint venture to bid as one venture.

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. This shall include but not be limited to the following:

(a) inquiries on Pakistani Income Tax/Sales Tax to the Commissioner of the Income Tax and Sales Tax, in 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

Not Applicable

IB.42 Local Conditions

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

42.2 All Bidders are required to visit the site at their own expense to review the areas allocated for the Plant and the interfacing facilities, if any. Bidders may also wish to study local conditions, available facilities, communications, craft wages, roads and other transport facilities. Bidders shall also acquaint themselves with the relevant laws, rules, and regulations of Pakistan.

42.3 The Bidders and any of their personnel or agents will be granted permission by the Employer to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the Bidders, their personnel and agents, will release and indemnify the Employer, his personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of such inspection.

IB.43 Pre-Bid Meeting *(Not-Applicable)*

43.1 The Purchaser may, on his own motion or at the request of any prospective Bidder(s), hold a pre-bid meeting to clarify issues and to answer any questions on matters related to the Bidding Documents.

Pre-bid meeting will be held as per the following schedule:
Date:

Venue:

All prospective Bidders or their authorized representatives are invited to attend the pre-bid meeting.

All prospective Bidders or their authorized representatives are invited to attend such a Pre-Bid meeting.

43.2 The Bidders are requested to submit questions, if any, in writing so as to reach the Purchaser not later than seven (7) days before the proposed pre-bid meeting.

43.3 Absence at the pre-bid meeting will not be a cause for disqualification of a Bidder.

IB.44 Integrity Pact

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

IB.45 General Performance of the Bidders

45.1 The Employer reserves the right to obtain information regarding performance of the Bidders on their previously awarded contracts/works. The Employer may in case of consistent poor performance of any Bidder as reported by the employers of the previously awarded contracts, interalia, reject his bid and/or refer the case to the Pakistan Engineering Council. Upon such reference, PEC in accordance with its rules, procedures and relevant laws of the land take such action as may be deemed appropriate under the circumstances of the case including black listing of such Bidder and debarring him from participation in future bidding for similar works.

IB 46 (**GRIEVANCE REDRESSAL & COMPLAINT REVIEW MECHANISM)**
(As per provisions of e-PADS)

46.1. Any party can file its written complaint against the eligibility parameters or any other terms and conditions prescribed in the prequalification or bidding documents found contrary to provision of Procurement Regulatory Framework, and the same shall be addressed by the GRC well before the bid submission deadline.

46.2. Any Bidder feeling aggrieved by any act of the procuring agency after the submission of his bid may lodge a written complaint concerning his grievances not later than seven days of the announcement of technical evaluation report and five days after issuance of final evaluation report.

46.3. In case, the complaint is filed against the technical evaluation report, the GRC shall suspend the procurement proceedings.

46.4. In case, the complaint is filed after the issuance of the final evaluation report, the complainant cannot raise any objection on technical evaluation of the report:

Provided that the complainant may raise the objection on any part of the final evaluation report in case where single stage one envelop bidding procedure is adopted.

46.5. The GRC, in both the cases shall investigate and decide upon the complaint within ten days of its receipt.

46.6. Any bidder or the procuring agency not satisfied with the decision of the GRC may file Appeal before the Appellate Committee of the Authority on prescribed format after depositing the Prescribed fee.

46.7. The Committee, upon receipt of the Appeal against the decision of the GRC complete in all respect shall serve notices in writing upon all the parties to Appeal.

46.8. The committee shall call the record from the concerned procuring agency or the GRC as the case may be, and the same shall be provided within prescribed time.

46.9. The committee may after examination of the relevant record and hearing all the concerned parties, shall decide the complaint within fifteen (15) days of receipt of the Appeal.

46.10. The decision of the Committee shall be in writing and shall be signed by the Head and each Member of the Committee. The decision of the committee shall be final.

IB 47 Mechanism of Blacklisting

47.1. The Procuring Agency shall bar for not more than the time prescribed in Rule-19 of the Public Procurement Rules, 2004, from participating in their respective procurement proceedings, bidder or contractor who either:

i. Involved in corrupt and fraudulent practices as defined in Rule-2 of Public Procurement Rules;
ii. Fails to perform his contractual obligations;
iii. Fails to abide by the its securing declaration; and
iv. Submits false information (or) hides information on Beneficial Ownership Declaration Performa under S.R.O 592(I)/2022.

47.2. The show cause notice shall contain: (a) precise allegation, against the bidder or contractor; (b) the maximum period for which the Procuring Agency proposes to debar the bidder or contractor from participating in any public procurement of the Procuring Agency; and (c) the statement, if needed, about the intention of the Procuring Agency to make a request to the Authority for debarring the bidder or contractor from participating in public procurements of all the procuring agencies.

47.3. The procuring agency shall give minimum of seven days to the bidder or contractor for submission of written reply of the show cause notice

47.4. In case, the bidder or contractor fails to submit written reply within the requisite time, the Procuring Agency may issue notice for personal hearing to the bidder or contractor/ authorize representative of the bidder or contractor and the procuring agency shall decide the matter on the basis of available record and personal hearing, if availed.

47.5. In case the bidder or contractor submits written reply of the show cause notice, the Procuring Agency may decide to file the matter or direct issuance of a notice to the bidder or contractor for personal hearing.

47.6. The Procuring Agency shall give minimum of seven days to the bidder or contractor for appearance before the specified officer of the Procuring Agency for personal hearing. The specified officer shall decide the matter on the basis of the available record and personal hearing of the bidder or contractor, if availed

47.7. The procuring Agency shall decide the matter within fifteen days from the date of personal hearing unless the personal hearing is adjourned to a next date and in such an eventuality, the period of personal hearing shall be reckoned from the last date of personal hearing.

47.8. The Procuring Agency shall communicate to the bidder or contractor the order of debarring the bidder or contractor from participating in any public procurement with a statement that the bidder or contractor may, within thirty days, prefer a representation against the order before the Authority.

47.9. Such blacklisting or barring action shall be communicated by the procuring agency to the Authority and respective bidder or bidders in the form of decision containing the grounds for such action. The same shall be publicized by the Authority after examining the record whether the procedure defined in blacklisting and debarment mechanism has been adhered to by the procuring agency.

47.10. The bidder may file the review petition before the Review Petition Committee Authority within thirty days of communication of such blacklisting or barring action after depositing the prescribed fee and in accordance with "Procedure of filing and disposal of review petition under Rule-19(3) Regulations, 2021". The Committee shall evaluate the case and decide within ninety days of filing of review petition

47.11. The committee shall serve a notice in writing upon all respondent of the review petition. The notices shall be accompanied by the copies of review petition and all attached documents of the review petition including the decision of the procuring agency. The parties may file written statements along with essential documents in support of their contentions. The Committee may pass such order on the representation may deem fit.

47.12. The Authority on the basis of decision made by the committee either may debar a bidder or contractor from participating in any public procurement process of all or some of the procuring agencies for such period as the deemed appropriate or acquit the bidder from the allegations. The decision of the Authority shall be final.

(H) APPENDICES

The Appendices to ITB are as given below:

- Appendix-A: Name of Eligible Countries
- Appendix-B: Evidence of Bidder's Capabilities
- Appendix-C: Domestic Goods (value added in Pakistan)
- Appendix-D: Comfort Letter
- Appendix-E: Form of Bid Security

Appendices are given here below:

Appendix A to
Instructions to Bidders

NAME OF ELIGIBLE COUNTRIES

All countries of the World with whom Islamic Republic of Pakistan has commercial / trade relations except India, Israel and the countries upon which international sanctions are imposed.

Appendix B to
Instructions to Bidders

EVIDENCE OF BIDDER'S / MANUFACTURER'S CAPABILITY

[Note: Bidders to fill following forms to provide information regarding its eligibility and capability]

Form ELI - 1: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
In case of a Joint Venture, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone number(s), fax number(s), e-mail address)	

Attached are copies of the following documents:.

- ❑ 1. In case of a single entity, articles of incorporation or constitution of the legal entity named above, in accordance with IB 4.1
- ❑ 2. Authorization to represent the firm or Joint Venture named above, in accordance with IB 17.5
- ❑ 3. In case of a Joint Venture, a letter of intent to form a Joint Venture or Joint Venture agreement, in accordance with IB 13.5.

Form ELI - 2: GENERAL INFORMATION & EVIDENCE OF MANUFACTURER'S CAPABILITY

Bidder to provide the following information with the bid and indicate herein its references where this information is available.

Sr. No.	Information to be Supplied	Bid References
1.	Manufacturer's • Name: • Business Address: • Contact Telephone Nos. • Fax No: • E-mail: • Country of Incorporation: • Location and address of manufacturing facilities:	
2.	Full description of factories owned and the annual manufacturing capacities of various items made therein.	
3.	Details of the factory or factories where the offered Goods are proposed to be manufactured. This description should include the facilities and capacities of the particular factories including testing facilities and the processes used in manufacturing and testing. Where parts or components are purchased from outside, the details of equipment purchased and the names and experience record of the suppliers.	
4.	Detailed description of the quality control testing and research facilities. If the Goods are manufactured under license, the name of the licenser and details of the licensing arrangements, such as the duration of the license, the facilities provided to the bidder by the licenser and whether future improvements are available or not, etc. A copy of the license agreement may be attached.	
5.	Names, qualifications and experience of the key technical personnel.	
6.	The time in years since the Manufacturer has been in this business;	

and the time in years since he has been doing work of similar nature: ☐

7. The time in years since the Goods offered are being Manufactured; ☐

and the time in years for which it has been in service; ☐

8. Quantity produced [Sets/Numbers/Km] in last ten (10) years:
   (i) Year 01: _____
   (ii) …….
   (iii) …….
   (iv) …….
   (v) Year 10: _____

9 Manufactured under own License? Yes No

10. Manufactured under License from: _____

11. Manufactured in collaboration with: _____

12 Has Manufacturer R&D Section? Yes No

13 Has Manufacturer a Quality Assurance Plan (QAP) in place? Yes No

14 Is the Manufacturer certified or accredited by an organization? Yes No

15 Name the organization and type of certification/accreditation: _____

16 Is the Manufacturer's testing facilities/laboratory accredited by an organization? Yes No

17 Name the organization and type of certification/accreditation for the laboratory: _____

Note:
Copy of the following document shall be attached:

(a) Quality Assurance Plan (ISO 9001) from the Manufacturer.
(b) Accreditation certificates.

Name of the Manufacturer_____
Signed and stamped by the Manufacturer_____
Signature and Seal of the Bidder_____

Form ELI - 3: Joint Venture Information Sheet

Each member of the Joint Venture must fill out this form separately.

Joint Venture Information	
Bidder's legal name	
Joint Venture Partner's legal name	
Joint Venture Partner's country of constitution	
Joint Venture Partner's year of constitution	
Joint Venture Partner's legal address in country of constitution	
Joint Venture Partner's authorized representative information (name, address, telephone number(s), fax number(s), e-mail address)	
Attached are copies of the following documents: ❑ 1. Articles of incorporation or constitution of the legal entity named above, in accordance with IB 2.1 ❑ 2. Authorization to represent the firm named above, in accordance with IB 17.5	

Form FIN - 1: Historical Financial Performance

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Financial Data for Previous 3 Years [$ Equivalent]				
Year 1:	**Year 2:**	**Year 3:**	**Year 4:**	**Year 5:**

Information from Balance Sheet

Total Assets (TA)					
Total Liabilities (TL)					
Net Worth = TA-TL					
Current Assets (CA)					
Current Liabilities (CL)					

Information from Income Statement

Total Revenues					
Profits Before Taxes					
Profits After Taxes					

❑ Attached are copies of audited financial statements with UDIN where required, (balance sheets including all related notes, and income statements) for the last 5 years, as indicated above, complying with the following conditions.

- All such documents reflect the financial situation of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.
- Historical financial statements must be audited by a certified accountant.
- Historical financial statements must be complete, including all notes to the financial statements.

Historical financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form FIN - 2: Average Annual Turnover

Each Bidder must fill out this form.

The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed, converted to PKR/ US dollars as specified in Clause ITB-13.____.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Annual Turnover Data for the Last 5 Years			
Year	**Amount Currency**	**Exchange Rate***	**US$/ PKR Equivalent**
	Average Annual Turnover (for best three years)		

*Exchange rate (selling) prevailing at the date of submission of Bids.

Signature and Seal of the Bidder:

Form FIN – 3: Availability of Financial Resources

Bidders shall specify proposed sources of financing, such as liquid assets, lines of credit and other financial means to meet the Bidder's financial requirements for

(a) its current contract commitments calculated on three (03) months basis, and

(b) the subject contract.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Financial Resources			
No.	**Source of financing**	**Amount (currency)**	**Equivalent Amount* (US$/PKR)**
1	Liquid Assets		
2	Credit Line[a]		
3	Other Financial Resources		
4	**Total** (1+2+3)		
5	Current Commitments		
6	**Net Available Financial Resources (4-5)**		

[a] *To be substantiated by a letter from the bank issuing the line of credit.*

* Converted to US$/PKR at exchange rate (selling) prevailing at the date of submission of Bids.

Signature and Seal of the Bidder:

Form FIN- 4: Financial Requirements for Current Contract Commitments

Bidders (or each Joint Venture partner) 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 an unqualified, full completion certificate has yet to be issued.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Current Contract Commitments

No.	Name of Contract	Employer's Contact (Address, Tel, Fax)	Total Contract Value (Equivalent USD)	Contract Completion Date	Outstanding Contract Value (X) *a*	Remaining Contract Period in months (Y) *b*	Monthly Financial Resources Requirement (X / Y)
1							
2							
3							
4							
	Total Monthly Financial Requirement for Current Contract Commitments						**PKR/ $** . . . . .

a *Remaining outstanding contract values to be calculated from 28 days prior to the bid submission deadline ($ equivalent based on the foreign exchange rate as of the same date).*

b *Remaining contract period to be calculated from 28 days prior to bid submission deadline.*

c. *The monthly commitments calculated from above table will be multiplied with a factor (proposed "3") to calculated the total commitments for 03 months.*

Form: Credit Line

BANK CERTIFICATE

This is to certify that M/s…… is a reputed company with a good financial standing.

If the contract for namely …… (name of IFB) is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of PKR…… to meet their financial resources requirements for executing the above contract.

Signature of Senior Bank Manager: _____
Name of the Senior Bank Manager: _____
Address of the Bank: _____

Stamp of the Bank

Note: Certificate should be on the letter head of the bank.

- **Change the text as follows for Joint Venture:**

This is to certify that M/s…… who has formed a JV with M/s……and M/s……. for participating in this bid, is a reputed company with a good financial standing.

If the contract for namely ……. (name of IFB) is awarded to the above Joint Venture, we shall be able to provide overdraft/credit facilities to the extent of PKR……to M/s……. to meet the financial resources requirement for executing the above contract.

[This should be given by each of the JV members in proportion to their financial participation.]

Form EXP – 1: Contracts of Similar Size and Nature

Fill out one (1) form per contract. Separate forms shall be filled for supply of RTV material and application works of the same.

Contract of Similar Size and Nature		
Contract No. . . . . **of**	**Contract Identification**	
Award Date		**Completion Date**
Role in Contract	❑ **Contractor** ❑ **Management Contractor** ❑ **Subcontractor**	
Total Contract Amount		**$**
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	**Percent of Total**	**Amount**
Employer's name **Address** **Telephone number** **Fax number** **E-mail**		
Description of the Similarity in Accordance with IB 13.4 (a)		

❑ Attached are copies of:

- Notification of Award/ Purchase Orders/Contract agreements with sufficient details to establish bidder's experience in accordance with IB 13.4,
- Joint Venture Agreements (applicable if contract performed in joint venture) with sufficient detail of bidder's participation.
- Verifiable End User/ Performance Certificates/ Completion Certificate establishing successful operation of contracts for the period mentioned in IB 13.4 on end user's proper letter head.

➢ Notarized English translation shall also be attached if any document is not in English language.

➢ All documents shall reflect experience of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.

Form EXP - 2: Experience in Key Activities

Contract with Similar Key Activities		
Contract No. . . . . of	**Contract Identification**	
Award Date		**Completion Date**
Role in Contract	❑ **Contractor** ❑ **Management Contractor** ❑ **Subcontractor**	
Total Contract Amount		**$**
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	**Percent of Total**	**Amount**
Employer's name **Address** **Telephone number** **Fax number** **E-mail**		
Description of the Key Activities in Accordance with IB 13.4		

❑ Attached are copies of:

- Notification of Award/ Purchase Orders/Contract agreements with sufficient details to establish bidder's experience in accordance with IB 13.4,
- Joint Venture Agreements (applicable if contract performed in joint venture) with sufficient detail of bidder's participation.
- End User/ Performance Certificates/ Completion Certificates establishing successful operation of contracts for the period mentioned in IB 13.4.

➢ Notarized English translation shall also be attached if any document is not in English language.

➢ All documents shall reflect experience of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.

Fill out one (1) form per contract, separately for supply of RTV material and

application works.

Form EXP - 3: Experience of Manufacturers

Fill out one (1) form per contract.

Contract for the Major Items		
Contract No . . . . . .of.	**Contract Identification**	
Award Date		**Completion Date**
Role in Contract	❑ **Contractor** ❑ **Management Contractor** ❑ **Subcontractor**	
Total Contract Amount		**$**
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	**Percent of Total**	**Amount**
Employer's name **Address** **Telephone number** **Fax number** **E-mail**		
Description of the Major Items in Accordance with sub-clause IB 14.2		

In case of manufacturers, please attach:

- Copies of relevant supply record/ contract agreements, Inspection certificates/ Bill of Lading etc. to prove experience and supply.
- Manufacturer's Authorization
- One satisfactory Operational Certificate from end user from Pakistan or outside the country of origin of offered equipment/goods. The submitted certificate must indicate the name of the end user/client along with its contact address, phone numbers, fax numbers, web-site and e-mail addresses.
- If bidder has supplied equipment to NationalGrid which is in satisfactory operation for one year, it shall be considered equivalent to above requirement.

In case of Subcontractors of Key activities, please attach:

- Contract agreements with sufficient details to establish bidder's experience in accordance with IB 13.4,
- Joint Venture Agreements (applicable if contract performed in joint venture) with sufficient detail of bidder's participation.
- End User Certificates establishing successful operation of contracts for the period mentioned in IB 13.4.

➢ Notarized English translation shall also be attached if any document is not in English language.

➢ All documents shall reflect experience of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.

Note:

1. No change of manufacturer shall be allowed.
2. The truthfulness and accuracy of the statement as to the experience of manufacturer is guaranteed by the Bidder. The Employer's judgment shall be final as to the evaluation of the experience of manufacturer submitted by the Bidder.
3. Statement of similar works shall include description, location & value of work, year completed and name & address of the clients.
4. This may include manufacturer(s) who are proposed here and their relevant details to be provided accordingly including make, capacity and salient features to make it particularly suitable for the works. The technology used should also be detailed adequately.

Initials of Signatory to Bid:……

Appendix C to Instructions to Bidders

Domestic Goods (Value added in Pakistan)

[Bidders claiming eligibility for domestic preference should fill in for supply items only, all columns hereunder and provide necessary documentation to substantiate their claim]

Sr. No.	Description of Indigenous Goods	Unit	Qty	Total Price of Goods Ex-Factory (Pak Rs.)	Domestic value added in the manufacturing cost as percentage of Ex-Factory Price	Amount of value addition (Pak Rs.)
1	2	3	4	5	6	7
Total in columns 5 & 7						

Computations:

A. Total amount of Value Addition (from Col. 7) Rs_____
B. Total Ex-Factory Price of Indigenous Goods (from Col. 5) Rs_____
C. Total DDP Price of imported supply items Eqv.Rs_____
D. Total Price of supply items [B+C] Eqv.Rs_____
E. % of value addition = [(A/D)x100] _____%
F. Domestic Preference =(15,20 or 25)% of B Rs_____

Note-I: The above factors for value addition shall be substantiated with Certificate issued by Engineering Development Board (EDB) Pakistan.
Note-II: The indigenously produced goods for which domestic preference has been claimed and thereby granted, cannot be replaced with goods of foreign origin after award of contract.

Appendix D to

Instructions to Bidders

COMFORT LETTER

Bid for Contract No. _____:_____ [*Title of Contract*]

To:
(Insert Employer Name)

Gentleman,

i. This is to certify that if the subject Contract is awarded to M/s _____ incorporated under the laws of _____ [*insert name of country*] we are able as well as willing to provide / extend unconditional banking facilities including but not limited to opening of letter of credit or making payment through direct payment procedure, retirement of shipping documents, issuance of Electronic Import Form (EIF) for custom clearance purposes etc.
ii. We understand that the issuance of this letter does not create any obligation for NationalGrid.

Signature of Senior Bank Manager: _____

Name of the Senior Bank Manager: _____

Address of the Bank: _____

Stamp of the Bank

- **Change the text under para (i) as follows in case of Joint Venture**

M/s _____ incorporated under the laws of _____ [*insert name of country*] has formed a JV with M/s _____ and M/s _____ for participating in this bid.

i. This is to certify that if the subject Contract is awarded to the above Joint Venture, we are able as well as willing to provide / extend banking facilities including but not limited to opening of letter of credit, making payment through direct payment procedure, retirement of shipping documents, issuance of Electronic Import Form (EIF) for custom clearance purposes etc.
ii. We understand that the issuance of this letter does not create any obligation for NationalGrid.

[*This should be given by each of the JV members*]

Note: Certificate should be on the letter head of the Scheduled Bank in Pakistan.

[Note: ***The requirement of "Comfort Letter" has been included purely for payment purposes to ensure the availability of banking channels for smooth execution of Contract. The "Comfort Letter" is neither a Bank Guarantee nor is required to determine financial soundness of the Bidder, and does not create any legal obligation to bank, but rather is a simple confirmation on bank's letter head that in case of award of Contracts to specific firm, the banking channels will be available for making payment by NationalGrid in favor of Supplier.***

Moreover, a Bank can provide confirmation in its own wording without changing the substance of letter i.e., assuring to provide banking channel if given business]

Appendix E to
Instructions to Bidders

Form of Bid Security

(Bank Guarantee)

Guarantee No._____
Executed on _____
Expiry date _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address:_____
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 _____, (hereinafter called The "Employer") 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 and dated as above for _____ (Particulars of Bid) to the said Employer; and

WHEREAS, the Employer has required as a condition for considering the said Bid that the Principal furnishes a Bid Security in the above said sum to the Employer, 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 26.2 of Instructions to Bidders, or

(c) the bidder is involved in Corrupt and/or fraudulent practices, 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 Employer 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 therefor, on the prescribed form presented to him for signature enter into a formal Contract with the said Employer in accordance with his Bid as accepted and furnish within fourteen (14) 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 Employer 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 Employer the said sum stated above upon first written demand of the Employer without cavil or argument and without requiring the Employer to prove or to show grounds or reasons for such demand notice of which shall be sent by the Employer by registered post duly addressed to the Guarantor at its address given above.

PROVIDED ALSO THAT the Employer 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 Employer 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.

_____

Guarantor (Bank)

Witness: Signature _____

1. _____ Name _____

_____ Title _____

Corporate Secretary (Seal)

2. _____ _____

_____ _____

(Name, Title & Address) Corporate Guarantor (Seal)

LETTER OF TECHNICAL BID AND SCHEDULES TO BID

Letter of Technical Bid

Schedules to Bid

- Schedule A to Bid: Specific Works Data (**Schedule of Technical data**)
- Schedule B to Bid: Proposed Organization for the Project & Work Methodology
  - Form 1: Site Organization & Method Statement
  - Form 2: Mobilization Schedule
- Schedule C to Bid: Implementation Schedule
- -

- Schedule E to Bid: Manufacturer
- Schedule F to Bid: Country of Origin Declaration Form
- Schedule G-1 to Bid: Deviations from Technical Provisions
- Schedule G-2 to Bid: Deviations from Contractual Conditions

- Schedule H To Bid: Specimen JV Agreement
- Schedule I To Bid: Equipment
- Schedule K to Bid:Undertaking Of Acceptance Of And Compliance With The SOP For Blacklisting Of Contractors
- Schedule L to Bid Manufacturer's Authorization

LETTER OF TECHNICAL BID

Bid Reference No. _____
Package No. _____

_____
_____
(Name of Works)

To:

_____
_____
_____

Gentlemen,

1. Having examined the Bidding Documents including Instructions to Bidders, Conditions of Contract, Specifications, Drawings, Schedule of Prices and Addenda Nos. _____ for the execution of the above-named Works, we, the undersigned, being a company doing business under the name of and address _____
_____
and being duly incorporated under the laws of _____
hereby offer to execute and complete such Works and remedy any defects therein in conformity with the said Documents including Addenda thereto.

2. We understand that all the Schedules 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 …… drawn in the favor of, or made payable to the Employer, …… and valid for a period ….. days beyond the period of validity of Bid.

4. We undertake that Price Schedules as per requirements of the Bidding Documents are enclosed with the Price Bid.

5. We undertake, if our Bid is accepted, to commence the Works and to deliver and complete the whole of the Works comprised in the Contract within the time(s) stated in Preamble to the Conditions of Contract.

6. We agree to abide by this Bid for the period of **180** 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.

7. 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.

8. We undertake, if our Bid is accepted, to execute the Performance Security referred to in Clause 10 of Conditions of Contract for the due performance of

the Contract.

9. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a Bid for the Works.

10. We do hereby declare that our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries *[insert the nationality of the Bidder, including that of all parties that comprise the Bidder if the Bidder is a consortium or association, and the nationality of each Subcontractor and Supplier]*.

11. We, including any subcontractors or suppliers for any part of the Contract, do not have any conflict of interest.

12. We are not participating, as a Bidder, in more than one bid in this bidding process.

13. We confirm, if our Bid is accepted, that all partners of the joint venture shall be liable jointly and severally for the execution of the Contract and the composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer. (Please delete in case of Bid from a single firm).

Dated this …… day of ……. 20…

Signature ……... in the capacity of ……. duly authorized to sign the Bid for and on behalf of …….
(Name of Bidder in Block Capitals)
(Seal of Bidder)

Bidder's Address
……
……
……

Witness:

Signature:
……
Name: ……

Address:
……
……
……

Occupation
……

SCHEDULE – A TO BID

SPECIFIC PLANT DATA
for RTV Silicone Rubber Insulator Coating

Sr. No.	Information Required	'A'	'B'	'C'
1.	i) Manufacturer's Name & Address)	_____		
	ii) Applicator's Name & Address	_____		
2.	Standards Followed	_____		
	RATINGS			
3.	Method of application	Dip /Spray	_____	_____
4.	Use of Primer for adhesion	Forbidden	_____	_____
5.	Type of Coating	One-Part, RTV	_____	_____
6.	Appearance	Paint	_____	_____
7.	Specific Gravity	1.10-1.25	_____	_____
8.	Color of Coating (Red or any other subject to Engineer's approval)	*	_____	_____
9.	Application Temperature Range, ^{o} C	0^{o} -50^{o} C	_____	_____
10.	Skin-over time at Standard Conditions, minutes	15	_____	_____
11.	Track free time at Standard Conditions, minutes	15-45	_____	_____
12.	Percent Solids by weight, % 7	70	_____	_____
13.	Dynamic Viscosity. cP (centipoise)	1000-3500	_____	_____
14.	Dielectric Strength, V/mil (ASTM D149)	350-560	_____	_____
15.	Volume Resistivity. Ohm.cm (ASIM D257)	$1x10^{14}$ – $37x10^{14}$	_____	_____
16.	Dissipation Factor at 100 Hz (ASTM D150) 0.01-0.09	0.01-0.09	_____	_____
17.	Tracking Wheel Withstand, hours 1000	1000	_____	_____
18.	Receding Water Contact Angle. degrees, minimum	≥80	_____	_____
	Material			
19.	Dry Arc Resistance, Seconds	180-200	_____	_____
20.	Reinforcing Filler	*	_____	_____
21.	Alumina Trihydrate (ATH) Content	*	_____	_____

22.	UV Absorbent	*	_____	_____
23.	Condensation Catalyst	*	_____	_____
24.	Adhesion Promoter	*	_____	_____
25.	Longevity (Service Life), years	*	_____	_____
	Material Consumption per insulator			
26.	Quantity of RTV coating required for one 100kN Fog Type Disc Insulator, kg, maximum	*	_____	_____
27.	Quantity of RTV coating required for one 100kN Normal Type Disc Insulator, kg, maximum	*	_____	_____
	Composition and Properties			
28.	Dry Film Thickness(DFT), mm, minimum	0.38-0.50	_____	_____
29.	Tolerance (±) of DFT, mm	*	_____	_____
30.	Wet Film Thickness	*	_____	_____
31.	No. of Coats to achieve DFT	*	_____	_____
32.	Shelf life, months	12	_____	_____
33.	No Flashover Warranty, Years	10	_____	_____
34.	Recommended Dew Point Temperature Difference Range, ^{o}C	*	_____	_____
	TYPE TESTS			
35.	Inclined Plane Tracking & Erosion Test as per IEC 60587	Yes	_____	_____
36.	Accelerated Weathering Test (1000 Hours) as per IEC 61109	Yes	_____	_____
37.	Artificial Pollution Test by Salt Fog Method as per IEC 60507	Yes	_____	_____
38.	Angle of Hydrophobicity as per IEC TS 62073	Yes	_____	_____
39.	Hydrophobicity Recovery by Corona Test Method	Yes	_____	_____
40.	Dry Arc Resistance as per ASTM D495	Yes	_____	_____
41.	Dielectric Strength Test as per ASTM D149a	Yes	_____	_____
42.	Volume & Surface Resistivity Test as per ASTM D257	Yes	_____	_____
43.	Dissipation Factor Test as per ASTM D150	Yes	_____	_____

Notes:
'A'– Purchaser Specified Data/Parameters
'B'– Bidder/Supplier/Manufacturer/Contractor Proposed Data/parameters
'C'– Remarks supporting the proposed deviation in Column B

(*)– Data/Parameters to be provided/proposed by the Bidder/Supplier/Manufacturer/Contractor in Column
*All values shall be in metric system.

Moreover, complete set of technical information, description data, literature and drawings as required for both Lots. This will include but not 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/Plant to be furnished.
(ii) Details of equipment and machinery with capacity.
(iii) The approximate weight and dimension of the main components, a brief description of the principal materials and fabrication processes to be used and recommended methods of assembly.

Signed & Stamped of Manufacturer: ……
Signed & Stamped of Signatory to Bid: ……

SCHEDULE – B TO BID

PROPOSED ORGANIZATION FOR THE PROJECT & WORK METHODOLOGY

FORM 1: SITE ORGANIZATION & METHOD STATEMENT

In this form, bidder shall provide the ITS Organization Chart indicating all positions that will be employed in Head Office, Site Office, etc. (whichever applicable) which shall also include key positions indicated in Technical Provisions. Bidder shall also mention the job description of each key position.

The Bidder is required to submit a narrative outlining the method of performing the Works. 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 RTV application works, including the number of shifts per day and hours per shift, he expects to work.
- The procedure for transportation of equipment and materials to the site.
- The Contractor shall provide description of his construction camp's facilities and staff housing requirements.
- The Contractor shall be responsible for pumps, electrical power, water and electrical distribution systems, and sewerage system including all fittings, pipes and other items necessary for servicing the Contractor's construction camp and staff housing facilities. The Bidder shall list or explain his plans for providing these facilities for the service of the Contract as follows:

1. Site Preparation (clearing, land preparation, etc.).
2. Provision of Services.
   a) Power (expected power load, etc.).
   b) Water (required amount and system proposed).
   c) Sanitation (sewage disposal system, etc.).
3. Construction of Facilities
   a) Contractor's Office, Workshop and Work Areas (areas required and proposed layout, type of construction of buildings, etc.).
   b) Warehouses and Storage Areas (area required, type of construction and layout).
   c) Housing and Staff Facilities (Plans for housing for proposed staff, layout, type of construction, etc.)
4. Other Items Proposed (Security services, etc.).

Initials of Signatory to Bid:……

SCHEDULE – B TO BID

FORM 2: MOBILIZATION SCHEDULE

In this form, the bidder shall provide details regarding mobilization of its team along with detailed timeline in accordance with Implementation Schedule (Schedule C to Bid).

Initials of Signatory to Bid:……

SCHEDULE – C TO BID

IMPLEMENTATION SCHEDULE

Bidder shall provide an implementation Schedule in a Gantt Charts/bar-chart/CPM/PERT form showing the sequence of work items by which he proposes to complete the work of the entire Contract. The Schedule should indicate the sequence of work items and the period of time during which he proposes to complete the Works including the activities like schedule of submittal of Drawings / Technical Data, ordering and procurement of materials, inspections of RTV material/ FATs, its delivery timelines, cleaning of equipment & application of RTV material, final inspection or any other work/ item to be supplied under the Contract.

Initials of Signatory to Bid:……

SCHEDULE – E TO BID

MANUFACTURER

Form MANUFACTURER: Proposed Manufacturers for Major Items of Plant and Services

The following manufacturer is proposed for carrying out the item of the facilities indicated. Bidder shall not propose more than one manufacturer for RTV material.

Major equipment/Items of Plant to be supplied

Sr. #	Name of Equipment/ Material		Name of Manufacturer	Nationality of Manufacturer	Type/ Designation of proposed Equipment/ Material	Name of Type Testing Laboratory	Type Test Report No.
1.							
2.							
3.							
4.							
5.							

Note:

1. Bidder shall provide the list of all material it is offering along with complete information of manufacturer.
2. The final selection of the Manufacturer for each equipment shall be at the discretion of the Employer.
3. No change of manufacturer shall be allowed.
4. The truthfulness and accuracy of the statement as to the experience of Manufacturer is guaranteed by the Bidder. The Employer's judgment shall be final as to the evaluation of the experience of Manufacturer submitted by the Bidder.
5. Statement of similar works shall include description, location & value of work, year completed and name & address of the clients.
6. This may include manufacturer(s) who are proposed here and their relevant details to be provided accordingly including make, capacity and salient features to make it particularly suitable for the works. The technology used should also be detailed adequately.

Name of Bidder_____
Signatures of the bidder _____

SCHEDULE – F TO BID

Country of Origin Declaration Form

Name of Bidder _____ Tender Number _____ Page ___ of ___

Item	Description	Country of Origin

SCHEDULE – G-1 TO BID

DEVIATIONS
FROM TECHNICAL PROVISIONS

It is presumed that the bidder shall not take any deviation. However, if he intends to take deviations to the specified terms, those must be listed in the space provided below:

Sr. No.	Clause No. / Section No.	Deviations/Clarifications

[Note**:** Attach additional sheets, if necessary]

Initials of Signatory to Bid:……

SCHEDULE – G-2 TO BID

DEVIATIONS FROM CONTRACTUAL CONDITIONS

It is presumed that the bidder shall not take any deviation. However, if he intends to take deviations to the specified Contractual/Commercial Conditions, those must be listed in the space provided below:

Sr. No.	Clause No. / Section No.	Deviations/Clarifications

Note: Attach additional sheets, if necessary

Initials of Signatory to Bid:……

SCHEDULE –H TO BID

JV AGREEMENT

THIS LETTER OF INTENT signed on this……. day of…….. Two Thousand and ……..... by……. a company incorporated under the laws of …… and having its Registered Office at ..... (hereinafter called the "Party No.1" which expression shall include its successors, executors and permitted assigns) and M/s……a company incorporated under the laws of…… and having its Registered Office at…… (hereinafter called the "Party No.2" which expression shall include its successors, executors and permitted assigns) and M/s.. .. .. a Company incorporated under the laws of…….. and having its Registered Office at……. (hereinafter called the "Party No.3" which expression shall include its successors, executors and permitted assigns) for the purpose of making a bid and entering into a contract [hereinafter called the "Contract" {in case of award)] against the Specification No…….for _____ associated with _____ of …….. (hereinafter called the "**Employer**").

WHEREAS the Party No.1, Party No.2 and Party No.3 intend to enter into a Joint Venture Agreement

AND WHEREAS the Employer invited bids as per the above mentioned Specification for the design, manufacture, Supply of Equipment Materials stipulated in the bidding documents under _____ (Lot #) _____ associated with _____.

AND WHEREAS Clause 2, Section-ITB and 'Qualification & Evaluation Requirement of the Bidder'(clause 13, 24 & 25 of ITB), and technical provisions forming part of the bidding documents, inter-alia, stipulates that two or more qualified partners, meeting the requirements of Clause 2, Section-ITB and 'Qualification & Evaluation Requirement of the Bidder'(clause 13, 24 & 25 of ITB), as applicable may bid, provided, they submit a Letter of Intent to enter into Joint Venture Agreement and the Joint Venture Partners fulfill all other requirements under Clause 2, Section-ITB and 'Qualification & Evaluation Requirement of the Bidder'(clause 13, 24 & 25 of ITB), and technical provisions forming part of the bidding documents and in such a case, the Letter of Bid (Technical and Price Bid Form) shall be signed by all the proposed partners so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract by entering into Joint Venture Agreement a per Bidding Forms of the Bidding Documents which will be legally binding on all partners and all obligations hereunder.

The above clause further states that this Letter of Intent shall be attached to the bid and the Contract performance guarantee will be as per the format enclosed with the bidding document without any restrictions or liability for either party.

AND WHEREAS the bid is being submitted to the Employer vide proposal No……..dated…... by Party No.1 based on this Letter of Intent between all the parties; under these presents and the bid , has been signed by all the parties.

NOW THIS UNDERTAKING WITNESSETH AS UNDER:

In consideration of the above premises and agreements all the parties of this Letter of Intent do hereby declare and undertake:

1. In requirement of the award of the Contract by the Employer to the Joint Venture Partners, we, the Parties do hereby undertake that M/s…… the Party No.1, shall act as Lead Partner and further declare and confirm that we the parties to the Joint Venture shall jointly and severally be bound unto the Employer for the successful performance of the Contract and shall be fully responsible for the design, manufacture, Supply, and successful performance of the equipment in accordance with the Contract for which we shall enter into Joint Venture Agreement as per Bidding Forms of the Bidding Documents which will be legally binding on all partners:

2. If the Contract is awarded to Joint Venture then in case of any breach or default of the said Contract by any of the parties to the Joint Venture, the party(s) will be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.

3. Further, if the Employer suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the equipment in meeting the performances guaranteed as per the specification in terms of the Contract, the Party(s) of these presents will promptly make good such loss or damages caused to the Employer, on its demand without any demur. It shall not be necessary or obligatory for the Employer to proceed against Lead Partner to these presents before proceeding against or dealing with the other Party(s), the Employer can proceed against any of the parties who shall be jointly and severally liable for the performance and all other liabilities/obligations under the Contract to the Employer.

4. The financial liability of the Parties of the Deed of Undertaking to the Employer in the event of award of Contract on the Joint Venture, with respect to any of the claims rising out of the performance or non-performance of the obligations set forth in the Deed of Undertaking, read in conjunction with the relevant conditions of the Contract shall, however not be limited in any way so as to restrict or limit the liabilities or obligations of any of the Parties of the Deed of Undertaking.

5. It is expressly understood and agreed between the Parties to this Letter of Intent that the responsibilities and obligations of each of the Parties shall be as delineated in Annexure attached with this Letter of Intent. It is further undertaken by the parties that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Parties under the Contract in the event of award on Joint Venture.

6. It is also understood that this Letter of Intent is provided for the purposes of undertaking joint and several liabilities of the partners to the Joint Venture for submission of the bid and performance of the Contract if awarded and that this Letter of Intent shall not be deemed to give rise to any additional liabilities or obligations, in any manner or any law, on any of the Parties to this Letter of Intent or on the Joint Venture, other than the express provisions of the Contract.

7. This Letter of Intent shall be construed and interpreted in accordance with the provisions of the Contract.

8. In case of an award of a Contract, we the parties to this Letter of Intent do hereby agree that we shall enter into Joint Venture Agreement as per Bidding Forms of the Bidding Documents which will be legally binding on all partners and we shall be jointly and severally responsible for furnishing a Contract performance security from a bank in favour of the Employer in the currency/currencies of the Contract.

9. It is further agreed that this Letter of Intent shall be irrevocable and shall form an integral part of the bid. It shall be effective from the date first mentioned above for all purposes and intents.

IN WITNESS WHEREOF, the Parties to this Letter of Intent have through their authorized representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of ……. has been affixed in my/ our presence pursuant to Board of Director's Resolution dated …….

For Lead Partner (Party No.-1)
For and on behalf of M/s ……..

Name ……..
Designation …….

Signature …….

(Signature of the authorized representative)

WITNESS :

I. ……

II. ……

Common Seal of ……. has been affixed in my/ our presence pursuant to Board of Director's Resolution dated …….

For Party No.-2
For and on behalf of M/s……..

Name ……..

(Signature of the authorized representative)

Designation …….

Signature …….

WITNESS :

I. ……

II. ……

Common Seal of ……. has been affixed in my/ our presence pursuant to Board of Director's Resolution dated …….

For Party No.-3
For and on behalf of M/s. ……..

Name ……..

Designation …….

Signature …….

(Signature of the authorized representative)

WITNESS :

I. ……
II. ……

Notes:

1. In the event that the successful Bidder is a joint venture formed of two or more companies, the Employer requires that the parties to the joint venture accept joint and several liabilities for all obligations under the Contract.
2. The maximum number of J.V. partners is three (3).

(In the event that the successful Bidder is a joint venture formed of two or more companies, the Employer requires that the parties to the joint venture accept joint and several liabilities for all obligations under the Contract.)

SCHEDULE –I TO BID

Equipment

The Bidder shall provide adequate information and details to demonstrate clearly that it has the capability to meet the equipment proposed to be used in carrying out the Works at Site, including number of each kind, make, type, capacity of all equipment, working condition, which shall be deployed by him for cleaning of Grid Equipment & application of RTV coating material, including requirements indicated in Technical Provisions, using the Forms below. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of Equipment		
Equipment Information	**Name of manufacturer**	**Model and power rating**
	Capacity	**Year of manufacture**
Current Status	**Current location**	
	Details of current commitments	
Source	**Indicate source of the equipment** ☐ **Owned** ☐ **Rented** ☐ **Leased** ☐ **Specially manufactured**	

Omit the following information for equipment owned by the Bidder.

Owner	**Name of owner**	
	Address of owner	
	Telephone	**Contact name and title**
	Fax	**Telex**
Agreements	**Details of rental/lease/manufacture agreements specific to the project**	

Schedule – K TO BID

UNDERTAKING OF ACCEPTANCE OF AND COMPLIANCE WITH THE SOP FOR BLACKLISTING OF CONTRACTORS

A) I, _____ *[insert name and position of authorized signatory],* being duly authorized by _____ *[insert name of the Bidder/members of joint venture ("JV") in case the Bidder is a JV]* (hereinafter referred to as the "Bidder") to execute this Undertaking of Acceptance of and Compliance with the SOP for Blacklisting of Contractors attached herewith (hereinafter referred to as the "SOP"), hereby certify on behalf of the Bidder that we, _____*[insert name of the Bidder]* have read and accept the provisions of the SOP.

B) I further certify, on behalf of the Bidder, that:

(i) this Bid has been prepared and submitted in full compliance with the terms and conditions set forth in the SOP;

(ii) we have not, directly or indirectly, taken any action which is or constitutes inter alia a corrupt, fraudulent, collusive or coercive act or practice in violation of the SOP; and

(iii) we shall continue to comply with the terms and conditions of the SOP as and when amended, during period of evaluation of Bids and, in case we are selected for award of Contract, upto satisfactory completion of the Contract.

_____

Authorized Signatory
For and on behalf of *[insert name of the Bidder]*
Date:

Schedule-L to Bid

MANUFACTURER'S AUTHORIZATION

Date: _____

Bid Reference No.: _____

To: _____
(Name of Employer)

WHEREAS we_____ who are official Manufacturer of _____ (name & description of Goods offered) having factories at (address of factory)_____ do hereby authorize M/s _____ (Name and address of Bidder) to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods manufactured by us and to subsequently negotiate and sign the Contract:

Description of Goods: _____

_____

_____

We hereby extend our full guarantee and warranty in accordance with Clause 1.1.11 of the General Conditions of Contract, with respect to the Goods offered by the above firm in reply to this Invitation for Bids

Name: _____

In the capacity of: _____

Signed: _____

Duly authorized to sign the Authorization for and on behalf of _____
(Name of Manufacturer)

Date: _____

Note: This letter of authority should be on the letter head of the Manufacturer and should be signed by a person competent and having the Power of Attorney to legally bind the Manufacturer.

FORM/LETTER OF PRICE BID
AND
SCHEDULES TO BID

Form of Price Bid

Schedules to Bid

- Schedule J to Bid: Integrity Pact

SCHEDULE OF PRICES

- Preamble to Schedule of Prices
- Schedule of Prices

LETTER OF PRICE BID

Bid Reference No.: ……
Package No.: ……

……..
……. ……
[Name of Works]

To:
……
……
……

Gentlemen,

1. Having examined the Bidding Documents including Instructions to Bidders, Conditions of Contract, Specifications, Drawings, Schedules to Bid, Schedule of Prices and Addenda Nos. ……. for the execution of the above-named Works, we, the undersigned, being a company doing business under the name of and address …… ……. and being duly incorporated under the laws of …….. hereby offer to execute and complete such Works and remedy any defects therein in conformity with the said Documents including Addenda thereto for the Total Bid Price comprising of Local Currency Component of Pak Rupees ……..….. (Rs. …….) or such other sum as may be ascertained in accordance with the said Documents.

2. We understand that all the Schedules attached hereto form part of this Bid.

3. We undertake, if our Bid is accepted, to commence the Works and to deliver and complete the whole of the Works comprised in the Contract within the time(s) stated in Preamble to the Conditions of Contract.

4. We agree to abide by this Bid for the period of ……. 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.

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

6. We undertake, if our Bid is accepted to execute the Performance Security referred to in Clause 10 of Conditions of Contract for the due performance of the Contract.

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

8. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a Bid for the Works.

9. We confirm, if our Bid is accepted, that all partners of the joint venture shall be liable jointly and severally for the execution of the Contract and the composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer. (Please delete in case of Bid from a single firm).

Dated this ……. day of …….. 20___…

Signature …….. in the capacity of ……duly authorized to sign the Bid for and on behalf of ……
(Name of Bidder in Block Capitals)

(Seal of Bidder)

Bidder's Address
……
……

Witness:

Signature: ……
Name: ……
Address:
……
……
Occupation ……

SCHEDULE – J TO BID

(INTEGRITY PACT)

[To be filled and signed by the Bidder]

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 Supplier] 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 Supplier] 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 Supplier] 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 Supplier] 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 Supplier] 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 time 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 Buyer: …… Name of Seller/Supplier: ……
Signature: …… Signature: ……
[Seal] [Seal]

SCHEDULE OF PRICES

SCHEDULE OF PRICES

	Description
1.	Preamble to Schedule of Prices
2.	Schedule of Prices

1. 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 Section-9 (Special Provisions) and Section-IX (Technical Provisions) including all documents referred therein.

1.2 The Contract shall be for the whole of the Works as described in these Bidding Documents. Bids must be for the complete scope of Work.

1.3 The Works shall be fit and sufficient for the purpose(s) for which they were intended as were expressly made known to the Contractor or could reasonably have been inferred by it.

2. Description

2.1 Price given in the Schedule of Prices against each item shall be for the scope covered by that item as detailed in Section-VIII (Special Provisions), Section-IX (Technical Provisions), the Specifications, Bid Drawings or elsewhere in the Bidding Documents. The general directions and descriptions of work and materials are not necessarily repeated nor summarized in the Schedule of Prices and do not generally give a full description of the Plant and equipment to be supplied and the services to be performed under each item. Bidders shall be deemed to have read the relevant sections of the Bidding Documents to ascertain the full scope of the requirements included in each item prior to filling in the rates and prices against each item in Schedule of Prices. The entered rates and prices shall be deemed to cover the full scope as aforesaid, including overheads and profit.

The Schedule of Prices only identifies major components of the structure and it does not restrict the responsibility of the Contractor to furnish all equipment, materials and services as deemed necessary by the Employer/Engineer for making the structure operationally complete and satisfactory as specified and/or implied in the Bidding Documents and subsequent revisions thereto.

2.2 If Bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with clause IB 6 prior to submitting their bid.

2.3 The quantities shown in the Schedule of Prices are estimated quantities only as an indication of the Scope of Work to enable the bidder to bid for different items of the Works 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 and subject to provisions of the Conditions of Contract herein, the actual quantities executed and measured by the Contractor and verified by the Engineer will be paid.

2.4 The sizes & dimensions mentioned and/or specified in the various technical descriptions and specifications including Bid Drawings are tentative and not final as the responsibility for detailed design rests with the Contractor under the Contract. If, in the opinion of the Engineer, at the time of review of Contractor's drawings/designs for approval, certain sizes & dimensions of some items have to be increased for proper completion and/or operation of the Works, then revised sizes & dimensions shall be supplied by the Contractor at no extra cost to the Employer.

3. Units & Abbreviations

3.1 Units of measurement, symbols and abbreviations expressed in the Bidding Documents shall comply with the Systeme Internationale d' Unites (SI Units).

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

	Abbreviation
Foreign Currency Component	FCC
Local Currency Component	LCC
United States Dollars	US$
Pakistani Rupees	PKR/Rs
Number	No.
Kilometer	km
Kilogram	Kg
Cubic Meter	Cu.m
Provisional Sum	PS
Percent	%
Quantity	Qty

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 work set forth 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 Bid 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 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 The bidder shall be deemed to have obtained all information as to port clearance facilities and charges, loading and unloading facilities and charges, storage facilities and charges, transportation facilities and charges, congestion and/or other conditions to be expected at Karachi Port and or any other seaport of Pakistan and all requirements related thereto.

4.6 The Contractor shall be responsible to make complete arrangements for the transportation of the Plant to the Site. Contractor shall also be responsible for arrangement of all consumable materials for execution of works within the prices quoted in Price schedules/BoQ.

The bidder shall be deemed to have included all clearing, forwarding and other incidental costs in this regard in his bid. The Contractor will have the option to use either Karachi Port or any other seaport of Pakistan.

The Contractor shall provide for all parts of the Works to be completed in every respect for commercial operation. Notwithstanding that any details, accessories, etc. required for the complete installation and satisfactory operation of the Plant, are not specifically mentioned in the Specifications, such details shall be considered as included in the Contract Price.

5. Bid Prices

5.1 **Break-up of Bid Prices:**

The various elements of Bid Prices shall be quoted as detailed below:

A) CIP (Project's Site) Price *(Not Applicable as bidder shall quote single bid price in PKR as per BoQ, inclusive of all taxes, duties, & PST etc.)*

CIP (Project's Site) Price will be the total of CIF and inland

transportation

CIF (Pakistan Seaport) Price

CIF (Pakistan Seaports) price will be the total of CFR price and insurance price, described as under:

a) CFR Port of Shipment

The bidder shall quote prices for CFR Port of Shipment for all individual items and for each sub-total of Plant, Erection Equipment and Spare Parts to be supplied from outside Pakistan on CFR (Port of Shipment) basis. The CFR Port of Shipment price shall include the cost of the following:

i) Design, manufacture, finishing, factory testing, packing for transport and all transportation costs incurred in placing the Plant, Erection Equipment and Spare Parts and other materials on board the vessel.

ii) Provision of clean on-board bills of lading.

iii) Export taxes, fees or charges levied on exporting Plant, Erection Equipment and Spare Parts and other materials in the country of origin, and all direct taxes levied in Pakistan (except custom duties as mentioned in Clause 5.1 (B)) in the case of Plant imported to Pakistan.

iv) Provision of certificates of origin, consular invoices (if required) or any other documents issued in the country of origin.

v) Shipping:
The bidder shall quote prices for shipping from port of shipment to the port of entry in Pakistan for the sub-totals of the Plant, Erection Equipment, Spare Parts and other materials to be imported for the Contract in Pakistan. Such prices shall include all marine transportation costs including ocean freight and other charges, etc.

The prices for shipping/marine transportation shall be quoted for shipment through reputed shipping lines including Pakistan National Shipping Corporation (PNSC).

Cost of shipment(s) effected by the Contractor at his option by aircraft shall be deemed to be included in the Total Bid Price.

b) Insurance

The bidder shall quote prices for insurance cover from ex-factory/ ex-works to the NationalGrid Store, Site of work for the sub-totals of the RTV material, Plant, T&Ps, Spare Parts and other materials to be imported for the Contract. Such prices shall include all insurance costs covering the responsibility for all loss or damages while loading, unloading, storing and trimming on board or on inland carrier and transportation to Site. This, includes but is not limited to war risks, strikes, riot and civil commotion (SRCC), fire, smoke, explosion, terrorism, collision, overturn, derailment, flood, theft or attempted theft.

All insurance cover shall be affected with National Insurance Company Limited (NICL), Pakistan as per Clause GCC 43.12.

B) Customs Duties *(Not Applicable)*

Customs duty for Plant, Erection Equipment, Spare Parts and other materials, if any, offered from outside Pakistan shall include customs duties and other indirect taxes paid or payable in relation to clearance of Plant from port. Bidder will give breakup and Employer will pay the Custom Duties.

C) Ex-factory Price for Local Goods *(Not Applicable)*

The bidder shall quote prices for Local Goods, materials (other than materials required for civil works such as concrete and reinforcement etc. Cost of which will be included in the price of civil works), spare parts and equipment in the relevant column of EXW (Pakistan) of "Schedule of Prices". Such prices shall include:

i) Design documentation, drawings, drafting, planning services, manufacturing, testing and packing of finished goods ready for delivery to Site.
ii) All custom duties, sales tax and other taxes already paid or payable on the components and raw materials used in the manufacture or assembly of Local Goods, materials and equipment.
iii) Insurance of Local Goods and other materials from factory to Site including all insurance costs covering the responsibility of all losses or damages, while loading, unloading, storing, trimming on the carrier and transporting to Site. Checking and verifying of consignments, issuance of receiving reports and damage reports (when applicable) shall be the Contractor's responsibility. The

insurance shall be affected with National Insurance Company (NIC) of Pakistan as per Clause GCC 43.12.

D) Local Transport

Inland transportation for the Plant, Equipment and Spare Parts shall be the Contractor's responsibility in respect of:

i) the Plant, Erection Equipment, Spare Parts and other materials offered from outside Pakistan; from the port of entry in Pakistan to the storage area at the Site, and *(Not Applicable)*

ii) indigenous Plant, Erection Equipment, Spare Parts and other materials if any, offered from within Pakistan; from the factory in Pakistan to the storage area at the Site, and all charges occurring therefrom including octroi, zila tax, fees etc. and charges for loading, forwarding and unloading expenses shall be borne by the Contractor. Unloading at the Site, handling of the Plant, Erection Equipment, Spare Parts and other materials to the designated point of Site storage, checking and verifying all shipments received against shipping documents, issue of all receiving reports and issues of damage reports (when applicable) shall be the Contractor's responsibility.

iii) Plant, Erection Equipment, Spare Parts and other materials spared after completion of works from the Site/Designated Storage Yard to the NationalGrid designated Warehouse (Lahore), and all charges occurring therefrom including octroi, zila tax, fees etc. and charges for loading, forwarding and unloading expenses shall be borne by the Contractor. Unloading at the Warehouse, handling of the Plant, Erection Equipment, Spare Parts and other materials, checking and verifying all equipment/inventories against material re-conciliation reports, issue of all receiving reports and issues of damage reports (when applicable) shall be the Contractor's responsibility. All Coordination in allocation and handing over of material will be carried out through Project Manager/Engineer. *(Not Applicable)*

The bidder shall recognize such elements of the costs which he expects to incur in the performance of the Works and shall include all such costs in the rates and amounts entered in the Schedule of Prices including all taxes.

E) RTV Material, Application and Other Services

The bidder shall quote prices for RTV material, its application and other

services (Cleaning of Grid Equipment etc.) for the sub-totals of the Plant at the Site. Such prices shall include the costs of RTV material, handling of the Plant and other materials from Site storage to point of final application, cleaning, application of RTV material, commissioning including all inspection, reliability tests, the cost of local staff and labour, tools and equipment, etc. It shall also cover the services of qualified representative(s) of the supplier(s) of Plant or adviser(s) to assure proper cleaning, application of RTV material and commissioning of the Plant. The price shall also include cost of arranging insurances in respect of Contractor's operations in Pakistan which insurances shall be effected by the Contractor with the National Insurance Company (NIC) of Pakistan in accordance with GCC 43.12. The price shall also include all direct taxes. Provincial taxes and other indirect taxes shall be quoted separately.

5.2 Total Bid Price

The total of bid prices under local currency in the Schedule of Bid Prices shall be entered therein. The unit rates and prices and total amount entered in the Schedule of Bid Prices will be the rates at which the Contractor will be paid, and shall be deemed to be the full inclusive value of the work including all costs of performing the Works such as overheads, income tax, super tax, profits, costs of accepting the general risks, liabilities and obligations set forth or implied in the Contract except for the amounts reimbursable, if any, to the Contractor under the Contract. The rates shall also include Contractor's cost for providing Performance Security and other Bank Guarantees required for performance of the Contract.

6. Spare Parts *(Not Applicable)*

6.1 In the Schedule of Prices, under Spare Parts, the Employer has drawn up a list of spare parts along with estimated quantities. For Spare Parts to be supplied from outside Pakistan, the bidder shall enter the CIP price for all individual items breaking up the price into CIF (CFR Port of Shipment, Shipping to wharf at the port of entry in Pakistan, Insurance to Site) and Local Transport in Pakistan against each sub-total. For Spare Parts to be supplied from within Pakistan, EXW price (including insurance to Site) and local Transport in Pakistan, etc. shall be entered. These spare parts shall be furnished and the cost included in the Bid Price.

The Employer shall have the option of ordering additional quantities of these essential spare parts, at the unit rates entered in the Schedule of Prices, no later than one year after the Commencement Date.

The unit rate for any item shall be computed by dividing the total amount by the quantity of that item.

6.2 The Bidder shall also list in the space provided in the Schedule of Prices any Spare Parts which he recommends be provided for the Works, in addition to those specified by the Employer in the Schedule of Prices. The Bidder shall enter against each such item, its recommended quantity, rate and price. The cost of such Additional Recommended Spare Parts will not be considered in the evaluation of bids.

The Additional Recommended Spare Parts may be selected by the Engineer/ Employer and the Contract Price will be adjusted in accordance with the prices set against those items in the Schedule of Prices.

8. Reimbursable Costs

8.1 If provided in the Particular Conditions of Contract, the Contractor shall be reimbursed the actual amounts (without any overhead charges and profits) disbursed by him in respect of non-exempt Pakistani customs, import duties, and taxes, levied upon Plant, Erection Equipment and Spare Parts imported directly by him into Pakistan for the purpose of this Contract for incorporation in the Works. *(Not Applicable)*

8.2 The bidder shall recognize such elements of the costs which he expects to incur in the performance of the Works and which are reimbursable, and he shall not include any such costs in the rates and amounts entered in the Schedule of Prices.

9. Provisional Sums

9.1 Provisional Sums included and so designated in the Schedule of Prices if any, shall be expended in whole or in part at the direction and discretion of the Employer/ Engineer. The Contractor will only receive payment in respect of Provisional Sums if he has been instructed by the Employer/Engineer to utilize such sums.

Schedules of Rates and Prices

Schedule of Bid Prices - Material, Application and Other Services

Item No.	Description	Unit	Qty (cm-2)	Unit Rate (PKR)	Total Price (PKR)
1	2	3	4	5	6 = 4 x 5
1	Supply & Application of Room Temperature Vulcanizing (RTV) Silicone Rubber High Voltage Insulator Coating (HVIC) material by spray method on 500kV Grid Equipment i.e. CVT, CT, Post Insulators, LA, ATB LV/HV/Neutral Bush, Shunt Reactor Neutral Bush etc. after thorough washing & cleaning of insulator surface of each equipment	cm-2	50,682,885 (approx.) *(Annex-A)*		
	Total Price				
	Total Provincial Sales Tax (16%)				
	Grand Total				

Notes:

1. The quantities given in the Price Schedules are estimated quantities.
2. The contractor shall be paid for actual quantities in accordance with the unit rates given in the Price Schedules.
3. In Case of Discrepancy, between unit price and total, the unit price will prevail.
4. The bidder shall quote its bid price for the complete scope of work, including the supply and application of RTV coating material on the 500kV Grid Station equipment at NGC Sheikhupura, thorough washing and cleaning of the equipment surfaces prior to application, and all associated Factory Acceptance Tests (FATs)/ inspections and related activities, in accordance with the requirements of the Bidding Documents.
5. For better understanding of the actual site and RTV coating requirements, prospective bidders may visit office of Senior Manager, 500 kV Grid Station NGC Sheikhupura, at least 07 days prior to the bid opening date.
6. FAT/ Site acceptance tests/ Inspections of the RTV material and RTV coated insulator surface of Grid Equipment shall be carried out separately, to ensure the quality of RTV material and coated insulators as per clause 7.0 of Technical Specification in section IX.
7. The applicable specifications are to be read carefully before filling up the Schedule of Prices.

Name of Bidder: _____

Signature and Stamp of Bidder: _____

Annex-A

Details of 500kV Bay's Equipment at 500kV G/S Sheikhupura under the scope of RTV application works:

Sr.	Equipment	Quantity (Nos./ Phases)
1	CVT	23
2	CT	42
3	Post Insulator	188
4	LA	31
5	ATBs LV Bush	15
6	ATBs Neutral Bush	15
7	Shunt Reactor Bush	7

PREAMBLE TO CONDITIONS OF CONTRACT

Commencement Date
Sub-Clause 1.1.1
The date for commencement of the Works shall be**:**

(i) Within 07 days from the date of receipt of the letter of acceptance/ Notification of Award.

Defect Liability Period
Sub-Clause 1.1.11
The Defect Liability Period is **365 days** after the date certified in the Taking-Over Certificate, Defect Liability Period shall be subject to extension as provided under Sub-Clause 30.4.

The Employer
Sub-Clause 1.1.12.
The Employer is **National Grid Company of Pakistan (NGC) Pakistan.**
Address: Director General (Field Operations) North Lahore, NGC,
NTDC House, Gulberg-III Lahore,

Telephone No. 92-42-99263023
E-mail address: ce.amnl@ntdc.com.pk

The Engineer
Sub-Clause 1.1.15
The Engineer is **Director General (Field Operations) North Lahore NGC**
Address: NTDC House, Gulberg -III Lahore

Time for Completion
Sub-Clause 1.1.35.
Time for Completion is **150 days** from the acceptance of Notification of Award (NoA).

Engineer's Duties & Authorities
Sub-Clause 2.1
Amount of Variation Order in emergency is **1% of Contract Price**

Confirmation in Writing
Sub-Clause 2.6
(i) If the Contractor shall require the confirmation it shall be notified to the Engineer within **ten (10) days**.
(ii) Engineer shall confirm the decision/instruction within **fourteen (14) days**.

Ruling Language
Sub-Clause 5.1.
The version in **English** language (ruling language) shall prevail.

Day to Day
Sub-Clause 5.2.

Communications	The language for day to day communications is **English**.
As-Built Drawings	Sub-Clause 6.10 As-Built drawings shall be provided to the Engineer within **twenty eight (28) days** from the date of issue of Taking Over Certificate.
General Obligations	Sub-Clause 8.1 Date for commencing work: Commencement Date
Programme to be Furnished	Sub-Clause 12.1. The Programme must be submitted in the form of **Bar chart or Critical Path Method (CPM), the PERT network, or other internationally used programs.**
Employer's Equipment	Sub-Clause 14.4. The following Employer's equipment is available for use by the Contractor under the Employer's operation: **NIL**
Time for Completion	Sub-Clause 25.1 (i) Place of the Project: *500kV Grid Station Sheikhupura)* (ii) Period: **As mentioned in Sub-Clause 1.1.35.**
Earlier Completion	Sub-Clause 26.3 (i) Amount of Bonus per day: **Nil** (ii) Max. Amount of Bonus: **Nil**
Delay in Completion	Sub-Clause 27.1. Failure to meet the Time for Completion entitles the Employer to levy Liquidated Damages as follows: Percentage per day: **[0.25%]** Maximum: **10% of total contract price**
Prolonged Delay	Sub-Clause 27.2. Maximum amount recoverable from the Contractor by the Employer shall be calculated in accordance with GCC 42.2.
Payment	Sub-Clause 33.5 (i) Period of Payment by Employer to Contractor: **45 days** (ii) Period of Final Certificate of Payment: **60 days** (iii) Partial Payment is applicable under the Contract.
Payment in Foreign Currencies	Sub-Clause 35.1. **Payment in foreign currencies shall be arranged as follows: Payment in foreign currency will be made from foreign exchange component available with NationalGrid except to the extent of price adjustment claims under GCC 47.1 which will be paid in equivalent PKR on the date of payment to the EPC Contractor in Pakistan.** *(Not Applicable)*
Insurance of Works	Sub-Clause 43.1. The deductible limits in the insurance cover of the Works: **Nil** Sub-Clause 43.1.(a) The additional risks to be insured are: a) fire, smoke, explosion, falling objects, earthquake,

perils of the sea, tempest, impact by aircraft or land vehicles, aircraft and other aerial devices or articles dropped therefrom, lightning, strike, riot, civil commotion, escape of water, inundation, rain, snow, landslides, flood, act of God, vandalism or malicious damage, windstorm, or hail storm and

b) collision, upset, overturn, derailment, stranding or sinking of an automobile or any conveyance of a common carrier by land, water or air in which the Goods or any part thereof are being carried including overland transportation in Pakistan from port of entry/ex-factory (Pakistan) to the Site, and

c) theft, burglary or attempted theft or burglary, and

d) any loss or damage during pre-erection storage, and

e) faults in construction and erection, lack of skill, lack of experience, negligence, malicious act, and

f) any other sudden and unforeseen event such as loss or damage due to collapse etc. on site, transport of items to be erected, and

g) actions of Employer in the operation of Goods/Work or part thereof on behalf of the Contractor.

Third Party Liability

Sub-Clause 43.3.
The amount of insurance against third party liability taken out by the Contractor shall not be less than: **Rs. 800,000 per any one accident or series of accidents arising out of one occurrence with number of occurrences unlimited.**

Payment on Termination for Employer's Default

Sub-Clause 46.3.
The additional amount payable by the Employer on termination shall not exceed: **As reasonably determined and certified by the Engineer.**

Notices to Employer and Engineer

Sub-Clause 49.2.
The address of the Employer for notices is:

The Employer is **National Grid Company of Pakistan (NGC) Pakistan.**

Address: Director General (Field Operations) North
NGC, Lahore
NTDC House, Gulberg-III Lahore,
Telephone No. 92-42-99263023
E-mail address: ce.amnl@ntdc.com.pk

The Engineer is	**Director General (Field Operations) North Lahore NGC**
Address:	NTDC House, Gulberg -III Lahore

Disputes & Arbitration	Sub-Clause 50.4 Venue of Arbitration is Lahore, Pakistan.
Applicable Law	Sub-Clause 51.1. The applicable law is **the law of Islamic Republic of Pakistan**.
Procedural Law for Arbitration	Sub-Clause 51.2. The procedural law for arbitration is **Pakistan Arbitration Act 1940 as amended or any statutory modifications or re-enactment thereof for the time being in force.**
Language and Place of Arbitration	Sub-Clause 51.3. The language of arbitration is **English** language. The place of arbitration is Lahore, **Pakistan.**

[Notes on the Conditions of Contract]

The Conditions of Contract comprise two parts:

(I) General Conditions of Contract
(II) Particular Conditions of Contract

Over the years, a number of "model" General Conditions of Contract have evolved. The one used in these Standard Bidding Documents was prepared by the International Federation of Consulting Engineers (Federation Internationale des Ingenieurs-Conseils, or FIDIC), and is commonly known as the FIDIC Conditions of Contract. (The used version is the 1987 edition, reprinted in 1988 with editorial amendments.)

The FIDIC Conditions of Contract have been prepared for an ad measurement (unit price or unit rate) type of contract, and cannot be used without major modifications for other types of contract, such as lump sum, turnkey, or target cost contracts.

The standard text of the General Conditions of Contract chosen must be retained intact to facilitate its reading and interpretation by bidders and its review by the Employer. Any amendments and additions to the General Conditions, specific to the contract in hand, should be introduced in the Particular Conditions of Contract.

The use of standard conditions of contract for all electrical/mechanical Works will ensure comprehensiveness of coverage, better balance of rights or obligations between Employer and Contractor, general acceptability of its provisions, and savings in time and cost for bid preparation and review, leading to more economic prices.

The FIDIC Conditions of Contract are copyrighted and may not be copied, faxed, or reproduced. Without taking any responsibility of its being accurate, Pakistan Engineering Council with prior consent of FIDIC Secretariat, has reproduced herein the FIDIC General Conditions of Contract for reference purpose only which cannot be used by the users for preparing their bidding documents. The bidding document may include a purchased copy, the cost of which can be retrieved as part of the selling price of the bidding document. Alternatively, the FIDIC Conditions of Contract can be referred to in the bidding documents, and the bidders are advised to obtain copies directly from FIDIC.*

---

* Add the following text if the bidding documents, as issued, do not include a copy:
"Copies of the FIDIC Conditions of Contract can be obtained from:
FIDIC Secretariat
P.O. Box 86

1000 Lausanne 12
Switzerland
fidic.pub@fidic.org – FIDIC.org/bookshop]

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PART-I: GENERAL CONDITIONS OF CONTRACT

Definitions and Interpretations

1.1 Definitions

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them:

1.1.1 "Commencement Date" means whichever the latest is of:

i) the date specified in the Preamble as the date for commencement of the Works or the date when the Contractor receives,

ii) such payment in advance of the commencement of the Works as may be specified in the terms of payment, or

iii) notice of the issue of any import license necessary for commencing performance of the Contract, or

iv) notice that any legal requirements necessary for the Contract to enter into force have been fulfilled, or

v) notice that any necessary financial or administrative requirements specified in Part II as conditions precedent to commencement have been fulfilled.

1.1.2 "Conditions" means the Preamble to and these Conditions of Contract, Parts I and II.

1.1.3 "Contract" means the agreement between the Employer and the Contractor for the execution of the Works incorporating the Conditions, Specification, Employer's Drawings and Contractor's Drawings, priced and completed Schedules, Tender, Letter of Acceptance and such further documents as may be expressly incorporated by the Letter of Acceptance.

1.1.4 "Contract Agreement" means the documents recording the terms of the Contract between the Employer and the Contractor.

1.1.5 "Contract Price" means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution of the Works.

1.1.6 "Contractor" means the person whose tender has been accepted by the Employer and the legal successors in title to the Contractor but not (except with the consent of the Employer) any assignee of the Contractor.

1.1.7 "Contractor's Drawings" means all drawings, samples, patterns, models

and operation and maintenance manuals to be submitted by the Contractor in accordance with Clause 6.

1.1.8 "Contractor's Equipment" means all appliances or things of whatsoever nature required for the purposes of the Works but does not include Plant.

1.1.9 "Contractor's Risks" means the risks defined in Sub-Clause 37.3.

1.1.10 "Defects Liability Certificate" means the certificate to be issued by the Engineer to the Contractor in accordance with Sub-Clause 30.11.

1.1.11 "Defects Liability Period" means one year or the period stated in Part II following taking over, during which the Contractor is responsible for making good defects and damage in accordance with Clause 30.

1.1.12 "Employer" means the person named as such in the Preamble and the legal successors in title to the Employer but not (except with the consent of the Contractor) any assignee of the Employer.

1.1.13 "Employer's Drawings" means all the drawings and information provided by the Employer or the Engineer to the Contractor under the Contract.

1.1.14 "Employer's Risks" means those risks defined in Sub-Clause 37.2.

1.1.15 "Engineer" means the person appointed by the Employer to act as Engineer for the purposes of the Contract and designated as such in the Preamble.

1.1.16 "Engineer's Representative" means any representative of the Engineer appointed from time to time by the Engineer under Sub-Clause 2.2.

1.1.17 "Final Certificate of Payment", means the certificate to be issued by the Engineer to the Employer in accordance with Sub-Clause 33.10.

1.1.18 "Force Majeure" has the meaning assigned to it under Sub-Clause 44.1.

1.1.19 "Foreign Currency" means a currency of a country other than that in which Plant is to be installed.

1.1.20 "Gross Misconduct" means any act or omission of the Contractor in violation of the most elementary rules of diligence which a conscientious contractor in the same position and under the same circumstances would have followed.

1.1.21 "Letter of Acceptance" means the formal acceptance by the Employer of the Tender incorporating any adjustments or variations to the Tender agreed between the Employer and the Contractor.

1.1.22 "Performance Security" means the security to be provided by the Contractor in accordance with Sub-clause 10.1. for the due performance of the Contract.

1.1.23 "Plant" means machinery, apparatus, materials and all things to be provided under the Contract for incorporation in the Works.

1.1.24 "Programme" means the Programme to be submitted by the Contractor in accordance with Sub-Clause 12.1 and any approved revision thereto.

1.1.25 "Provisional Sum" means a sum, described as such for the execution of work or for the supply of goods or services, to be used in accordance with Sub-Clause 36.1.

1.1.26 "Risks Transfer Date" means the date when the risk of loss of or damage to the Works passes from the Contractor to the Employer in accordance with Sub-Clause 39.1.

1.1.27 "Schedule of Prices" means the completed and priced Schedule of Prices, or any part or individual schedule thereof, submitted by the Contractor with his Tender and forming a part of the Contract documents.

1.1.28 "Section" means a part of the Works specifically identified as such as in the Contract.

1.1.29 "Site" means the place or places, provided or made available by the Employer where work is to be done by the Contractor or to which Plant is to be delivered, together with so much of the area surrounding the same as the Contractor shall with the consent of the Employer use in connection with the Works otherwise than merely for the purposes of access.

1.1.30 "Specification" means the specification of the Works included in the Contract and any modification thereof made in accordance with Clause 31.

1.1.31 "Subcontractor" means any person (other than the Contractor) named in the Contract for any part of the Works, or any person to whom any part of the Contract has been subcontracted with the consent of the Engineer, and the Subcontractor's legal successors in title but not any assignee of the Subcontractor.

1.1.32 "Taking-Over Certificate" means the certificate to be given by the Engineer to the Contractor in accordance with Clause 29.

1.1.33 "Tender" means the Contractor's priced offer to the Employer for the Execution of the Works.

1.1.34 "Tests on Completion" means the tests specified in the Contract or otherwise agreed by the Engineer and the Contractor to be performed before the Works are taken over by the Employer.

1.1.35 "Time for Completion" means the time stated in the Preamble for completing the Works or any Section thereof and passing the Tests on Completion calculated from the Commencement Date unless extended in

accordance with Clause 26.

1.1.36 "Variation Order" means any written order, identified as such, issued to the Contractor by the Engineer under Sub-Clause 31.1.

1.1.37 "Works" means all Plant to be provided and work to be done by the Contractor under the Contract.

1.2 Headings and Titles

The headings and titles in these Conditions shall not be deemed part thereof or be taken into consideration in the interpretation or construction of the Contract.

1.3 Interpretation

Words importing persons or parties shall include firms and corporations and any organisation having legal capacity.

Words importing the singular only also include the plural and vice versa where the context requires.

1.4 Written Communications

Wherever in the contract provision is made for a communication to be "written" or "in writing" this means any hand-written, type-written or printed communication, including telex, cable and facsimile transmission.

1.5 Notices, Consents and Approvals

Wherever in the Contract provision is made for the giving of notice, consent or approval by any person, such consent or approval shall not be unreasonably withheld. Unless otherwise specified, such notice, consent or approval shall be in writing and the word "notify" shall be construed accordingly.

1.6 Costs, Overhead Charges and Profit

Whenever by these Conditions the Contractor is entitled to be paid cost, such cost shall be properly incurred and shall include any overhead charges properly allocable thereto but not profit unless so stated. Any profit entitlement shall be added to cost at the percentage stated in the Preamble.

1.7 Periods

In these Conditions "days" means calendar day and "year" means 365 days.

Engineer and Engineer's Representative

2.1 Engineer's Duties

The Engineer shall carry out the duties specified in the Contract.

If the Engineer is required, under the terms of his appointment by the Employer, to obtain the specific approval of the Employer before carrying out any of these duties, full particulars of such requirements shall be set out in Part II.

Except as expressly stated in the Contract the Engineer shall have no authority to relieve the Contractor of any of his obligations under the Contract.

2.2 Engineer's Representative

The Engineer's Representative shall be appointed by and be responsible to the Engineer and shall only carry out such duties and exercise such authority as may be delegated to him by the Engineer under Sub-Clause 2.3.

2.3 Engineer's Power to Delegate

The Engineer may from time to time delegate to the Engineer's Representative any of the duties vested in the Engineer and may at any time revoke such delegation.

Any such delegation or revocation shall be in writing and shall not take effect until a copy thereof has been delivered to the Contractor and the Employer.

Any decision, instruction or approval given by the Engineer's Representative to the Contractor in accordance with such delegation shall have the same effect as though it had been given by the Engineer. However:

(a) any failure of the Engineer's Representative to disapprove any Plant or workmanship shall not prejudice the right of the Engineer to disapprove such Plant or workmanship and to give instructions for the rectification thereof.

(b) if the Contractor questions any decision or instruction of the Engineer's Representative he may refer the matter to the Engineer who shall confirm, reverse or vary such decision or instruction.

2.4 Engineer to Act Impartially

Wherever under the Contract the Engineer is required to exercise his discretion by:

(a) giving his decision, opinion or consent, or

(b) expressing his satisfaction or approval, or

(c) determining value, or

(d) otherwise taking action which may affect the rights and obligations of the Employer or the Contractor,

he shall exercise such discretion impartially within the terms of the Contract and having regard to all the circumstances.

2.5 Engineer's Decisions and Instructions

The Contractor shall proceed with the decisions and instructions given by the Engineer in accordance with these Conditions.

2.6 Confirmation in Writing

The Contractor may require the Engineer to confirm in writing any decision or instruction of the Engineer which is not in writing. The Contractor shall notify the Engineer of such requirement without undue delay. Such a decision or instruction shall not be effective until written confirmation thereof has been received by the Contractor.

2.7 Disputing Engineer's Decisions and Instructions

If the Contractor disputes or questions any decision or instruction under Sub-Clause 2.5 or a written confirmation under Sub-Clause 2.6, he shall give notice to the Engineer within twenty eight (28) days after receipt thereof, giving his reasons.

The Engineer shall within a further period of twenty eight (28) days by notice to the Contractor and the Employer with reasons, confirm, reverse or vary such decision or instruction.

If either party disagrees with the action taken by the Engineer, or if the Engineer fails to reply to the Contractor's notice within the stipulated twenty eight (28) days, and the matter cannot be settled amicably that party shall be at liberty, subject to Sub-Clause 50.1, to refer the matter to arbitration in accordance with the Contract.

2.8 Replacement of Engineer

The Employer shall not appoint any person to act in replacement of the Engineer without the consent of the Contractor.

Assignment and Subcontracting

3.1 Assignment

The Contractor shall not assign the Contract or any part of his obligations under the Contract. A charge in favour of the Contractor's bankers of any

monies due under the Contract shall not be considered an assignment.

4.1 Subcontracting

The Contractor shall not subcontract any part of the Works.

Contract Documents

5.1 Ruling Language

Where versions of the Contract are prepared in different languages, the version which is to prevail shall be specified in the Preamble. The language of such version is referred to as the ruling language.

5.2 Day to Day Communications

The language for day to day communications is stated in the Preamble.

5.3 Priority of Contract Documents

Unless otherwise provided in the Contract, the priority of the Contract documents shall be as follows:

1. The Letter of Acceptance
2. The Preamble
3. The Conditions of Contract, Part II
4. The Conditions of Contract, Part I
5. Any other documents forming part of the Contract.

5.4 Documents Mutually Explanatory

Subject to Sub-Clause 5.3. the Contract documents shall be taken as mutually explanatory. Any ambiguities or discrepancies shall be resolved by the Engineer, who shall then instruct the Contractor thereon.

If the Contractor considers that compliance with such instructions will result in any cost which the Contractor could not reasonably have anticipated, he shall forthwith inform the Engineer with full supporting details. The Engineer shall then, if he approves, certify such costs as may be reasonable, together with profit where appropriate, which shall be added to the Contract Price.

If on the other hand compliance with such instructions results in lower costs for the Contractor then he had reason to anticipate, the Engineer shall certify a deduction from the Contract Price allowing for profit where appropriate.

6.1 Contractor's Drawings

The Contractor shall submit to the Engineer for approval:

(a) within the time given in the Contract or in the Programme such drawings, samples, models or information as may be called for therein, and in the numbers therein required, and

(b) during the progress of the Works, such drawings of the general arrangement and details of the Works as specified in the Contract or as the Engineer may require.

The Engineer shall signify his approval or disapproval thereof. If he fails to do so within the time given in the Contract or the Programme or if no time limit is specified, within twenty eight (28) days of receipt, they shall be deemed to be approved.

Approved drawings, samples and models shall be signed or otherwise identified by the Engineer.

The Contractor shall supply additional copies of approved drawings in the form and numbers stated in the Contract.

6.2 Consequences of Disapproval of Contractor's Drawings

Any Contractor's Drawings which the Engineer disapprove shall be forthwith modified to meet the requirements of the Engineer and shall be re-submitted.

6.3 Approved Contractor's Drawings

Approved Contractor's Drawings shall not be departed from except as provided in Clause 31.

6.4 Inspection of Contractor's Drawings

The Engineer shall have the right at all reasonable times to inspect, at Contractor's premises, all Contractor's Drawings of any part of the Works.

6.5 Erection Information

The Contractor shall provide, within the times stated in the Contract or in the Programme, drawings showing how the Plant is to be affixed and any other information required for:

(a) preparing suitable foundations or other means of support;

(b) providing suitable access on the Site for the Plant and any necessary equipment to the place where the Plant is to be erected; and

(c) making necessary connections to the Plant.

6.6 Operation and Maintenance Manuals

Before the Works are taken over in accordance with Clause 29 the Contractor shall supply operation and maintenance manuals together with drawings of the Works as built. These shall be in such detail as will enable the Employer to operate, maintain, adjust and repair all parts of the Works.

Unless otherwise stated in Part II the manuals and drawings shall be in the ruling language, and in such form and numbers as stated in the Contract.

Unless otherwise agreed, the Works shall not be considered to be completed for the purposes of taking over until such manuals and drawings have been supplied to the Employer.

6.7 Employer's Use of Contractor's Drawings

Contractor's Drawings may be used by the Employer for no other purpose than completing, operating, maintaining, adjusting and repairing the Works.

6.8 Contractor's Use of Employer's Drawings

The Employer's Drawings, Specification and other information submitted by the Employer or the Engineer to the Contractor shall remain the property of the Employer. These shall not, without the consent of the Employer, be used, copied or communicated to a third party by the Contractor unless necessary for the purposes of the Contract.

6.9 Manufacturing Drawings

Unless otherwise specified in Part II, the Contractor shall not be required to disclose to the Employer or the Engineer the Contractor's confidential manufacturing drawings, designs, know-how or manufacturing practices, processes or operations.

7.1 Errors in Contractor's Drawings

The Contractor shall be responsible for any errors or omissions in the Contractor's Drawings unless they are due to incorrect Employer's Drawings or other written information supplied by the Employer or the Engineer. Approval by the Engineer of the Contractor's Drawings shall not relieve the Contractor from any responsibility under this Sub-Clause.

The Contractor shall bear any costs he may incur as a result of delay in providing Contractor's Drawings and other information or as a result of errors or omissions therein, for which the Contractor is responsible.

The Contractor shall at his own cost carry out any alterations or remedial work necessitated by such errors or omissions for which he is responsible and modify the Contractor's Drawings and such other information accordingly.

The performance of his obligations under this Clause shall be in full satisfaction of the Contractor's liability under this Clause but shall not relieve him of his liability under Sub-Clause 27.1.

7.2 Errors by Employer or Engineer

The Employer shall be responsible for the Employer's Drawings and for other written information supplied by the Employer or the Engineer and for the details of special work specified by either of them. If such Employer's Drawings, information or details are incorrect and necessitate alterations of the work, the Employer shall pay the Contractor the cost of the alterations together with profit as certified by the Engineer.

Obligations of the Contractor

8.1 General Obligations

The Contractor shall, in accordance with the Contract, with due care and diligence, design, manufacture, deliver to Site, erect, test and commission the Plant and carry out the Works within the Time for Completion. The Contractor shall also provide all necessary Contractor's Equipment, superintendence, labour and, except as stated in Part II, all necessary facilities therefor.

8.2 Setting Out

The Contractor shall set out the Works in relation to original points, lines and levels of reference given by the Engineer in writing and provide all necessary instruments, appliances and labour for such purposes.

If, at any time during the execution of the Works, any error appears in the positions, levels, dimensions or alignment of the Works, the Contractor shall rectify the error.

The Contractor shall bear the cost of rectifying the error, unless the error results from incorrect information supplied in writing by the Employer, the Engineer or from default by another contractor, in which case the cost together with profit shall be borne by the Employer.

The checking of any setting-out by the Engineer shall not relieve the Contractor of his responsibility for the accuracy thereof.

9.1 Contract Agreement

The Contractor shall, if called upon so to do, execute a Contract Agreement recording all the terms of the Contract, to be prepared by and completed at the cost of the Employer in the form annexed hereto.

10.1 Performance Security

If Part II requires the Contractor to obtain a Performance Security, he shall obtain the same in the sum required, within fourteen (14) days after the receipt of the Letter of Acceptance. The Performance Security shall be provided by a person and in a form approved by the Employer. The cost of complying with the requirements of this Clause shall be borne by the Contractor.

10.2 Period of Validity

The Performance Security shall be valid until the Contractor has executed, completed and remedied defects in the Works till the expiry of Defect Liability Period, in accordance with the Contract. No claim shall be made against the Performance Security after the issue of the Defects Liability Certificate and the Performance Security shall be returned to the Contractor within fourteen (14) days of the issue of the Defects Liability Certificate.

10.3 Claims under Performance Security

Whether or not the Performance Security is stated by its terms to be payable on the demand of the Employer the Employer shall not make a claim under the Performance Security unless one of the following conditions is satisfied:

(a) the Contractor is in breach of the Contract and fails to remedy the breach within fourty two (42) days after receiving written notice from the Employer requiring him so to do. The notice shall state the intention to claim under the Performance Security, the amount claimed and the breach relied upon, or

(b) the Employer and the Contractor have agreed in writing that the amount demanded is payable to the Employer, and the amount has not been paid within fourty two (42) days thereafter, or

(c) the Employer has obtained an award in arbitration under Clause 50 and the amount awarded has not been paid within fourty two (42) days after the award, or

(d) the Contractor has gone into liquidation or is bankrupt.

In every case the Employer shall, when making the claim, send a copy to the Contractor.

11.1 Site Data

The Tender shall be deemed to have been based on such data on climatic, hydrological and general conditions on the Site and for the operation of the Works as the Employer or the Engineer has made available to the Contractor for the purposes of the Tender. The Contractor shall be responsible for his own interpretation of such data.

11.2 Sufficiency of Contract Price

The Contractor shall be deemed to have satisfied himself on and taken account of in his Tender:

(a) all the conditions and circumstances affecting the Contract Price,

(b) the possibility of carrying out the Works as described in the Contract,

(c) the general circumstances at the Site (if access has been made available to him) and

(d) the general labour position at the Site.

The Contractor shall not be responsible for the accuracy of information given in writing by the Employer or the Engineer but shall be responsible for his interpretation of information received from whatever source.

11.3 Physical Obstructions and Conditions

If during the execution of the Works on Site the Contractor encounters physical obstructions or conditions of the kind stipulated in Sub-Clause 26.1.c) the Contractor shall be entitled to recover the additional cost incurred in consequence.

The Engineer shall certify and there shall be added to the Contract Price the additional cost of:

(a) complying with any instruction which the Engineer, after due consultation with the Employer and the Contractor, issues to the Contractor in connection therewith, and

(b) any necessary measures which the Contractor may take in the absence of specific instructions from the Engineer.

12.1 Programme to be Furnished

The Contractor shall submit to the Engineer for his approval the Programme which shall contain the following:

(a) the order in which the Contractor proposes to carry out the Works (including design, manufacture, delivery to Site, erection, testing and commissioning),

(b) the times when submission and approval of the Contractor's Drawing are required,

(c) the times by which the Contractor requires the Employer:

(i) to furnish any Employer's Drawings,

(ii) to provide access to the Site,

(iii) to have completed the necessary civil engineering work (including foundations for the Plant) and

(iv) to have obtained any import licences, consents, wayleaves and approvals necessary for the purpose of the Works.

The Contractor shall submit the Programme in the form stated in the Preamble within seven (07) days after the acceptance of NoA.

The approval by the Engineer of the Programme shall not relieve the Contractor or the Employer from any obligation under the Contract.

12.2 Alteration to Programme

No material alteration to the Programme shall be made without the approval of the Engineer.

12.3 Revision of Programme

If the progress of the Works does not conform to the Programme, the Engineer may instruct the Contractor to revise the Programme.

If such modifications are required for reasons for which the Contractor is not responsible, the cost of preparing the revised Programme shall be certified by the Engineer and added to the Contract Price.

13.1 Contractor's Representative

The Contractor shall employ one or more competent representatives to superintend the carrying out of the Works on Site. They shall be fluent in the language for day to day communications. Their names shall be communicated in writing to the Engineer before work on Site begins.

Any instruction or notice which the Engineer gives to the Contractor's representative shall be deemed to have been given to the Contractor.

13.2 Objection to Contractor's Employees

The Contractor shall, upon the Engineer's written instruction, remove from the Works any person employed by him in the execution of the Works, who misconducts himself or is incompetent or negligent.

14.1 Contractor's Equipment

Except to the extent specified in Part II, the Contractor shall provide all Contractor's Equipment necessary to complete the Works.

All Contractor's Equipment shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any such equipment, except:

(a) when it is no longer required for the completion of the Works, or

(b) when the Engineer has given his consent.

14.2 Safety Precautions

The Contractor shall observe all applicable regulations regarding safety on the Site.

Unless otherwise agreed, the Contractor shall, from the commencement of work on Site until taking over provide:

(a) fencing, lighting, guarding and watching of the Works, and

(b) temporary roadways, footways, guards and fences which may be necessary for the accommodation and protection of owners and occupiers of adjacent property, the public and others.

14.3 Electricity Water and Gas

The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details are given in the Preamble. The Contractor shall pay the Employer a fair price for such use. The Contractor shall at his own cost provide any apparatus necessary for such use.

14.4 Employer's Equipment

The Employer shall, if the Contractor so requests for the execution of the Works, operate any available equipment of which details are given in the Preamble. The Contractor shall pay the Employer a fair price for such use.

The Employer shall during such operation retain control of and be responsible for the safe working of the equipment.

14.5 Clearance of Site

The Contractor shall from time to time during the progress of the Works clear away and remove all surplus materials and rubbish. On completion of the Works the Contractor shall remove all Contractor's Equipment and leave the whole of the Site and the Works clean and in a workmanlike

condition, to the satisfaction of the Engineer.

14.6 Opportunities for Other Contractors

The Contractor shall, in accordance with the Engineer's instructions, afford to other contractors engaged by the Employer to work on the Site and persons lawfully upon the Site all reasonable opportunities for carrying out their work provided that the same shall not obstruct or disturb the progress of the Works. The Contractor shall also afford such opportunities to the employees of the Employer.

If the Contractor, on the written request of the Engineer, makes available any Contractor's Equipment or provides any other service, the Employer shall pay the Contractor accordingly. The amount to be paid shall be certified by the Engineer and added to the Contract Price.

14.7 Authority for Access

No persons other than the employees of the Contractor shall be allowed on the Site except with the consent of the Engineer.

Facilities to inspect the Works shall at all times be afforded by the Contractor to the Engineer and his representative, the Employer's representatives, authorities and officials.

14.8 Information for Import Permits and Licenses

The Contractor shall submit to the Employer in good time such details of all Plant and Contractor's Equipment as will enable the Employer to obtain all necessary import permits or licenses.

15.1 Compliance with Statutes, Regulations

The Contractor shall, in all matters arising in the performance of the Contract, comply in all respects with, give all notices and pay all fees required by the provisions of any national or state statute, ordinance or other law or any regulation or bye-law of any duly constituted authority.

15.2 Compliance with Laws

The Contractor shall comply with the laws of the country of manufacture concerning the manufacture of the Plant, and the laws of the country where the Plant is to be erected so far as such laws concern the manufacture, erection and operation of the Works.

16.1 Patent Rights

The Contractor shall indemnify the Employer against all claims of infringement of any patent, registered design, copyright, trade mark or

trade name or other intellectual property right provided that all of following conditions are satisfied:

(a) The claim or proceedings arise out of the design, construction, manufacture or use of Works or any Plant supplied by the Contractor.

(b) The right was protected at the date of the Contract in the Contractor's country or the country in which the Plant is to be manufactured or erected.

(c) The infringement or allegation of infringement was not caused by any use of the Works otherwise than for purpose indicated by or reasonably to be inferred from date Specification.

(d) The infringement or allegation of infringement was not caused by the use of any Plant in association or combination with any plant not supplied by the Contractor, unless such association or combination was disclosed to the Contractor prior to the due of the Tender.

(e) The infringement of or allegation of infringement was not caused by the Contractor following the design or instructions of the Employer or the Engineer.

16.2 Claims in respect of Patent Right

The Contractor shall be promptly notified of any claim under this Clause made against the Employer. The Contractor may at his own cost conduct negotiations for the settlement of such claim, and any litigation that may arise there from.

The Employer shall not make any admission which might be prejudicial to the Contractor unless the Contractor has failed to take over the conduct of the negotiations or litigation within a reasonable time after having been so requested.

The Contractor may not, however, conduct such negotiations or litigation before he has given the Employer such reasonable security as the Employer may require. The security shall be for an amount which is an assessment of the compensation, damages, expenses and costs for which the Employer may become liable and which are the subject of the indemnity under Sub-Clause 16.1.

The Employer shall, at the request of the Contractor, provide all available assistance for the purpose of contesting any such claim or action, and shall be repaid all reasonable costs incurred in so doing.

16.3 Employer's Warranty for Patent Rights

If any matter for which the Contractor is not liable to indemnify the

Employer under Sub-Clause 16.1 causes the infringement or allegation of infringement by the Contractor of any patent, registered design, trade mark, copyright or other intellectual property right, the Employer shall indemnify the Contractor against all claims damages, expenses and costs which the Contractor may incur in relation thereto. The provisions of Sub-Clause 16.2 shall apply mutatis mutandis.

Obligations of the Employer

17.1 Access to and Possession of the Site

The Employer shall in reasonable time grant the Contractor access to and possession of the Site, which may, however, not be exclusive to the Contractor.

The Employer shall to the extent stated in the Specification provide means of access for the delivery of all Plant and Contractor's Equipment to the Site.

17.2 Assistance with Local Regulations

The Employer shall assist the Contractor in ascertaining the nature and extent of any laws, regulations, orders or bye-laws, and customs in the country where the Plant is to be erected, which may affect the Contractor in the performance of his obligations under the Contract. The Employer shall if so requested procure for the Contractor copies thereof and information relating thereto at the Contractor's cost.

17.3 Civil Works on Site

Any building, structure, foundation or means of access on the Site to be provided by the Employer shall be in a condition suitable for the reception, movement, installation and maintenance of the Works within the time or times indicated in the Programme.

17.4 Consents and Wayleaves

The Employer shall in due time obtain or grant all consents including permits-to-work, wayleaves and approvals required for the Works.

17.5 Import Permits and Licences

The Employer shall obtain all import permits or licences required for any part of the Plant or Works in reasonable time having regard to the time for delivery of the Plant and completion of the Works.

Labour

18.1 Engagement of Labour

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all labour and for their payment, housing feeding and transport.

18.2 Returns of Labour

The Contractor shall submit detailed returns showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site. The returns shall be submitted in such form and at such intervals as the Engineer may prescribe.

18.3 Working Hours

On the Site, the Contractor shall observe the normal working hours stated in the Preamble. The Employer shall allow the Contractor to carry out work on the Site continuously during such working hours subject to approval of required shutdowns.

The Engineer may after consulting the Employer and the Contractor, direct that work shall be done at other times. The extra cost, together with profit, shall be added to the Contract Price unless it has become necessary for the completion of the Works within the Time for Completion, and this is due to the default of the Contractor.

18.4 Restriction on Working Hours

No work shall be carried out on the Site outside normal working hours or on the locally recognised days of rest, unless:

(a) the Contract so provides, or

(b) the work is unavoidable or necessary for the saving of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer, or

(c) the Engineer gives his consent.

Workmanship and Materials

19.1 Manner of Execution

All Plant to be supplied shall be manufactured and all work to be done shall be executed in the manner set out in the Contract.

Where the manner of manufacture and execution is not set out in the Contract, the work shall be executed in a proper and workmanlike manner in accordance with recognised good practice.

19.2 Covering up Work

The Contractor shall give the Engineer full opportunity to examine, measure and test any work on Site which is about to be covered up or put out of view.

The Contractor shall give due notice to the Engineer whenever such work is ready for examination, measurement or testing.

The Engineer shall then, unless he notifies the Contractor that he considers it unnecessary, without unreasonable delay carry out the examination, measurement or testing.

19.3 Uncovering Work

If so instructed by the Engineer, the Contractor shall expose any parts of the Works. The Contractor shall reinstate and make good such parts to the Engineer's satisfaction.

If any parts of the Works have been covered up or put out of view by the Contractor after complying with Sub-Clause 19.2 and are found to be in accordance with the Contract the cost incurred by the Contractor in complying with the Engineer's instructions including profit shall be certified by the Engineer and added to the Contract Price.

20.1 Independent Inspection

The Engineer may, if so provided in the Contract or with the Contractor's consent, delegate inspection and testing of Plant to an independent inspector. Any such delegation shall be effected in the manner required by Sub-Clause 2.3 and for this purpose such independent inspector shall be considered as an Engineer's Representative. Notice of such appointment (being not less than 14 days) shall be given by the Engineer to the Contractor.

20.2 Inspection and Testing During Manufacture

The Engineer shall be entitled during manufacture to inspect, examine and test the materials and workmanship and check the progress of manufacture of all Plant to be supplied under the Contract. This shall take place on the Contractor's premises during working hours. If Plant is being manufactured on other premises, the Contractor shall obtain permission for the Engineer to carry out such inspection, examination and testing on those premises.

No such inspection, examination or testing shall release the Contractor from any obligation under the Contract.

20.3 Dates for Inspection and Testing

The Contractor shall agree with the Engineer the time and place for the testing of any Plant as provided in the Contract. The Engineer shall give the Contractor 24 hours notice of his intention to attend the tests.

If the Engineer does not attend on the date agreed, the Contractor may, unless the Engineer instructs the Contractor not to do so, proceed with the tests, which shall be deemed to have been made in the Engineer's presence.

The Contractor shall forthwith forward to the Engineer duly certified copies of the test results. If the Engineer has not attended the test, he shall accept the validity of the test readings.

20.4 Facilities for Testing

Where the Contract provides for tests on the premises of the Contractor or of any Sub-Contractor, the Contractor shall provide such assistance, labour materials, electricity, fuel, stores, apparatus and instruments as may be necessary to carry out the test efficiently.

20.5 Certificate of Testing

When Plant has passed the tests referred to in this Clause, the Engineer shall furnish to the Contractor a certificate or endorse the Contractor's test certificate to that effect.

21.1 Rejection

If, as a result of the inspection, examination or testing referred to in Clause 20, the Engineer decides that any Plant is defective or otherwise not in accordance with the Contract, he may reject such Plant and shall notify the Contractor thereof immediately. The notice shall state the Engineer's objections with reasons. The Engineer shall not reject any Plant for minor defects which do not affect the commercial operation of such Plant.

The Contractor shall then with all speed make good the defect or ensure that any rejected Plant complies with the Contract.

If the Engineer requires such Plant to be retested, the tests shall be repeated under the same terms and conditions. All costs incurred by the Employer by the repetition of the tests shall be deducted form the Contract Price.

22.1 Permission to Deliver

The Contractor shall apply in writing to the Engineer for permission to deliver any Plant or Contractor's equipment to the Site. No Plant or Contractor's Equipment may be delivered to the Site without the Engineer's written permission.

The Contractor shall be responsible for the reception on Site of the Plant and

Contractor's Equipment.

Suspension of Works, Delivery or Erection

23.1 Order to Suspend

The Engineer may at any time instruct the Contractor to:

(a) suspend progress of the Works, or

(b) suspend delivery of Plant or Contractor's Equipment which is ready for delivery to the Site at the time for delivery specified in the Programme, or if no time is specified, at the time appropriate for it to be delivered, or

(c) suspend the erection of Plant which has been delivered to the Site.

When the Contractor is prevented from delivering or erecting Plant in accordance with the Programme the Engineer shall be deemed to have instructed a suspension except when such prevention is caused by the Contractor's default.

The Contractor shall during suspension protect and secure the Works or Plant affected at the Contractor's works or elsewhere or at the Site, as the case may be, against any deterioration, loss or damage.

24.1 Cost of Suspension

The additional cost incurred by the Contractor in protection, securing and insuring the Works or Plant and in following the Engineer's instructions under Sub-Clause 23.1 and in resumption of the work, shall be added to the Contract Price.

The Contractor shall not be entitled to be paid any additional costs if such suspension is necessary by reason of a default on the part of the Contractor.

The Contractor shall not be entitled to additional costs unless he notifies the Engineer of his intention to make such claim, within twenty eight (28) days after receipt of the order to suspend progress or delivery or of the date of deemed suspension under Sub-Clause 23.1.

24.2 Payment in Event of Suspension

The Contractor shall be entitled to payment for Plant which has not been delivered to Site if the work on Plant or delivery of Plant has been suspended for more than twenty eight (28) days. After twenty eight (28) days of suspension, the Contractor shall be entitled to payment of the value of such Plant as at the date of suspension.

A certificate of payment shall be issued on condition that:

(a) the Contractor has marked the Plant as the Employer's property in accordance with the Engineer's instructions, and

(b) the suspension is not due to the Contractor's default.

24.3 Prolonged Suspension

If suspension under Sub-Clause 23.1. has continued for more than eighty four (84) days, and the suspension is not due to the Contractor's default, the Contractor may by notice to the Engineer require permission to proceed within twenty eight (28) days.

If permission is not granted within that time, the Contractor may treat the suspension as an omission under Clause 31 of the Section it affects, or if the suspension affects the whole of the Works, terminate the Contract and the provisions of Clause 46 shall apply.

24.4 Resumption of Work

If the Contractor chooses not to treat prolonged suspension as an omission or termination under Sub-Clause 24.3, the Employer shall upon the request of the Contractor, take over the responsibility for protection, storage, security and insurance of the suspended Works and the risk of loss or damage thereto shall thereupon pass to the Employer.

After receipt of permission or an order to proceed, the Contractor, shall after due notice to the Engineer, examine the Works and the Plant affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant that may have occurred during the suspension. Cost properly incurred by the Contractor which would not have been incurred but for the suspension shall be added to the Contract Price together with profit.

The Contractor shall not be entitled to payment for costs incurred in making good any deterioration, defect or loss caused by faulty workmanship or materials or by the Contractor's failure to take the measures specified in Sub-Clause 23.1.

If the Employer has taken over risk and responsibility for the suspended Works under this Sub-Clause, risk and responsibility shall revert to the Contractor fourteen (14) days after receipt of the permission or order to proceed.

Completion

25.1 Time for Completion

The Works shall be completed and shall have passed the Tests on Completion within the Time for Completion

26.1 Extension of Time for Completion

The Contractor may claim an extension of the Time for Completion if he is or will be delayed in completing the Works by any of the following causes:

(a) extra or additional work ordered in writing under Clause 31,

(b) exceptional adverse weather conditions,

(c) physical obstructions or conditions which could not reasonably have been foreseen by the Contractor,

(d) Employer's or Engineer's instructions, otherwise than by reason of the Contractor's default,

(e) the failure of the Employer to fulfil any of his obligations under the Contract,

(f) delay by any other contractor engaged by the Employer,

(g) any suspension of the Works under Clause 23, except when due to the Contractor's default,

(h) any industrial dispute,

(i) the Employer's Risks, or

(j) Force Majeure.

The Contractor shall give to the Engineer notice of his intention to make a claim for an extension of time within fourteen (14) days of the circumstances for such a claim becoming known to the Contractor. The notice shall be followed as soon as possible by the claim with full supporting details.

The Engineer shall, after due consultation with the Employer and the Contractor, grant the Contractor from time to time, either prospectively or retrospectively, such extension of Time for Completions as may be justified. The Engineer shall notify the Employer and the Contractor accordingly.

The Contractor shall be entitled to such extension whether the delay occurs before or after the Time for Completion.

26.2 Delays by Subcontractors

The Contractor shall be entitled to claim an extension of time if delay on the part of a Subcontractor is due to a cause mentioned in Clause 26.1 and such delay prevents the Contractor from meeting the Time for Completion.

26.3 Earlier Completion

The Employer may require completion of the Works or part thereof earlier than the Time for Completion, on the following conditions:

(a) The Employer and the Contractor shall first agree the extra sum to be paid for each day by which the Contractor completes the Works or part thereof earlier than the Time for Completion.

(b) The Contractor shall not become liable under Sub-Clause 27.1 for any failure to complete the Works or the part thereof by the earlier time.

27.1 Delay in Completion

If the Contractor fails to complete the Works within the Time for Completion, the Employer shall be entitled to a reduction in the Contract Price unless it can be reasonably concluded from circumstance that the Employer will suffer no loss.

The Employer shall within a reasonable time give the Contractor notice of his intention to claim a reduction.

The reduction shall be the percentage per day stated in the Preamble of that part of the Contract Price which is attributable to such part of the Works as cannot in consequence of the failure be put to the intended use. The reduction shall be computed for each day between the Time for Completion and the actual date of completion.

The reduction shall in no case exceed the maximum percentage of the Contract Price of such part stated in the Preamble.

Except as provided in Sub-Clause 27.2, such reduction shall be to the exclusion of any other remedy of the Employer in respect of the Contractor's failure to complete within the Time for Completion.

27.2 Prolonged Delay

If the Employer has become entitled to the maximum reduction under Sub-Clause 27.1 for any part of the Works, he may by notice require the Contractor to complete. Such notice shall fix a final time for completion which shall be reasonable.

If the Contractor fails to complete within such time, and this is not due to a cause for which the Employer or some other contractor employed by him is responsible, the Employer may by further notice to the Contractor either:

(a) require the Contractor to complete, or

(b) may himself complete at the Contractor's cost provided that he does

so in a reasonable manner, or

(c) terminate the Contract.

If the Employer terminates the Contract, he shall be entitled to recover from the Contractor any loss he has suffered up to the maximum amount stated in the Preamble. If no maximum amount is stated, the Employer shall not be entitled to recover more than that part of the Contract Price which is attributable to that part of the Works which cannot by reason of the Contractor's failure be put to the intended use.

The Employer shall give credit for the value of any part of the Works which he retains.

Tests on Completion

28.1 Notice of Tests

The Employer shall give to the Engineer twenty one (21) day's notice of the date after which he will be ready to make the Tests on Completion (the Tests). Unless otherwise agreed, the Tests shall take place within fourteen (14) days after the said date on such day or days as the Engineer shall notify the Contractor.

28.2 Time for Tests

If the Engineer fails to appoint a time after having been asked to do so, or does not attend at the time and place appointed, the Contractor shall be entitled to proceed with the Test in his absence. The Tests shall then be deemed to have been made in the presence of the Engineer and the results of the Tests shall be accepted as accurate.

28.3 Delayed Tests

If the Tests are being unduly delayed by the Contractor the Engineer may by notice require the Contractor to make the Tests within twenty one (21) days after the receipt of such notice. The Contractor shall make the Tests on such days within that period as the Contractor may fix and of which he shall give notice to the Engineer.

If the Contractor fails to make the Tests within twenty one (21) days the Engineer may himself proceed with the Tests. All Tests so made by the Engineer shall be at the risk and cost of the Contractor and the cost thereof shall be deducted from the Contract Price. The tests shall then be deemed to have been made in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

28.4 Facilities for Tests on Completion

Except where otherwise specified, the Employer shall provide free of charge such labour, materials, electricity, fuel, water, stores, apparatus and feedstock as may be reasonably required by the Contractor to carry out the Tests.

28.5 Retesting

If the Works or any Section fails to pass the Tests, the Engineer or the Contractor may require such Tests to be repeated on the same terms and conditions. All costs to which the Employer may be put by the repetition of the Tests under this Sub-Clause or under Sub-Clause 30.7 shall be deducted from the Contract Price.

28.6 Disagreement as to Result of Tests

If the Engineer and the Contractor disagree on the interpretation of the Test results, each shall give a statement of his views to the other within fourteen (14) days after such disagreement arises. The statement shall be accompanied by all relevant evidence.

28.7 Consequences of Failure to Pass Tests on Completion

If the Works or any Section fails to pass the Tests on the repetition thereof under Sub-Clause 28.5, the Engineer, after due consultation with the Employer and the Contractor, shall be entitled to:

(a) order one further repetition of the Tests under the conditions of Sub-Clause 28.5, or

(b) reject the Works or Section in which event the Employer shall have the same remedies against the Contractor as are provided under Sub-Clause 30.5 (c), or

(c) issue a Taking-Over Certificate, if the Employer so wishes, notwithstanding that the Works are not complete. The Contract Price shall then be reduced by such amount as may be agreed by the Employer and the Contractor or, failing agreement, as may be determined by arbitration.

28.8 Use by the Employer

In considering the results of Tests carried out under Sub-Clauses 29.3, 29.4 and 30.7, the Engineer shall make allowances for the effect of any use of the Works by the Employer on the Certificate to the performance or other characteristics of the Works.

28.9 Test Certificate

As soon as the Works or any Section thereof has passed the Tests, the Engineer shall issue a Certificate to the Contractor and the Employer to that effect.

Taking Over

29.1 Taking Over

The Works shall be taken over by the Employer when they have been completed in accordance with the Contract, except in minor respects that do not affect the use of the Works for their intended purpose, have passed the Tests on Completion and a Taking-Over Certificate has been issued or deemed to have been issued in accordance with Sub-Clause 29.2.

29.2 Taking-Over Certificate

The Contractor may apply by notice to the Engineer for a Taking-Over Certificate not earlier than fourteen (14) days before the Works will in the Contractor's opinion be complete and ready for taking over under Sub-Clause 29.1.

The Engineer shall within twenty eight (28) days after the receipt of the Contractor's application either:

(a) issue the Taking-Over Certificate to the Contractor with a copy to the Employer stating the date on which the Works were complete and ready for taking over, or

(b) reject the application giving his reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued.

If the Engineer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of twenty eight (28) days he shall be deemed to have issued the Taking-Over Certificate on the last day of that period.

If the Works are divided by the Contract into Sections the Contractor shall be entitled to apply for separate Taking-Over Certificate for each such Section

29.3 Use before Taking Over

The Employer shall not use any part of the Works unless a Taking-Over Certificate has been issued in respect thereof.

If nevertheless the Employer uses any part of the Works, that part which is used shall be deemed to have been taken over at the date of such use. The Engineer shall on request of the Contractor issue a Taking-Over Certificate accordingly. If the Employer uses any part of the Works before taking over the Contractor shall be given the earliest opportunity of taking such steps as may be necessary to carry out the Tests on Completion.

The provisions of Sub-Clause 27.1 shall not apply to any part of the Works while being so used by the Employer. Clause 30 shall apply as if the part had been taken over on the date it was taken into use.

29.4 Interference With Tests on Completion

If the Contractor is prevented from carrying out the Tests on Completion by a cause for which the Employer or the Engineer or other contractors employed by the Employer are responsible, the Employer shall be deemed to have taken over the Works on the date when the Tests on Completion would have been completed but for such prevention. The Engineer shall issue a Taking-Over Certificate accordingly.

The Works shall not be deemed to have been taken over if they are not substantially in accordance with the Contract.

If the Works are taken over under this Clause the Contractor shall nevertheless carry out the Tests on Completion during the Defects Liability Period. The Engineer shall require the Tests on Completion to be carried out by fourteen (14) days notice and in accordance with the relevant provisions of Clause 28.

Any additional costs to which the Contractor may be put in making the Tests on Completion during the Defects Liability Period, shall be added to the Contract Price.

Defects after Taking Over

30.1 Defects Liability Period

Where any part of the Works is taken over separately from the Works the Defects Liability Period for that part shall commence on the date it was taken over.

30.2 Making Good Defects

The Contractor shall, subject to Sub-Clause 30.9, be responsible of making good any defect in or damage to any part of the Works which may appear or occur during the Defects Liability Period and which arises from, either:

(a) any defective materials, workmanship or design, or

(b) any act or omission of the Contractor during the Defects Liability Period.

The Contractor shall make good the Defects or damage as soon as practicable and at his own cost.

30.3 Notice of Defects

If any such defect appears or damage occurs, the Employer or the Engineer shall forthwith notify the Contractor thereof.

30.4 Extension of Defects Liability Period

The provision of this Clause shall apply to all replacements or renewals carried out by the Contractor as if the replacements and renewals had been taken over on the date they were completed.

The Defects Liability Period for the Works shall be extended by a period equal to the period during which the Works cannot be used by reason of a defect or damage. If only part of the Works cannot be used by reason of a defect, the Defect Liability Period shall be extended only for that part.

In neither case shall the Defects Liability Period be extended by more than one year.

When erection or delivery of Plant has been suspended under Sub-Clause 23.1, the Contractor's obligations under this Clause shall not apply to any defects occurring more than three years after it would have been delivered but for the suspension or such period as may be stated in Part II.

30.5 Failure to Remedy Defects

If the Contractor fails to remedy a defect or damage within a reasonable time, the Employer may fix a final time for remedying the defect or damage.

If the Contractor fails to do so, the Employer may:

(a) carry out the work himself or by others at the Contractor's risk and cost, provided that he does so in a reasonable manner. The costs properly incurred by the Employer in remedying the defect or damage shall be deducted from the Contract Price, but the Contractor shall have no responsibility for such work, or

(b) require the Contractor to grant the Employer a reasonable reduction in the Contract Price to be agreed or fixed by arbitration under Clause 50, or

(c) if the defect or damage is such that the Employer has been deprived of substantially the whole of the benefit of the Works or a part thereof, he may terminate the Contract in respect of such parts of the Works as cannot be put to the intended use. The Employer shall to the exclusion of any remedy under Clause 45 be entitled to recover all sums paid in respect of such parts of the Works together with the cost of dismantling the same, clearing the Site and returning Plant to the Contractor or otherwise disposing of it in accordance with the Contractor's instructions.

30.6 Removal of Defective Work

If the defect of damage is such that repairs cannot be expeditiously carried out on the Site, the Contractor may with the consent of the Engineer or the Employer remove from the Site for the purposes of repair any part of the Works which is defective or damaged.

30.7 Further Tests on Completion

If the replacements or renewals are such that they may affect the performance of the Works the Employer may request that Tests on Completion be repeated to the extent necessary. The request shall be made by notice within twenty eight (28) days after the replacement or renewal. The Tests shall be carried out in accordance with Clause 28.

30.8 Right of Access

Until the Final Certificate of Payment has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the working and performance of the Works.

Such right of access shall be during the Employer's normal working hours at the Contractor's risk and cost. Access shall also be granted to any duly authorized representative of the Contractor whose name has been communicated in writing to the Engineer.

Subject to the Engineer's approval, the Contractor may also at his own risk and cost make any tests which he considers desirable.

30.9 Defects in Employer's and Engineer's Designs

The Contractor shall not be liable for any defects resulting from designs furnished or specified by the Employer or the Engineer.

30.10 Contractor to Search

The Contractor shall, if required by the Engineer in writing, search for the cause of any defect, under the direction of the Engineer. Unless the defect is one for which the Contractor is liable under this Clause, the cost of the work

carried out by the Contractor in searching for the cause of the defect shall be added to the Contract Price.

30.11 Defects Liability Certificate

When the Defects Liability Period for the Works or any part thereof has expired and the Contractor has fulfilled all his obligations under the Contract for defects in the Works or that part, the Engineer shall issue within twenty eight (28) days to the Employer and the Contractor a Defects Liability Certificate to that effect.

30.12 Exclusive Remedies

Except in the case of Gross Misconduct, the Employer's remedies under this Clause shall be in place of and to the exclusion of any other remedy in relation to defects whatsoever.

Variations

31.1 Engineer's Right to Vary

The Engineer may by Variation Order to the Contractor at any time before the Works are taken over, instruct the Contractor to alter, amend, omit, add to or otherwise vary any part of the Works.

The Contractor shall not vary or alter any of the Works, except in accordance with a Variation Order from the Engineer. The Contractor may, however, at any time propose variations of the Works to the Engineer.

31.2 Variation Order Procedure

Prior to any Variation Order under Sub-Clause 31.1 the Engineer shall notify the Contractor of the nature and form of such variation.

As soon as possible after having received such notice, the Contractor shall submit to the Engineer:

(a) a description of work, if any, to be performed and a programme for its execution, and

(b) the Contractor's proposals for any necessary modifications to the Programme according to Sub-Clause 26.1 ro to any of the Contractor’s obligations under the Contract, and

(c) the Contractor's proposals for adjustment to the Contract Price.

Following the receipt of the Contractor's submission the Engineer shall, after due consultation with the Employer and the Contractor, decide as soon as possible whether or not the variation shall be carried out.

If the Engineer decides that the variation shall be carried out, he shall issue a Variation Order clearly identified as such in accordance with the Contractor's submission or as modified by agreement. If the Engineer and the Contractor are unable to agree the adjustment of the Contract Price, the provisions of Sub-Clause 31.3 shall apply.

31.3 Disagreement on Adjustment of the Contract Price

If the Contractor and the Engineer are unable to agree on the adjustment of the Contract Price, the adjustment shall be determined in accordance with the rates specified in the Schedule of Prices.

If the rates contained in the Schedule of Price are not directly applicable to the specific work in question, suitable rates shall be established by the Engineer reflecting the level of pricing in the Schedule of Prices.

Where rates are not contained in the said Schedule, the amount shall be such as is in all the circumstances reasonable. Due account shall be taken of any over-or under-recovery of overheads by the Contractor in consequence of the variation.

The Contractor shall also be entitled to be paid:

(a) the cost of any partial execution of the Works rendered useless by any such variation,

(b) the cost of making necessary alterations to Plant already manufactured or in the course of manufacture or of any work done that has to be altered in consequence of such a variation,

(c) any additional costs incurred by the Contractor by the disruption of the progress of the Works as detailed in the Programme, and

(d) the net effect of the Contractor's finance costs, including interest, caused by the variation.

The Engineer shall on this basis determine the rates or prices to enable on-account payment to be included in certificates of payment.

31.4 Contractor to Proceed

On receipt of a Variation Order, the Contractor shall forthwith proceed to carry out the variation and be bound to these Conditions in so doing as if such variation was stated in the Contract.

The work shall not be delayed pending the granting of an extension of the Time for Completion or an adjustment to the Contract Price under Sub-Clause 31.3.

31.5 Records of Costs

In any case where the Contractor is instructed to proceed with variation prior to the determination of the adjustment to the Contract Price in respect thereof the Contractor shall keep records of the cost of undertaking the variation and of time expended thereon. Such records shall be open to inspection by the Engineer at all reasonable times.

Ownership of Plant

32.1 Ownership of Plant

Plant to be supplied pursuant to the Contract shall become the property of the Employer at whichever is the earlier of the following times:

(a) when Plant is delivered to Site, or

(b) when by virtue of Sub-Clause 24.2 the Contractor becomes entitled to payment of the value of the Plant.

Certificates and Payment

33.1 Terms of Payment

The terms of payment shall be as stated in the Preamble.

33.2 Method of Application

Unless otherwise specified in Part II applications by the Contractor for payment shall be made to the Engineer as follows:

(a) in respect of the progress of the Works accompanied by such evidence of the value of the work done as the Engineer may require, and

(b) in respect of Plant shipped and en route to the Site identifying the Plant concerned and accompanied by such evidence of shipment and of payment of freight and insurance and by such other documents as the Engineer may require, and

(c) for additional payment in accordance with Clause 34.

Any other application for payment shall state the amounts claimed and the detailed particulars in respect of which the application is made.

33.3 Issue of Certificate of Payment

Within fourteen (14) days after receiving an application for payment which the Contractor was entitled to make the Engineer shall issue a Certificate of

Payment to the Employer showing the amount due, with a copy to the Contractor.

A certificate of payment, other than the Final Certificate of Payment, shall not be withheld on account of:

(a) defects of a minor character which are not such as to affect the use of the Works, or

(b) any part of the payment applied for being disputed. In such case a certificate of payment for the undisputed amount shall be issued.

33.4 Corrections to Certificates of Payment

The Engineer may in any certificate of payment make any correction or modification that should properly be made in respect of any previous certificate.

33.5 Payment

Unless otherwise specified in Part II, the Employer shall pay the amount certified within twenty eight (28) days from the date of issue of each certificate of payment to the Contractor at his principal place of business.

33.6 Delayed Payment

If payment of any sum payable under Sub-Clause 33.5 is delayed, the Contractor shall be entitled to receive interest on the amount unpaid during the period of delay. Unless otherwise stated in Part II the interest shall be at the annual rate three percentage points above the discount rate of the central bank in the Contractor's country. The Contractor shall be entitled to such payment without formal notice and without prejudice to any other right or remedy.

33.7 Remedies on Failure to Certify or Make Payment

The Contractor shall be entitled to stop the Works by giving fourteen (14) days notice to the Engineer and the Employer, if either:

(a) the Engineer fails to issue a certificate of payment upon proper application by the Contractor, or

(b) the Employer fails to make any payment as provided in this Clause.

The cost to the Contractor together with profit occasioned by the stoppage and the subsequent resumption of work, shall be added to the Contract Price.

The Contractor shall also be entitled to terminate the Contract by giving

twenty eight (28) days notice to the Engineer and the Employer in any case where the Engineer has failed to issue a certificate of payment upon proper application by the Contractor.

33.8 Payment by Measurement

For any part of the Works which is to be paid according to quantity supplied or work done, the provisions for measurement shall be stated in Part II.

33.9 Application for Final Certificate of Payment

The Contractor shall make application to the Engineer for the Final Certificate of Payment within twenty eight (28) days after the issue of the Defect Liability Certificate, or if more than one, the last Defect Liability Certificate.

The application for the Final Certificate of Payment shall be accompanied by a final account prepared by the Contractor. The final account shall give full details of the value of all Plant supplied and work done under the Contract together with:

(a) such additions to or deductions from the Contract Price as have been agreed, and

(b) all claims for additional payment to which the Contractor may consider himself entitled.

33.10 Issue of Final Certificate of Payment

The Engineer shall issue to the Employer with a copy to the Contractor, the Final Certificate of Payment within 28 days after receiving an application in accordance with Sub-Clause 33.9.

If the Contractor has not applied for a Final Certificate of Payment within the time specified in Sub-Clause 33.9 the Engineer shall request the Contractor to do so within a further period of 28 days. If the Contractor fails to make such an application, the Engineer shall issue the Final Certificate of Payment for such amount as he deems correct.

33.11 Final Certificate of Payment Conclusive

A Final Certificate of Payment shall be conclusive evidence of the value of the Works, that the Works are in accordance with the Contract and that the Contractor has performed all his obligations under the Contract.

Payment of the amount certified in the Final Certificate of Payment shall be conclusive evidence that the Employer has performed all his obligations under the Contract.

A Final Certificate of Payment or payment shall not be conclusive:

(a) to the extent that fraud or dishonesty relates to or affects any matter dealt with in the certificate, or

(b) if any arbitration or court proceedings under the Contract have been commenced by either party before the expiry of 84 days after the issue of the Final Certificate of Payment.

Claims

34.1 Procedure

In any case where under these Conditions there are circumstances which the Contractor considers entitle him to claim additional payment, the Contractor shall:

(a) if he intends to make any claim for additional payment give to the Engineer notice of his intention to make such claim within twenty eight (28) days after the said circumstances became known to the Contractor stating the reasons for his claim, and

(b) as soon as reasonably practical after the date of such notice submit to the Engineer full and detailed particulars of his claim but not later than one hundred and eighty two (182) days after such notice unless otherwise agreed by the Engineer. In any event such particulars shall be submitted no later than the application for the Final Certificate of Payment. The Contractor shall thereafter promptly submit such further particulars as the Engineer may reasonably require to assess the validity of the claim.

34.2 Assessment

When the Engineer has received full and detailed particulars of the Contractor's claim in accordance with Sub-Clause 34.1 and such further particulars as he may reasonably have required he shall after due consultation with the Employer and the Contractor determine whether the Contractor is entitled to additional payment and notify the parties accordingly.

The Engineer may reject any claim for additional payment which does not comply with the requirements of Sub-Clause 34.1.

Foreign Currency and Rates of Exchange *(Not Applicable)*

35.1 Payment in Foreign Currencies

Arrangements for payment in foreign currencies shall be as stated in the Preamble.

35.2 Currency Restrictions

The Employer shall reimburse the Contractor for any loss arising from:

(a) currency restrictions, and

(b) restrictions on the transfer of currency in which the Contractor is to be paid which are imposed by the government or authorized agency of the government of the country from which any payments under the Contract are to be made.

This Sub-Clause only applies to restrictions imposed after the date 28 days prior to the latest date for submission of tenders for the Works.

35.3 Rates of Exchange

Where the Contract provides for payment in Foreign Currency the rates of exchange between the currencies shall be fixed for the purpose of the Contract and shall be as stated in the Preamble.

If such rates of exchange are not stated in the Preamble the rates to be used shall be those quoted by the central bank of the country whose currency is to be sold 28 days or the nearest day thereto prior to the latest date for submission of tenders for the Works.

Provisional Sums

36.1 Use of Provisional Sums

A Provisional Sum shall only be used, in whole or in part in accordance with the Engineer's instructions.

The total sum paid to the Contractor shall include only such amounts in respect of work, supplies or services to which such Provisional Sums relate as the Engineer shall have instructed.

36.2 Ordering Work against Provisional Sums

In respect of every Provisional Sum the Engineer may after due consultation with the Employer and the Contractor order:

(a) work to be executed, including goods, materials or services to be supplied by the Contractor. The value of such work executed, determined in accordance with Clause 31, shall be paid to the Contractor in accordance with Clause 33, and

(b) goods and materials to be purchased by the Contractor, for which

payment will be made in accordance with Sub-Clause 36.4.

36.3 Invoices and Receipts

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in connection with expenditure in respect of Provisional Sums.

36.4 Payment against Provisional Sums

For all work executed or goods, materials or services supplied or purchased by the Contractor under Sub-Clause 36.2(b), there shall be included in the sums paid to the Contractor:

(a) the actual price paid or due to be paid by the Contractor, and

(b) in respect of all other charges and profit, a percentage of the actual price paid or due to be paid. Such percentage shall be as stated in the Preamble.

Risk and Responsibility

37.1 Allocation of Risk and Responsibility

The Risks of loss of or damage to physical property and of death and personal injury which arise in consequence of the performance of the Contract shall be allocated between the Employer and the Contractor as follows:

(a) the Employer: the Employer's Risks as specified in Sub-Clause 37.2

(b) the Contractor: the Contractor's Risks as specified in Sub-Clause 37.3.

37.2 Employer's Risks

The Employer's Risks are:

(a) war and hostilities (whether war be declared or not), invasion, act of foreign enemies,

(b) rebellion, revolution, insurrection, military or usurped power or civil war insofar as it relates to the country in which the Works are located or countries through which plant must be transported,

(c) ionising radiation or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosives or other hazardous properties of any explosive nuclear assembly or nuclear components thereof,

(d) pressure waves caused by aircraft travelling at sonic or supersonic speed,

(e) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors,

(f) use or occupation of the Works or any part thereof by the Employer,

(g) fault, error, defect or omission in the design of any part of the Works by the Engineer, Employer or those for whom the Employer is responsible,

(h) the use or occupation of the Site by the Works or any part thereof, or for the purposes of the Contract; or interference, whether temporary or permanent with any right of way, light, air or water or with any easement, wayleaves or right of a similar nature which is the inevitable result of the construction of the Works in accordance with the Contract,

(i) the right of the Employer to construct the Works or any part thereof on, over, under, in or through any land,

(j) damage (other than that resulting from the Contractor's method of construction) which is the inevitable result of the construction of the Works in accordance with the Contract,

(k) the act, neglect or omission or breach of contract or of statutory duty of the Engineer, the Employer or other contractors engaged by the Employer or of their respective employees or agents,

and all risks which an experienced contractor could not have foreseen or, if foreseeable, against which measures to prevent loss, damage or injury from occurring could not reasonably have been taken by such contractor.

37.3 Contractor's Risks

The Contractor's Risks are all risks other than those identified as the Employer's Risks.

Care of the Works and Passing of Risk

38.1 Contractor's Responsibility for the Care of the Works

The Contractor shall be responsible for the care of the Works or any Section thereof from the Commencement until the Risk Transfer Date applicable thereto under Sub-Clause 38.2.

The Contractor shall also be responsible for the care of any part of the Works upon which any outstanding work is being performed by the Contractor

during the Defects Liability Period until completion of such outstanding work.

38.2 Risk Transfer Date

The Risk Transfer Date in relation to the Works or a Section thereof is the earliest of either:

(a) the date of issue of the Taking-Over Certificate, or

(b) the date when the Engineer is deemed to have issued the Taking Certificate or the Works are deemed to have been taken over in accordance with Clause 29, or

(c) the date of expiry of the notice of termination when the Contract is terminated by the Employer or the Contractor in accordance with these Conditions.

39.1 Passing of Risk of Loss of or Damage to the Works

The risk of loss of or damage to the Works or any Section thereof shall pass from the Contractor to the Employer on the Risk Transfer Date applicable thereto.

39.2 Loss or Damage Before Risk Transfer Date

Loss of or damage to the Works or any Section thereof occurring before the Risk Transfer Date shall:

(a) to the extent caused by any of the Contractor's Risks, be made good forthwith by the Contractor at his own cost, and

(b) to the extent caused by any of the Employer's Risks, be made good by the Contractor at the Employer's expense if so required by the Engineer within twenty eight (28) days after the occurrence of the loss or damage. The price for making good such loss and damage shall be in all circumstances reasonable and shall be agreed by the Employer and the Contractor, or in the absence of agreement, shall be fixed by arbitration under Clause 50.

39.3 Loss or Damage After Risk Transfer Date

After the Risk Transfer Date, the Contractor's liability in respect of loss of or damage to any part of the Works shall, except in the case of Gross Misconduct, be limited:

(a) to the fulfillment of the Contractor's obligations under Clause 30 in

respect of defects therein, and

(b) to making good forthwith loss or damage caused by the Contractor during the Defects Liability Period.

Damage to Property and Injury to Persons

40.1 Contractor's Liability

Except as provided under Sub-Clause 41.1, the Contractor shall be liable for and shall indemnify the Employer against all losses, expenses and claims in respect of any loss of or damage to physical property (other than the Works), death or personal injury occurring before the issue of the last Defects Liability Certificate to the extent caused by:

(a) defective design, material or workmanship of the Contractor, or

(b) negligence or breach of statutory duty of the Contractor, or their respective employees and agents.

40.2 Employer's Liability

The Employer shall be liable for and shall indemnify the Contractor against all losses, expenses or claims in respect of loss of or damage to any physical property or of death or personal injury whenever occurring, to the extent caused by any of the Employer's Risks.

41.1 Accidents

The Contractor shall be liable for and shall indemnify the Employer against all losses, expenses or claims arising in connection with the death of or injury to any person employed by the Contractor for the purposes of the Works, unless caused by any acts or defaults of the Engineer, the Employer, or other contractors engaged by the Employer or by their respective employees or agents. In the latter cases the Employer shall be liable for and shall indemnify the Contractor against all losses, expenses and claims arising in connection therewith.

Limitations of Liability

42.1 Liability for Indirect or Consequential Damage

Neither party shall be liable to the other for any loss of profit, loss of use, loss of production, loss of contracts or for any other indirect or consequential damage that may be suffered by the other, except:

(a) as expressly provided in Clause 27, and

(b) those provisions of these Conditions whereby the Contractor is

expressly entitled to receive profit.

42.2 Maximum Liability

The liability of the Contractor to the Employer under these Conditions shall in no case exceed the sum stated in the Preamble or, if no such sum is stated, the Contract Price.

42.3 Liability after Expiration of Defects Liability Period

The Contractor shall have no liability to the Employer for any loss of or damage to the Employer's physical property which occurs after the expiration of the Defects Liability Period unless caused by Gross Misconduct of the Contractor.

42.4 Exclusive Remedies

The Employer and the Contractor intend that their respective rights, obligations and liabilities as provided for in these Conditions shall alone govern their rights under the Contract and in relation to the Works.

Accordingly, the remedies provided under the contract in respect of or in consequence of:

(a) any breach of contract, or

(b) any negligent act or omission, or

(c) death or personal injury, or

(d) loss or damage to any property

are, save in the case of Gross Misconduct, to be to the exclusion of any other remedy that either may have against the other under the law governing the Contract or otherwise.

42.5 Mitigation of Loss of Damage

In all cases the party claiming a breach of Contract or a right to be indemnified in accordance with the Contract shall be obliged to take all reasonable measures to mitigate loss or damage which has occurred or may occur.

42.6 Foreseen Damage

Where either the Employer or the Contractor is liable in damages to the other these shall not exceed the damage which the party in default could reasonably have foreseen at the date of the Contract.

Insurance

43.1 The Works

The Contractor shall insure the Works in the joint names of the Contractor and the Employer to their full replacement value with deductible limits not exceeding those stated in the Preamble.

(a) from the Commencement Date until the Risk Transfer Date against any loss or damage caused by any of the Contractor's Risks and any other risks specified in the Preamble, and

(b) during the Defects Liability period against any loss or damage which is caused either:

(i) by the Contractor in completing any outstanding work or complying with his obligations under Clause 30, or

(ii) by any of the Contractor's Risks which occurred prior to the Risks Transfer Date.

43.2 Contractor's Equipment

The Contractor shall insure Contractor's Equipment for its full replacement value whilst in transit to the Site, from commencement of loading until completion of unloading at the Site and while on the Site against all loss or damage caused by any of the Contractor's Risks.

43.3 Third Party Liability

The Contractor shall insure against liability to third parties for any death or personal injury and loss of or damage to any physical property arising out of the performance of the Contract and occurring before the issue of the last Defects Liability Certificate.

Such insurance shall be effected before the Contractor begins any work on the Site. The insurance shall be for not less than the amount specified in the Preamble.

43.4 Employees

The Contractor shall insure and maintain insurance against his liability under Sub-Clause 41.1.

43.5 General Requirements of Insurance Policies

The Contractor shall:

(a) whenever required by the Employer produce the policies or certificates of any insurance which he is required to effect under the

Contract together with receipts for the premiums,

(b) effect all insurances for which he is responsible with an insurer and in terms approved by the Employer,

(c) make no material alterations to the terms of any insurance without the Employer's approval. If an insurer makes any material alteration to the terms the Contractor shall forthwith notify the Employer, and

(d) in all respect comply with any conditions stipulated in the insurance policies which he is required to place under the Contract.

43.6 Permitted Exclusions from Insurance Policies

The insurance cover affected by the Contractor may exclude any of the following:

(a) the cost of making good any part of the Works which is defective or otherwise does not comply with the Contract provided that it does not exclude the cost of making good any loss or damage to any other part of the Works attributable to such defect or non-compliance,

(b) indirect or consequential loss of damage including any reductions in the Contract Price for delay,

(c) wear and tear, shortages and theft, or

(d) risks relating to vehicles for which third party or other insurance is required by law.

43.7 Remedies on the Contractor's Failure to Insure

If the Contractor fails to produce evidence of insurance cover as stated in Sub-Clause 43.5 (a) then the Employer may effect and keep in force such insurance. Premiums paid by the Employer for this purpose shall be deducted from the Contract Price.

43.8 Amounts not Recovered

Any amounts not recovered from the insurers shall be borne by the Employer or Contractor in accordance with their responsibilities under Clause 37.

Force Majeure

44.1 Definition of Force Majeure

Force Majeure means any circumstances beyond the control of the parties, including but not limited to:

(a) war and other hostilities, (whether war be declared or not), invasion, act of foreign enemies, mobilisation, requisition or embargo,

(b) ionising radiation or contamination by radio-activity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosives, or other hazardous properties of any explosive nuclear assembly or nuclear components thereof,

(c) rebellion, revolution, insurrection, military or usurped power and civil war,

(d) riot, commotion or disorder, except where solely restricted to employees of the Contractor.

44.2 Effect of Force Majeure

Neither party shall be considered to be in default or in breach of his obligations under the Contract to the extent that performance of such obligations is prevented by any circumstances of Force Majeure which arise after the date of the Letter of Acceptance or the date when the Contract becomes effective, whichever is the earlier.

44.3 Notice of Occurrence

If either party considers that any circumstances of Force Majeure have occurred which may affect performance of his obligations he shall promptly notify the other party and the Engineer thereof.

44.4 Performance to Continue

Upon the occurrence of any circumstances of Force Majeure the Contractor shall endeavour to continue to perform his obligations under the Contract so far as reasonably practicable. The Contractor shall notify the Engineer of the steps he proposes to take including any reasonable alternative means for performance which is not prevented by Force Majeure. The Contractor shall not take any such steps unless directed so to do by the Engineer.

44.5 Additional Costs caused by Force Majeure

If the Contractor incurs additional costs in complying with the Engineer's directions under Sub-Clause 44.4, the amount thereof shall be certified by the Engineer and added to the Contract Price.

44.6 Damage Caused by Force Majeure

If in consequence of Force Majeure the Works shall suffer loss or damage the Contractor shall be entitled to have the value of the work done, without regard to the loss or damage that has occurred, included in a Certificate of

Payment.

44.7 Termination in Consequence of Force Majeure

If circumstances of Force Majeure have occurred and shall continue for a period of one hundred and eighty two (182) days then, notwithstanding that the Contractor may by reason thereof have been granted an extension of Time for Completion of the Works, either party shall be entitled to serve upon the other twenty eight (28) days' notice to terminate the Contract. If at the expiry of the period of twenty eight (28) days Force Majeure shall still continue the Contract shall terminate.

44.8 Payment on Termination for Force Majeure

If the Contract is terminated under Sub-Clause 44.7 the Contractor shall be paid the value of the work done.

The contractor shall also be entitled to receive:

(a) the amounts payable in respect of any preliminary items so far as the work or service comprised therein has been carried out and a proper proportion of any such item in which the work or service comprised has only been partially carried out,

(b) the cost of materials or goods ordered for the Works or for use in connection with the Works which have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery. Such materials or goods shall become the property of and be at the risk of the Employer when paid for by the Employer and the Contractor shall place the same at the Employer's disposal,

(c) the amount of any other expenditure which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the whole of the Works,

(d) the reasonable cost of removal of Contractor's Equipment from the Site and the return thereof to the Contractor's works in his country or to any other destination at no greater cost, and

(e) the reasonable cost of repatriation of the Contractor's staff and workmen employed wholly in connection with the Works at the date of such termination.

44.9 Release from Performance

If circumstances of Force Majeure occur and in consequence thereof under the law governing the Contract the parties are released from further

performance of the Contract, the sum payable by the Employer to the Contractor shall be the same as that which would have been payable under Sub-Clause 44.8 if the Contract had been terminated under Sub-Clause 44.7.

44.10 Force Majeure Affecting Engineer's Duties

The provisions of Clause 44 shall also apply in circumstances where the Engineer is prevented from performing any of his duties under the Contract by reason of Force Majeure.

Default

45.1 Notice of Default

If the Contractor is not executing the Works in accordance with the Contract or is neglecting to perform his obligations thereunder so as seriously to affect the carrying out of the Works, the Engineer may give notice to the Contractor requiring him to make good such failure or neglect.

45.2 Contractor's Default

If the Contractor:

(a) has failed to comply within a reasonable time with a notice under Sub-Clause 45.1, or

(b) assigns the Contract or subcontracts the any part of the Works, or

(c) becomes bankrupt or insolvent, has a receiving order made against him or compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors or goes into liquidation.

The Employer may, after having given seven (7) days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site.

Any such expulsion and termination shall be without prejudice to any other rights or powers of the Employer, the Engineer or the Contractor under the Contract.

The Employer may upon such termination complete the Works himself or by any other contractor.

45.3 Valuation at Date of Termination

The Engineer shall, as soon as possible after such termination, certify the value of the Works and all sums then due to the Contractor as at the date of termination in accordance with Clause 33.

45.4 Payment after Termination

The Employer shall not be liable to make any further payments to the Contractor until the Works have been completed. When the Works are so complete, the Employers shall be entitled to recover from the Contractor the extra costs, if any, of completing the Works after allowing for any sum due to the Contractor under Sub-Clause 45.3. If there is no such extra cost the Employer shall pay any balance due to the Contractor.

45.5 Effect on Liability for Delay

The Contractor's liability under Clause 27 shall immediately cease when the Employer expels him from the Site without prejudice to any liability thereunder that may have already occurred.

46.1 Employer's Default

The Contractor may, by giving fourteen (14) days' notice to the Employer and the Engineer, terminate the Contract if the Employer:

(a) fails to pay the Contractor the amount due under any certificate of the Engineer within twenty eight (28) days after the amount became payable, or

(b) interferes with or obstructs the issue of any certificate of the Engineer, or

(c) becomes bankrupt or insolvent, has a receiving order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors or goes into liquidation, or goes into liquidation, or

(d) consistently fails to meet his contractual obligations, or

(e) appoints, a person to act with or in replacement of the Engineer without the Contractor's consent.

Any such termination shall be without prejudice to any other rights of the Contractor under the Contract.

46.2 Removal of Contractor's Equipment

On such termination, the Contractor shall be entitled to remove immediately all Contractor's Equipment which is on the Site.

46.3 Payment on Termination for Employer's Default

In the event of such termination the Employer shall pay the Contractor an amount calculated in accordance with Sub-Clause 44.8.

The Employer shall pay in addition the amount of any loss or damage,

including loss of profit which the Contractor may have suffered in consequence of termination. The additional amount shall, however, not exceed the limit specified in the Preamble.

Change in Cost and Legislation

47.1 Labour, Materials and Transport

Where the Contract Price is to be adjusted for changes in the cost of labour, materials, transport or other costs of execution of the Works, the method for calculating such adjustment shall be specified in the Preamble.

When calculating the adjustment no account shall be taken of any increased cost which results from the Contractor's default or negligence.

47.2 Statutory and Other Regulations

The Contract Price shall be adjusted to take account of any increase or decrease in cost resulting from changes in legislation of the country where the Site is located or in its generally accepted interpretation.

Legislation means any law, order, regulation or bye-law having the force of law, which affects the Contractor in the performance of his obligations under the Contract, made after the date 28 days prior to the latest date for submission of tenders for the Works.

The Engineer shall certify the amount of the resulting increase or decrease in cost, which shall be added to or deducted from the Contract Price.

Customs

48.1 Customs and Import Duties *(Not Applicable)*

Unless otherwise stated in Part II the Employer shall pay all customs, import duties and taxes in consequence of the importation of Plant. If the Contractor is required to pay such customs, import duties and taxes, the Employer shall reimburse the amount thereof.

48.2 Clearance through Customs *(Not Applicable)*

The Employer shall assist the Contractor in obtaining clearance through the customs of all Plant and Contractor's Equipment and in procuring any necessary government consent to the re-export of Contractor's Equipment when it is removed from the Site.

Notices

49.1 Notices to Contractor

All certificates, notices or written orders to be given to the Contractor by the

Employer or the Engineer under these Conditions shall be sent by airmail post, cable, telex or facsimile transmission to or left at the Contractor's principal place of business or such other address as the Contractor shall nominate for that purpose, or may be handed over to the Contractor's representative.

49.2 Notice to Employer and Engineer

Any notice to be given to the Employer or to the Engineer under these Conditions shall be sent by airmail post, cable, telex or facsimile transmission to or left at the respective addresses nominated for that purpose in the Preamble, or handed over to the Engineer's or the Employer's representative authorised to receive it.

49.3 Minutes of Meetings

Instructions or notices to the Contractor and notices from the Contractor to the Engineer or the Employer recorded in a minute or protocol signed by the authorized representatives of the giver and recipient of such notice or instruction shall be valid notice or instruction for the purposes of the Contract.

Disputes and Arbitration

50.1 Disputes concerning Engineer's Decisions

If either party is dissatisfied with a decision or instruction of the Engineer as confirmed, reversed or varied in accordance with Clause 2 he may refer the matter to arbitration pursuant to Sub-Clause 50.2.

Unless the dissatisfied party has notified the other party and the Engineer within fifty six (56) days of such decision or instruction of his intention to refer the matter to arbitration, he shall be deemed to have accepted the decision as final.

Reference to arbitration shall not relieve the Contractor of his obligation to proceed with the Works in accordance with the Engineer's decision or instruction, nor relieve the Employer of any of his obligations under the Contract.

The Contractor shall in any such arbitration be at liberty to rely on reasons additional to the reasons stated in the notice given under Sub-Clause 2.7.

50.2 Arbitration

If at any time any question, dispute or difference shall arise between the Employer and the Contractor in connection with or arising out of the Contract or the carrying out of the Works either party shall be entitled to refer the matter to be finally settled by arbitration in accordance with the

Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with those Rules, or by arbitration in accordance with such other rules as are specified in Part II.

The Arbitrators(s) shall have full power to open up, review and revise:

(a) any decision or instruction of the Engineer referred to arbitration pursuant to Sub-Clause 50.1, and

(b) any certificate of the Engineer related to the dispute.

50.3 Works to Continue

Performance of the Contract shall continue during arbitration proceedings unless the Employer shall order suspension. If any such suspension is ordered the reasonable costs incurred by the Contractor and occasioned thereby shall be added to the Contract Price.

No payments due or payable by the Employer shall be withheld on account of pending reference to arbitration.

50.4 Time Limit for Arbitration

Formal notice of arbitration must be given to the other party, and where required to the appropriate arbitration body, no later than eighty four (84) days after the issue of the Final Certificate of Payment

Law and Procedure

51.1 Applicable Law

The law which is to apply to the Contract and under which the Contract is to be construed is stated in the Preamble.

51.2 Procedural Law

The law governing the procedure and administration of any arbitration instituted pursuant to Clause 50 is stated in the Preamble.

51.3 Language

The language and place of the arbitration are stated in the Preamble.

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EDITORIAL AMENDMENTS

Following publication of the Third Edition of the Conditions of Contract for Electrical and Mechanical Works in 1987, a number of editorial amendments were agreed by FIDIC. The amendments have been incorporated during reprinting and the list below clarifies the differences between this copy and the original document.

Page 1	The following additional text has been inserted:
Commencement date	Sub-Clause 1.1.1.(i) The date for commencement of the Works is _____
Page 2	Sub-Clause 36.4(b) was previously Sub-Clause 36.4 The word 'Sums' following ' shall be' has been deleted.
Page 8	Sub-Clause 2.7. The missing letter 'D' has been inserted in 'Disputing' (margin note.)
Page 33	Sub-Clause 44.8(b). The word 'Contractor' on the last line was previously 'Contract'.
Page 35	Sub-Clause 49.3. The word 'or' between 'minute' and 'protocol' was previously 'of'.
Index, page (i)	The words 'Adverse physical conditions and artificial obstructions' have been deleted.
Index, page (v)	The word 'adverse' has been deleted after 'Physical conditions'.
Contract Agreement	The word 'Agreement' in the title has been capitalised.
Line 4	Inverted commas have been inserted after 'Employer'.
Line 6	Inverted commas have been inserted before the word 'the' and deleted before the word 'Contractor'.
Line 7	The comma following the word 'executed' has been deleted.
Line 15	Inverted commas have been inserted before the word 'the' and deleted after the word 'the'.
Item 4, line 2	The word 'defects' was previously 'defect'.

Item 4, line 3	The words 'become' was previously 'be come'.
Item 5, line 1	The words 'and statutes or constitutions' have been inserted after the word 'laws'.
Item 5, line 2	The words 'by their duly authorized signatories' have been inserted after the word 'hereof'.
Item 5	The remaining text of the original document has been deleted and is replaced by: 'Binding Signatures(s) on behalf of the Employer _____, and 'Binding Signatures(s) on behalf of the Contractor _____,

PART-II: PARTICULAR CONDITIONS OF CONTRACT

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PART-II: PARTICULAR CONDITIONS OF CONTRACT

1.1 Definitions

1.1	**Definitions**
1.1.1	The text of Sub-Clause 1.1.1 is deleted and substituted by the following: "Commencement Date" means the date specified in the Preamble to Conditions of Contract.
1.1.2	The text of Sub-Clause 1.1.2 is deleted and substituted by the following: "Conditions" means the Preamble to Conditions of Contract, General Conditions of Contract and Particular Conditions of Contract.
1.1.3	At the end of Sub-Clause the following is added: "Any subsequent document mutually agreed and signed by the Employer and the Contractor, shall be the part of the Contract."
1.1.5	The text of Sub-Clause 1.1.5 is deleted and substituted by the following: "Contract Price" means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution and completion of the Works subject to such additions thereto or deductions therefrom as may be made under the provisions hereinafter contained and remedying of any defects therein in accordance with the provisions of the Contract."
1.1.7	The word "technical data" is added before the word "samples" in first line.
1.1.11	The Defects Liability Period is the period mentioned in the Preamble to Conditions of Contract.
1.1.15	The following is added at the end of Sub-Clause: "or any other competent person appointed by the Employer as his replacement." For the purpose of this EPC/Turnkey Contract, based on two party agreement, the term Engineer is construed as /Engineer. The Project Manager is a Person appointed by the Employer to act on behalf of the Employer for the purpose of the Contract whereas the Engineer has the same meaning as defined in GCC Sub-Clause 1.1.15
1.1.15	The words "Project Manager/" are added at the start of subclause.
1.1.23	The following paragraph is added: The word "Goods" is synonymous with "Plant."

1.1.27	The text of Sub-Clause 1.1.27 is deleted and substituted by the following: "Schedule of Prices" means the completed and priced Schedule of Prices, or any part or individual schedule thereof, submitted by the Contractor with his Bid or revised and mutually agreed and forming a part of the Contract documents.
1.1.33	The word "Tender" is synonymous with the word "Bid" and the word "Tender Documents" with the word "Bidding Documents".
	The following Sub-clauses are added:
1.1.38	"Month" means calendar month according to Gregorian calendar.
1.1.39	"Operation and Maintenance Manuals" has the meaning described in Sub-Clause 6.6.
1.1.40	"Party" means the Employer or the Contractor, as the context requires.
1.1.41	"Completion" means that the Plant (or a specific part thereof where specific parts are specified in the Contract) have been completed operationally and structurally and put in a tight and clean condition, and that the Plant or specific part thereof has passed Test on Completion as provided in GCC Clause 28.
1.1.42	"Country of Origin" means All countries of the World with whom Islamic Republic of Pakistan has commercial / trade relations except India, Israel and the countries upon which international sanctions are imposed.
1.1.43	The word "Part II" stated in FIDIC Conditions of Contract is synonymous with the word "Particular Conditions of Contract
1.1.44	"EPC/Turnkey Basis" means where the Contractor takes total responsibility for design and execution of the project with little involvement of the Employer. Under the usual arrangements of turnkey projects the contractor carries out all the Engineering, Procurement and Construction (EPC) providing a fully equipped facility ready for operation. Total responsibility of the Contractor include; but not limited to; design, supply, installation and commissioning of all mechanical and electrical equipment, civil and other works necessary for the completion and commercial operation of the Plant and shall include all such items of Plant and equipment or work, whether mentioned in the Specifications, Bid drawings, Schedule of Prices or not, which are required to make the Plant operationally complete in accordance with the guarantees prescribed under the Contract.
1.1.45	**"Warranty Certificate"** means the certificate against specified goods/equipment or RTV material, to be issued by the Contractor that the goods/equipment or RTV material supplied under the Contract are new, unused and incorporate all recent improvements in design and materials unless provided otherwise in the Contract and that the Contractor will be responsible for making good or replacing any defective goods/equipment during the Defect Liability Period or any extended period required under conditions of Contract.
1.3	**Interpretation**

	Text of Clause GCC 1.3 is substituted with following:
	"1.3.1 In the Contract, except where the context requires otherwise, (a) words indicating one gender include all genders; (b) words indicating the singular also include the plural and words indicating the plural also include the singular; (c) provisions including the word "agree," "agreed," or "agreement" require the agreement to be record in writing; and (d) "written" or "in writing" means handwritten, typewritten, printed or electronically made, and resulting in a permanent record. 1.3.2 Incoterms Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms. "Incoterms" means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1er, 75008 Paris, France. 1.3.3 Entire Agreement The Contract constitutes the entire agreement between the Employer and Contractor with respect to the subject matter of Contract and supersedes all communications, negotiations, and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract. 1.3.4 Amendment No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party hereto. 1.3.5 Independent Contractor The Contractor shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the parties hereto. Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the Employer, and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Employer. 1.3.6 Non-Waiver (a) Subject to GCC Subclause 1.3.6 (b) below, no relaxation, forbearance,

	delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract. (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, must be dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived. 1.3.7 Severability If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity, or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract. 1.3.8 Country of Origin "Origin" means the place where the plant and component parts thereof are mined, grown, produced, or manufactured, and from which the services are provided. Plant components are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that is substantially in its basic characteristics or in purpose or utility from its components.
2	**Engineer and Engineer's Representative**
2.1	**Engineer's Duties** Text of Clause GCC 2.1 is substituted with following: "The Project Manager/Engineer shall carry out the duties specified in the Contract. The Project Manager/Engineer may exercise the authority attributable to the Project Manager/Engineer as specified in or necessarily to be implied from the Contract. The Project Manager/Engineer is required to obtain the specific approval of the Employer before carrying out his duties in accordance with the following Clauses of General Conditions of Contract (GCC): (a) approval of Subcontractor under Sub-Clause 4.1, (b) certifying additional costs under Sub-Clauses 11.3, (c) certifying any cost under Sub-Clause 14.6, (d) approval of extension of time under Clause 26,

	(e) issuing a Taking–Over Certificate under Sub-Clause 29, (f) issuing a Defects Liability Certificate under Sub-Clause 30.11, (g) issuing a Variation Order- under Clause 31, (h) fixing rates or prices under Clauses 31 and 34, (i) certifying additional costs under Sub-Clause 44.5 and (j) certifying additional costs under Sub-Clause 47.2; (k) Continuous monitoring, verification/inspection/recounting of materials received at site. (l) Coordinate for clearance of right of ways. (m) Management of Project Execution Plan as per Time for Completion under sub-Clause 25.1 or any determinations of any extensions under sub-clause 26.1 Except for such variations pursuant to Sub-Clause 31.1 of the GCC which may be necessary in an emergency affecting safety of life, the Works or of adjoining property. Except as expressly stated in the Contract, the Project Manager/Engineer shall have no authority to relieve the Contractor of any of his obligations under the Contract."
2.3	Sub-Clause 2.3 Engineer's Power to Delegate **Director General (FO) North, NGC Lahore** shall act as representative of Engineer for providing in house Engineering Services including but not limited to the following: i) Review and approval of technical data/ drawings/ design. ii) Interpretation of the bidding documents. iii) Site visits for attending any technical problem if necessary. iv) Resolution of disputes. v) Review and approval of all technical matters. vi) Carry out the inspection/ testing (foreign & local) of equipment/material.
2.6	**Confirmation in Writing** (i) In line 3 after the words "undue delay" the following is added: "but not after the number of days mentioned in the Preamble to Conditions of Contract from the instruction or decision." (ii) At the end of Sub-Clause 2.6, the following is added: "The Engineer shall confirm or otherwise within the period mentioned in the Preamble to Conditions of Contract from the receipt of requirement(s) from the Contractor."

2.7	Disputing Engineer's Decisions and Instructions The following text is deleted: "If either party ……. in accordance with the Contract."
2.8	Replacement of Engineer The text of Sub-Clause is deleted and substituted by the following: "The Employer may from time to time appoint some other person as the Project Manager/Engineer in place of the person previously so appointed, and shall give notice of the name of such other person to the Contractor without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work on the Plant."
2.9	Sub-Clause 2.9 is added as follows: Project Manager/ Engineer Not Liable "Approval, reviews and inspection by the Project Manager/Engineer of any part of the Works does not relieve the Contractor from his sole responsibility and liability for the supply of remaining materials and equipment for the Works and parts thereof and complete the remaining erection works and testing and commissioning in accordance with the Contract and neither the Project Manager/Engineer's authority to act nor any decision made by him in good faith as provided for under this Contract whether to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Project Manager/Engineer to the Contractor, any of their representatives or employees or any other person performing any of the Works. However the Contractor shall be compensated if any loss/damage is occurred due to the decision of the Project Manager/Engineer."
3.1	**Assignment** First sentence of sub-clause is replaced with following: "The Contractor shall not assign the Contract or any part thereof, or any right, benefit, obligation or interest therein or thereunder without written consent from the Employer."
4.1	**Subcontrating** Text of sub-clause is deleted in its entirety and replaced with following: "4.1.1 The Schedule E (Form MANUFACTURER) to the Contract Agreement specifies major items of plant and services and a list of approved manufacturer against each item. 4.1.2 The Contractor shall select and employ its Subcontractors for such major items from those listed in the lists referred to in GCC Subclause

	4.1.1. *(Not Applicable as sub-contracting is not allowed)* 4.1.3 Notwithstanding above, for items & parts of work not specified in Schedule E to the Contract Agreement, the Contractor shall employ subcontractors with prior approval of Employer. *((Not Applicable as sub-contracting is not allowed))*
	GCC Subclauses 4.2 to 4.4 are added as follows:
4.2	**No Contractual Relation between Subcontractor and the Employer** Nothing contained in the Contract Documents shall create any contractual relation between any Subcontractor and the Employer. However, each subcontract shall include provisions which would entitle the Employer to require the sub-contract to be assigned to the Employer under GCC 4.3 (if and when applicable), or in event of termination by the Employer under GCC 45.2.
4.3	If a Sub-contractor's obligations extend beyond the expiry date of the relevant Defects Liability Period and the Project Manager, prior to that date, instructs the Contractor to assign the benefits of such obligations to the Employer, then the Contractor shall do so.
4.4	The Contractor shall not assign any manufacturing work for any Plant or part thereof to any firm other than the Manufacturer(s) named in his Bid and has been accepted by the Employer. Nothing contained in the Contract shall create any contractual relationship or professional obligation between any manufacturer and Employer. Onus of any discrepancy in the manufacture shall be on the Contractor.
5.3	**Priority of Contract Documents** Text of Sub-Clause 5.3 is deleted and substituted by the following: "Unless otherwise provided in the Contract, the priority of the Contract Documents shall be as follows: 1. The Contract Agreement (if completed) 2. The Letter of Acceptance 3. The completed Letters of Technical and Price Bids 4. The priced Schedule of Prices 5. Preamble to Conditions of Contract 6 The Particular Conditions of Contract 7. The General Conditions of Contract 8. The Specifications(Technical Provisions, Special Provisions and all relevant NTDC specifications) 9. The completed Schedules to Bid (A to L) 10. The Drawings 11. Any other document forming part of the Contract.

	However, the Employer may modify the order of precedence of above listed documents during formation of Contract Agreement. The Contractor shall be responsible for provision of (13) Nos. Copies of the Contract Agreement free of charge. The documents shall be arranged in the aforementioned sequence and provided to Employer within 10 days of signing of Contract Agreement.
5.4	**Documents Mutually Explanatory** Paras 2 & 3 of subclause are deleted and replaced with following: "The Technical Specifications are taken to be correct, but complete accuracy is not guaranteed. Any error or ambiguity must be reported to the Employer and the Project Manager/Engineer before starting the work affected. In the event of any dispute arising as to the true intended meaning of Technical Specification/Provisions, the Project Manager/Engineer shall interpret the same and his interpretation shall be accepted as final and binding upon all parties concerned, except to the extent provided for in the Arbitration provisions hereof."
	Subclause GCC 5.5 is added as follows:
5.5	"Codes and Standards Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date 28 days prior to date of bid submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied subject to approval by the Employer and shall be treated in accordance with GCC Clause 31."
6.1	Contractor's Drawings The title and text of Subclause GCC 6.1 is substituted as follows: "6.1.1 The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice. 6.1.2 The Contractor shall submit to the Engineer the following drawings/ documents for approval within the time given in the Contract or as per Programme submitted according to GCC Subclause 12: **(a) Drawings, Data and Manuals** The following drawings shall be submitted in accordance with

	Schedule required by GCC 12.1: i. Specific Works Data/Technical Data and manufacturer's catalogues of the offered material. ii. Specific Works Data/Technical Data and manufacturer's catalogues of the electrical and mechanical equipment. iii. Such other drawings as are required by the Project Manager to demonstrate that all parts of the Plant being furnished / erected conform to the requirements of the Specifications. iv. The drawings shall be complete, shall have been reviewed and checked by the Contractor and shall be submitted in due time and in logical order to facilitate proper coordination. The Engineer shall signify his approval or disapproval thereof. If he fails to do so within the time given in the Contract or if no time limit is specified, within ten (10) days of receipt, they shall be deemed to be approved. Approved data, drawings, samples and models shall be signed or otherwise identified by the Engineer. The Project Manager's approval, with or without modification of the document furnished by the Contractor subject to subclause GCC 6.2, shall not relieve the Contractor of any responsibility or liability imposed upon it by any provisions of the Contract. The Contractor shall supply additional copies of approved data/ drawings in the form and numbers stated in the Contract. Any part of the Works covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval thereof.
6.2	**Consequences of Disapproval of Contractor's Drawings** Full stop is deleted and the following words are added at the end of Sub-Clause: "for the approval of the Engineer. However, the Contractor shall not be entitled for time extension on this account. If any dispute or difference occurs between the Employer and the Contractor in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) thereto then the same shall be resolved in accordance with clause GCC 50 hereof."
6.6	**Operation and Maintenance Manuals**

	Para 2&3 are deleted and the following text is added at the end of Para 1 of Sub-Clause: "The Operation and Maintenance Manuals shall include full instructions for the operation, servicing and maintenance of the Plant, not only during the period of the Contractor's liability but more particularly during its operating life. The directions shall be set out simply, clearly and systematically. This may be divided into two volumes if desirable, one for operation and the second for servicing and maintenance (in sub–volumes for major items of Plant). The operational data shall include a complete physical and functional description of the Plant (in sub–volumes for major items of Plant) and step–by–step procedures for inspection, checking and adjustments for proper operation of the Plant. The maintenance data shall include complete instructions for routine checks, servicing, maintenance and repair of all parts and for dismantling, handling and re–assembly of all equipment, sub–assemblies and all separate components. The maintenance data shall also include where possible parts catalogues The lists shall provide all necessary information for identifying the parts and for re–ordering the parts including name of part, part number and catalogue references where applicable, name of manufacturer, size, capacity and other characteristics General arrangements, single line diagrams and detailed drawings shall be provided for ready reference in the operation and maintenance instructions. The manuals shall be printed on ISO paper size A4 (210x297 mm) with offset or equivalent printing strongly bound in a durable stiff cover bearing the title in approved legend. Drawings shall be folded or reduced to 297 mm height. All volumes shall bear on the spine an approved shortened version of the title. The Contractor shall submit three (3) draft copies for approval of the Engineer prior to producing finished volumes. The Contractor shall provide ten (10) copies of the approved Operation and Maintenance Manuals prior to Taking Over by the Employer. Supplementary Operation and Maintenance Manual shall be provided by the Contractor, if required, to incorporate changes resulting from experience during the operation and maintenance period. The work shall not be considered to be completed for the purpose of taking over until such manual and drawings have been supplied to the Employer."
6.9	<u>Manufacturing Drawings</u> The words "Unless otherwise specified in Part-II" are deleted and the following is added at the end of Sub-Clause:

	"However, the Contractor is required to disclose to the Engineer or the Employer any confidential information necessary to justify the reliability, the efficiency and the operation and maintenance of the Plant supplied by him."
6.10	"As–Built" Drawings The following new Sub-Clause is added: The Contractor shall furnish to the Engineer six (6) copies and one (1) reproducible of approved quality of all "As–Built" drawings within the period mentioned in the Preamble to Conditions of Contract.
7.2	Errors by Employer or Engineer The subclause GCC 7.2 is deleted in its entirety.
8	Contractor's Obligations
	Text of sub-clause GCC 8.1 is deleted and substituted with following:
8.1	General Obligations
	(a) The Contractor shall commence the work on the date specified in the Preamble to Conditions of Contract and shall proceed with the same with due expedition and without delay. (b) Unless otherwise expressly limited in the Special Provisions and Technical Provisions, the Contractor's obligations cover the provision of all Works and the performance of all Installation Services required for the design, the manufacture (including procurement, quality assurance, testing and delivery) and the installation (including construction, associated civil works and erection), completion, and commissioning of the Plant in accordance with the plans, procedures, specifications, drawings, codes, and any other documents as specified in the sections Special Provisions and Technical Provisions. Such specifications include, but are not limited to, the provision of supervision and engineering services; the supply of labor, materials, equipment, spare parts (as specified in GCC Subclause 8.1(d) below) and accessories; Contractor's Equipment; construction utilities and supplies; temporary materials, structures, and facilities; transportation (including, without limitation, unloading and hauling to, from and at the Site); and storage. (c) The Contractor shall, unless specifically excluded in the Contract, perform all such work and/or supply all such items and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Completion of the Plant as if such work and/or items and materials were expressly mentioned in the Contract. (d) In addition to the supply of Mandatory Spare Parts included in the Contract, the Contractor agrees to supply spare parts required for the operation and maintenance of the Plant, given in Schedule of Price for a

	period of five (05) years. However, the identity, specifications, and quantities of such spare parts and the terms and conditions relating to the supply thereof are to be agreed between the Employer and the Contractor, and the price of such spare parts shall be that given in Schedule of Price, which shall be added to the Contract Price. The price of such spare parts shall include the purchase price therefore and other costs and expenses (including the Contractor's fees) relating to the supply of spare parts.
10.1	Performance Security Sub-Clause 10.1 is deleted and substituted by the following: "The Contractor shall provide a Performance Security in the prescribed Form annexed to these Documents. The said Security shall be furnished by the Contractor within 14 days after the receipt of Letter of Acceptance. The Performance Security shall be of an amount equal to 10 percent of the Contract Price in the currency(ies) of the Contract at the option of the bidder, in the form of Bank Guarantee from any Scheduled Bank in Pakistan or from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank in Pakistan For avoidance of doubt, the Bank Guarantee issued by a foreign bank, without counter guarantee from a Scheduled Bank in Pakistan shall not be considered as an acceptable Bank Guarantee. The cost of complying with the requirements of this Sub-Clause shall be borne by the Contractor."
10.2	Period of Validity Sub-Clause 10.2 is deleted and substituted by the following: "The Performance Security shall be valid upto and shall become null and void on issuance of Defect Liability Certificate, provided, however, that if the Defects Liability Period has been extended on any part of the Works pursuant to GCC Sub clause 30.4 hereof or for the Goods/Equipment covered under extended defect liability period under sub Clause 30.1 , the Contractor shall issue an additional security in an amount proportionate to the Contract Price of that part. The security shall be returned to the Contractor immediately after its expiration. Notwithstanding above, if the Contractor, pursuant to GCC Subclause 1.1.11, is liable for an extended defect liability obligation for equipment mentioned therein, the performance security shall be extended for the period and up to 10% of the amount proportionate to the Contract Price of such equipment, upon expiration whereof it shall be returned to the Contractor."
10.3	Claims under Performance Security Sub-Clause 10.3 is deleted in its entirety.

	The following Sub Clause is added:
10.4	Performance Security Binding on Variations and Changes "The Performance Security shall be binding irrespective of variations and changes in the quantities of the Works or extensions in completion time of the Works, which are granted or agreed upon under the provisions of the Contract."
10A	Advance Payment Security *(Not Applicable)*
10A.1	The Contractor shall, within 28 days after the receipt of Letter of Acceptance, provide a security in an amount equal to the advance payment calculated in accordance with Clause GCC 33 herein below, and in the same currency or currencies.
10A.2	The security shall be in the form of Bank Guarantee provided in the Bidding Documents or in another form acceptable to the Employer, issued by a Scheduled Bank of Pakistan or from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank in Pakistan in favor of the Employer valid for a period twenty eight (28) days beyond issue of taking over certificate. However, such Guarantee shall be progressively reduced by the amount repaid by the Contractor as indicated in Interim Payment Certificates of the Engineer issued in accordance with provisions of this Contract (The amount will be assumed repaid only when the employer has paid the monies against Interim Payment Certificate and not merely on issuance of interim payment certificate). The advance payment shall not be subject to retention.
11.1	Site Data The text of subclause GCC 11.1 is substituted with following: "The Tender shall be deemed to have been based on such data on climatic, hydrological and general conditions on the Site and for the operation of the Works available to or collected by the Contractor for the purposes of the Tender. The Contractor shall be responsible for his own interpretation of such data. The Contractor shall satisfy himself as to the nature of the ground, subsurface soil condition, the hydrological and climatic conditions, the form and nature of the Site, the quantities and nature of the Work and materials necessary for the completion of the Works, and the means of access to the Site, the accommodation he may require and in general shall himself obtain all necessary information as to risks, contingencies, and other circumstances which may influence or affect his Bid. The Employer does not guarantee the correctness of any data/information/drawings either verbal and/or written provided herein nor any interpretations, deductions or conclusions relative to conditions at Site. The Contractor shall form his own opinion of the character of the work and of the materials to be excavated etc. He shall make his own interpretations, and satisfy himself by his own investigations and research regarding all conditions affecting the work to be done. The Contractor shall assume all responsibility for

	deductions and conclusions as to the nature or conditions of the materials to be excavated and of doing other work affected by the geology at the Site."
11.2	Sufficiency of Contract Price First para of Subclause is substitutes as under: "Subject to Clause GCC 11.1, the Contractor shall be deemed to have satisfied himself of correctness and sufficiency of the Contract Price, which shall cover all his obligations under the Contract and to have taken account of in his Tender:" The words "(if access has been made available to him)" are deleted from point (c). Last para of subclause is deleted.
11.3	**Physical Obstructions and Conditions** First para of subclause is replaced with following: "Subject to GCC subclause 11.1, if during the execution of the Works on Site the Contractor encounters physical obstructions or conditions of the kind stipulated in Sub-Clause 26.1.c) which could not have been reasonably foreseen by the Contractor prior to the award of Contract, the Contractor shall be entitled to recover the additional cost incurred in consequence."
12.1	**Programme to be Furnished** Text of subclause is replaced with following: The Contractor shall submit to the Engineer for his approval the Programme which shall contain the following: (a) The order in which the Contractor proposes to carry out the Works (including preliminaries, design, manufacture, required material ordering, delivery to Site, installation, erection and rectifications work, testing, commissioning of the Plant including design and construction of associated civil works and taking–over by the Employer). The program so submitted by the Contractor shall accord with the Time of Completion in GCC Subclause 25.1 and any other dates and periods specified in the Contract. The programme shall be based on format mentioned in Preamble to Conditions of Contract. The programme shall also include the following: (i) Employment of local and expatriate labour of various categories; (ii) Local material procurement; and (iii) Material imports, if any.

	(b) the times when submission and approval of the Contractor's Drawing are required, (c) the times by which the Contractor requires the Employer: (i) to furnish any Employer's Drawings, (ii) to provide access to the Site, (iii) to have obtained consents, wayleaves and approvals necessary for the purpose of the Works. The programme is to be furnished by the Contractor within seven (07) days from the date of receipt of Letter of Acceptance and in the form acceptable to Project Manager. The Project Manager/Engineer's proposed changes/modifications may also be incorporated and revised program shall be submitted within fifteen (15) days. The approval by the Engineer of the Programme shall not relieve the Contractor or the Employer from any obligation under the Contract.
12.3	**Revision of Programme** Second para of subclause is deleted. Following is added at the end of first para of subclause: "The Contractor shall, at the instruction of the Project Manager, prepare and submit to the Project Manager a revised program, taking into account the prevailing circumstances, and shall notify the Project Manager of the steps being taken to expedite progress so as to attain Completion of the Plant within the Time for Completion under GCC Subclause 25.1 or any extension thereof entitled under GCC Subclause 26.1."
12.4	The following Sub-Clauses 12.4 to 12.6 are added: **Monthly Progress Report *(Not Applicable)*** "During the period of the Contract, the Contractor shall submit six sets of report to the Engineer not later than the 8th day of each month, including: (i) a construction schedule indicating the progress achieved during the preceding month; (ii) description of all work carried out since the last report; (iii) description of the work planned for the next forty two days sufficiently detailed to enable the Engineer to determine his programme of inspection and testing;

	(iv) summary of daily job record for the preceding month; and (v) colour photographs to illustrate progress. The progress report shall be in a form acceptable to the Project Manager and shall indicate: (a) percentage completion achieved compared with the planned percentage completion for each activity; and (b) where any activity is behind the program, giving comments and likely consequences and stating the corrective action being taken."
12.5	**Daily Job Record** During the period of the Contract, the Contractor shall keep a daily record of the work progress, which shall be made available to the Project Manager/Engineer as and when requested. The daily record shall include particulars of weather conditions, number of men working in different categories, deliveries of materials, quantity, location and assignment of equipment.
12.6	**Protection of the Environment** 12.6.1 The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise, and other results of his operations. 12.6.2 The Contractor shall ensure that emissions, surface discharges, and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws 12.6.3 The Contractor will ensure that the preparation, design, and implementation of project comply with: a) all applicable laws and regulations of Pakistan relating to environment, health, and safety; b) the Environmental Safeguards; c) the Environment Assessment Review Framework (EARF); d) all measures and requirements set forth in the respective EIA/IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report. Pakistan Environmental Protection Act (PEPA) 1997, Provincial Environmental Protection Acts & Other Agencies and provisions of IEE of the project shall be strictly adhered to. 12.6.4 **Environmental Safeguards:**

	The Contractor shall (a) establish an operational system for managing environmental impacts, (b) implement all the monitoring and mitigation measures set forth in the initial environmental examination and/or environmental management plan, (c) allocate the budget required ensuring that such measures are carried out, d) submit monthly environmental monitoring reports to the Employer. The Contractor shall comply with (i) the measures and requirements set forth in the initial environmental examination and the environmental management plan; and (ii) any corrective or preventative action plans worked out to correct non-compliances. Specially, Contractor(s) shall ensure that: A policy of incorporating and integrating environmental considerations into the operations for the Project as shown in the Environmental Management Plan, which is attached in Volume II is pursued. a) Following the award of the contract and prior to construction commencing the Contractor(s) will review the EMPs and develop this into a detailed Site-Specific Environmental Management Plan(s) (SEMP) that amplifies the conditions established in the EMP that are specific for the sites and the tasks involved. b) The SEMP(s) will be submitted to the Environment and Social Impact Cell of Employer for approval at least 10 days before taking possession of any work site. c) No access to the site will be allowed until the SEMP is approved by the Environment and Social Impact Cell of Employer. d) All mitigation and monitoring measures determined in the SEMPs are incorporated in detailed design and implemented during construction of the Project facilities in letter and spirit; e) Environmental monitoring, including instrumental water and air quality, and noise monitoring, as well as other types of monitoring defined in the IEE and EMP should be conducted on a daily basis and records stored, and reported to ESIC; f) Monthly environmental monitoring reports summarizing daily monitoring data should be submitted to Environment and Social Impact Cell of Employer; Quarterly progress reports should include a summary of environmental monitoring.

	g) Site Environment Specialist (s) with background in environmental management or similar discipline, and be able to complete the preparation of the site specific environmental management plans are appointed. The CVs of the applicants for the position should be shared with Environment and Social Impact Cell of Employer and the appointment should only be confirmed after approval from ESIC. h) All contracts under the subprojects contain provisions on compliance with these requirements; Budget for all such environmental and social measures is made available; i) A system for recording and communicating any complaints received by any person employed by or contracted to the Contractor (s) should be established. All complaints will be communicated in writing to the ESIC within one working day of their receipt. j) Trees *(Minimum 05-Feet in height)* plantation is carried out in accordance with the Environmental Approval obtained from the respective Environmental Protection Agency (EPA) and in accordance with the aesthetic value of the area. k) All invoices/amounts claimed by contractor (s) in lieu of Environment& Social Safeguards Management would be sent to ESIC for verification in order to make things proper and transparent; l) Safety signs and awareness material printed in Urdu & English languages (4 x 6 feet Panaflexes) are placed & visible at project sites. m) Pathways and access roads, other local infrastructure (sewerage line, water transporting system/pipes, rainwater drainage system etc.) damaged due to construction activity at the project site and agricultural land are restored to at least pre-project condition upon the completion of construction works. n) In case of non-compliance with mitigation measures defined in SEMP, Employer has the right to suspend work and withheld payments till the remedial measures will be undertaken. The failure to implement a corrective action plan and to implement it within the required time frame will result in the owner undertaking the works and the cost, plus up to 10% will be recovered from interim payments or the final payment to the Contractor. No extension of time will be allowed to the contractor in this regard.

13.1	**Contractor's Representative** Text of Subclause is substituted with the following: "13.1.1 If the Contractor's Representative is not named in the Contract, then within 14 days of the Commencement Date, the Contractor shall appoint the Contractor's Representative and shall request the Employer in writing to approve the person so appointed. If the Employer makes no objection to the appointment within 14 days, the Contractor's Representative shall be deemed to have been approved. If the Employer objects to the appointment within 14 days giving the reason therefor, then the Contractor shall appoint a replacement within 14 days of such objection, and the foregoing provisions of this GCC Subclause 13.1.1 shall apply thereto. 13.1.2 The Contractor's Representative shall represent and act for the Contractor at all times during the performance of the Contract and shall give to the Project Manager/Engineer all the Contractor's notices, instructions, information, and all other communications under the Contract. All notices, instructions, information, and all other communications given by the Employer or the Project Manager to the Contractor under the Contract shall be given to the Contractor's Representative or, in its absence, its deputy, except as herein otherwise provided. The Contractor shall not revoke the appointment of the Contractor's Representative without the Employer's prior written consent, which shall not be unreasonably withheld. If the Employer consents thereto, the Contractor shall appoint some other person as the Contractor's Representative, pursuant to the procedure set out in GCC Subclause 13.1.1 13.1.3 The Contractor's Representative may, subject to the approval of the Employer which shall not be unreasonably withheld, at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Contractor's Representative, and shall specify the powers, functions, and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until a copy thereof has been delivered to the Employer and the Project Manager. Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this GCC Subclause

	13.1.3 shall be deemed to be an act or exercise by the Contractor's Representative. 13.1.4 The Contractor's Representative shall be present on the Site during all working hours and shall not be transferred from the Site without the consent of the Project Manager/Engineer. The Contractor's Representative shall be a registered professional engineer as defined in the Pakistan Engineering Council Act 1975 (V of 1976)."
13.2	**Objection to Contractor's Employees** Following sentence is added at the end of subclause: "The Contractor shall, where required, promptly appoint a replacement thereof.."
13.3	Subclauses 13.3 and 13.4 are added as follows: **Staff of Contractor** A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of the English language. The Contractor shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately super
13.4	**Employment of Local Personnel** The Contractor shall, to the extent practicable and reasonable, employ staff and labour from sources within Pakistan.
14.1	**Contractor's Equipment** Replace the word "or" at the end of Sub-paragraph (a) by the word "and" and insert the following at the end of Sub-paragraph(b): "which shall not be unreasonably withheld."
14.2	**Safety Precautions** At the end of the Sub-Clause the following is added: "In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carried out in compliance with the safety requirements of the Government of Pakistan with such modifications thereto as the Project Manager/Engineer may authorize or direct and the Contractor shall take or cause to be taken such further measures and comply with such further requirements as the Project Manager/Engineer may determine to be reasonably necessary for such purpose.

	The Contractor shall make, maintain, and submit reports to the Project Manager/Engineer concerning safety, health and welfare of persons and damage to property as the Project Manager/Engineer may from time to time prescribe."
14.3	**Electricity Water and Gas** The text of Sub-Clause 14.3 is deleted and substituted by the following: "The Contractor shall be responsible for making his own arrangements for the adequate supply of electricity, water and gas required for the effective performance of his obligations under the Contract. Subject to the aforesaid, the Contractor shall be entitled to use for the purposes of the Works such supplies and services as may be available on the Site. The Contractor shall, before the commencement of the work at Site, seek the approval of the Project Manager/Engineer as to his detailed requirements of electricity, water and gas for the entire Contract period. The Contractor shall pay the Employer at the rates/cost incurred by the Employer. The Contractor shall at his own cost provide any apparatus necessary for such use. The contractor will bear the cost of distribution network for electricity, potable water, telephone, gas and their consumption by his own personnel for the purpose of the work."
14.4	**Employer's Equipment** The text of Sub-Clause 14.4 is deleted and substituted by the following: "The Employer shall, if the Contractor so requests for the execution of the works, operate any available equipment of which details are given in the Preamble to Conditions of Contract. The Contractor shall pay the Employer a mutually agreed price for such use. The Employer shall during such operation retain control of and be responsible for the safe working of the equipment."
14.6	**Opportunities for Other Contractors** Following paras are added at the end of subclause: "The Contractor shall also so arrange to perform its work as to minimize, to the extent possible, interference with the work of other contractors. The Project Manager/Engineer shall determine the resolution of any difference or conflict that may arise between the Contractor and other contractors and the workers of the Employer in regard to their work. The Contractor shall notify the Project Manager/Engineer promptly of any defects in the other Contractors' work that come to its notice, and that could affect the Contractor's work. The Project Manager shall determine the corrective

	measures, if any, required to rectify the situation after inspection of the Works. Decisions made by the Project Manager/Engineer shall be binding on the Contractor."
14.8	**Information for Import Permits and Licenses** The text of subclause is deleted and substituted with following: "The Contractor shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in Pakistan, which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Employer under GCC Subclause 17.5 hereof and that are necessary for the performance of the Contract. The Contractor shall submit to the Employer in good time such details of all Plant and Contractor's Equipment to be imported into Pakistan for which it requires Employer's assistance and identify as to what assistance of the Employer is required for obtaining by the Contractor of all necessary import permits or licenses."
14.9	The following Subclause GCC 14.9 is added: Procurement and Transportation 14.9.1 The Contractor shall procure and transport all materials in an expeditious and orderly manner to the Site. The Contractor shall adequately record the condition of roads, agricultural land and other infrastructure prior to the start of transporting materials, goods and equipment, and construction. 14.9.2 The Contractor shall at its own risk and expense transport all the materials and the Contractor's Equipment to the 500kV Grid Station NGC Sheikhupura and returning of spare RTV material to A-Type Store, NKLP Lahore, by the mode of transport that the Contractor judges most suitable under all the circumstances. 14.9.3 Unless otherwise provided in the Contract, the Contractor shall be entitled to select any safe mode of transport operated by any person to carry the materials and the Contractor's Equipment. 14.9.4 Upon dispatch of each shipment of materials and the Contractor's Equipment, the Contractor shall notify the Employer by telex, cable, facsimile, or electronic means, of the description of the materials and of the Contractor's Equipment, the point and means of dispatch, and

	the estimated time and point of arrival in Pakistan, if applicable, and at the Site. The Contractor shall furnish the Employer with relevant shipping documents to be agreed upon between the parties. 14.9.5 The Contractor shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the materials and the Contractor's Equipment to the Site. The Employer shall use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining such approvals, if requested by the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any claim for damage to roads, bridges, or any other traffic facilities that may be caused by the transport of the materials and the Contractor's Equipment to the Site.
15.2	**Compliance with Laws** The Sub-Clause 15.2 is deleted and substituted by the following: "The Contractor shall comply with the laws of the country of manufacture concerning the manufacture of the Plant, and the Laws of Pakistan where the Plant is to be erected. The laws will include all local, state, national, or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Contractor or its personnel, including the Subcontractors and their personnel."
	Following GCC subclauses 16.4 to 16.6 are added:
16.4	**License/Use of Technical Information** (a) For the operation and maintenance of the Plant, the Contractor hereby grants a non-exclusive and nontransferable license (without the right to sublicense) to the Employer under the patents, utility models, or other industrial property rights owned by the Contractor or by a third party from whom the Contractor has received the right to grant licenses thereunder, and shall also grant to the Employer a nonexclusive and nontransferable right (without the right to sublicense) to use the know-how and other technical information disclosed to the Employer under the Contract. Nothing contained herein shall be construed as transferring ownership of any patent, utility model, trademark, design, copyright, know-how, or other intellectual property right from the Contractor or any third party to the Employer. (b) The copyright in all drawings, documents, and other materials containing data and information furnished to the Employer by the Contractor herein shall remain vested in the Contractor or, if they are furnished to the Employer directly or through the Contractor by any third party, including suppliers of materials, the copyright in such materials shall remain vested in

	such third party.
16.5	**Photographs of Works and Advertisement Prohibited** Except with the prior written authorization of the Employer the Contractor shall not exhibit or permit to be exhibited any photographs or advertisement on the Works. Any authorized exhibition shall be immediately removed if the Employer so requires.
16.6	**Training of Employer's/ Engineer's Staff** The Contractor shall provide such facilities for the training of such numbers of Pakistani engineers, engineering students, apprentices and trade apprentices on such sections of the Works at the Site or on the Contractor's premises or Contractor selected plant manufacturer's premises and factories, or wherever else work is in hand, as specified or directed by the Project Manager/Engineer. The Employer shall direct what sums by way of wages and allowances are to be paid by the Contractor to such persons and shall reimburse the Contractor for such sums as are so directed to be paid and are paid. The Contractor shall also provide medical expenses or medical insurance and travelling expenses for trainees if required by the Employer which shall be reimbursed by the Employer. The language of training at the above stated premises shall be English and Urdu.
17.1	**Access to and Possession of the Site** GCC Subclause 17.1 is substituted with following: "The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way. The Employer shall give access to and possession of Site which, however, may not be exclusive to the Contractor."
17.4	**Consents and Way Leaves** The Sub-Clause 17.4 is deleted and substituted by the following: "The Employer shall issue permissions, letters, certificates and provide such other assistance to the Contractor for his obtaining permits-to-work, way leaves and approvals from any other department/authority and right of way from private owners, if required. The Contractor will bear the cost of logistics, fees, etc. for such activities. The Employer, will reimburse the Contractor only the payments made by him in respect of any land compensation for obtaining such way leaves, required for the Works."

17.5	**Import Permits and Licenses** Subclause GCC 17.5 is replaced with following: "The Employer shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities, or public service undertakings in Pakistan which (a) such authorities or undertakings require the Employer to obtain in the Employer's name, (b) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract If requested by the Contractor, the Employer shall use its best endeavors to assist the Contractor in obtaining in a timely and expeditious manner all permits, approvals, and/or licenses necessary for the execution of the Contract from all local, state, or national government authorities, or public service undertakings that such authorities or undertakings require the Contractor or the personnel of the Contractor, as the case may be, to obtain."
18.1	**<u>Engagement of Labour</u>** At the end of the Clause the following is added: "in accordance with the regulations, orders and requirements of the Govt. of Pakistan. The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor. The Contractor shall inform the Contractor's personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, and allowances as are chargeable under the Laws for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws." "
18.3	**Working Hours** The last sentence "The extra cost, ……. of the Contractor." of subclause is deleted.
	<u>Following subclauses GCC 18.5 to GCC 18.16</u> are added:
18.5	**<u>Employment of Persons in the Service of Others</u>**

	The Contractor shall not recruit or attempt to recruit his staff and labour from amongst the persons in the service of the Employer or the Project Manager/Engineer and vice–versa, unless mutually agreed between the Employer/Project Manager/Engineer and the Contractor.
18.6	**Alcoholic Liquor or Drugs** The Contractor shall not, otherwise than in accordance with the statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importation, sale gift, barter or disposal by his Subcontractors, agents, employees or labour.
18.7	**Arms and Ammunition** The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.
18.8	**Festivals and Religious Customs** The Contractor shall in all dealings with his staff and labour have due regard to all recognized festivals, days of rest and religious or other customs.
18.9	**Disorderly Conduct** The Contractor shall at all times take all reasonable precautions to prevent any unlawful riotous or disorderly conduct by or amongst his staff and labour and for the preservation of peace and protection of persons and property in the neighborhood of the Works against the same.
18.10	**Site Regulations and Safety, Health and Safety, Funeral Arrangements** 18.10.1 The Employer and the Contractor shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Contractor shall prepare and submit to the Employer, with a copy to the Project Manager, proposed Site regulations for the Employer's approval, which approval shall not be unreasonably withheld. Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Works, gate control, sanitation, medical care, and fire prevention. 18.10.2 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay, and ambulance service

	are available at all times at the Site and at any accommodation for Contractor's and Employer's personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. 18.10.3 The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the performance of the Contract, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority. 18.10.4 The Contractor shall send to the Project Manager, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety, and welfare of persons, and damage to property, as the Project Manager may reasonably require. 18.10.5 The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide. 18.10.6 In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for purpose of dealing with and overcoming the same. 18.10.7 In the event of the death of any of the Contractor's personnel or accompanying members of their families, the Contractor shall be responsible for making the appropriate arrangements for their return or burial.
18.11	**Reporting of Accidents** The Contractor shall report to the Project Manager/Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition to appropriate action required under the law, notify the Project Manager/Engineer immediately by the quickest available means.
18.12	**Compliance by Subcontractors** *(Sub-Contracting not allowed)* The Contractor shall be responsible for compliance by his Subcontractors of the foregoing provisions.
18.13	**Housing for Labour** Save insofar as the Contract otherwise provides, the Contractor shall provide

	and maintain such housing accommodation and amenities as he may consider necessary for all his supervisory staff and labour, employed for the purposes of or in connection with the Contract including all fencing, electricity supply, sanitation, cookhouses, fire prevention, water supply and other requirements in connection with such housing accommodation or amenities. On completion of the Contract, these facilities shall be handed over to the Employer or if the Employer so desires, the temporary camps or housing provided by the Contractor shall be removed and the Site reinstated to its original condition, all to the approval of the Project Manager/Engineer.
18.14	**Supply of Water and Foodstuff** The Contractor shall, so far as is reasonably practicable, having regard to local conditions**,** provide on the Site, to the satisfaction of the Project Manager/Engineer or his representative, adequate supply of drinking and other water for the use of his staff and labour. The Contractor shall also arrange for the provision of a sufficient supply of suitable food at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
18.15	**Prohibition of All Forms of Forced or Compulsory Labor** The contractor shall not employ "forced or compulsory labor" in any form. "Forced or compulsory labor" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.
18.16	**Prohibition of Harmful Child Labor** The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.
19.1	**Manner of Execution** The following is added at the end of Sub-Clause: "The Contractor shall submit for approval of the Project Manager/Engineer, his detailed method statement(s) for the execution of such items of work as may be desired by the Project Manager/Engineer. Approval of such method statement(s) shall neither relieve the Contractor of his responsibilities under the Contract nor form any basis for claiming additional costs."
	Sub-Clause 19.3 Uncovering Work The following is added at the end of second paragraph of Sub-Clause 19.3: "In any other case, all costs shall be borne by the Contractor."

19.4	**Use of Pakistani Materials** The following Sub-Clause 19.4 is added: "The Contractor shall so far as may be consistent with the Contract make the maximum use of materials, supplies and equipment indigenous to or produced in Pakistan and services available in Pakistan or operated in Pakistan provided such materials, supplies, equipment and services shall be of required standard."
20.2	**Inspection/ FAT/ Testing** Subclause 20.2 is replaced with following: 20.2.1 The Contractor shall at its own expense carry out at the place of manufacture and/or on the Site all such tests and/or inspections of the Plant and any part of the Plant as are specified in the Contract. 20.2.2 Authorized representatives of Employer i.e. Two representative of Director General (FO) North, NGC Lahore shall carry out pre-shipment inspection of RTV material at manufacturer's works/ supplier premises. All reasonable facilities (laboratory, tools, instruments, machines, samples etc.) as provided in the specifications or followed by trade and industry in general shall have to be offered to the inspectors, by Contractor at his expense for carrying out Testing and Inspection. The Contractor shall fully assist the nominated inspectors in submission of visa application(s) by providing all supporting document on his part and help in attaining visa through necessary correspondence with the embassy. *(Not Applicable)* 20.2.3 The cost of performing as well as witnessing of Type/Sample/ Routine/Quality Conformance/Factory Acceptance Tests by the Inspectors during foreign inspection shall be borne by the Supplier if such tests are clearly intended by or provided for in the specifications. Witnessing of the tests will cover the expenses of two representatives/inspectors, one nominated by DMD (AD&M) NGC) and 2nd from the Engineer (nominated by the concerned DMD) including air ticket from Lahore, Pakistan to the place or places of inspections, boarding & lodging in any A class accommodation, local transportation and daily allowance (including travel time) of 100 € to meet other expenses. The said payment will be made to the inspectors before issuance of test report/Inspection Certificate (IC). In addition to this all the expenses regarding visa stamping (visa fee, 1st class traveling, A class hoteling etc.) of the Procuring Agency and Engineer inspectors will also be borne by the Supplier. *(Not Applicable)* 20.2.5 In case a part or whole of the Goods (RTV material) being supplied by the Supplier under the Contract for application purpose is from

	within the Procuring Agency's country (Pakistan) the cost of performing as well as witnessing any FAT/ Inspections/ tests by the inspectors during pre-shipment local inspection shall be borne by the Supplier if such tests are clearly intended by or provided for in the technical specifications attached in bidding document. Witnessing of the tests and inspections, separately for both RTV material and its final application on Grid Equipment at site, will cover the expenses of Two (02) Inspectors of Procuring Agency/ NationalGrid, including 1st class traveling (by air or by road depending on the distance from the residing city of inspector to the place or places of inspections), boarding & lodging in any A class accommodation, local transportation and daily allowance (including travel time) of Rs. 15,000 /- per day per person to meet other expenses. The above expenses shall be paid directly to the respective inspectors, separately for each inspection activity, prior to the issuance of the Inspection Certificate (IC) for the RTV coating material and the Completion Certificate for the RTV coating application, as applicable. 20.2.6 The Contractor shall keep the Employer and Project Manager informed the progress of manufacturing and notify the Project Manager at least seven (07) days in advance, in writing as to when the RTV material or any part thereof will be ready for inspection and/or performance of type tests (if applicable in accordance with clause 4, Subsection-2 (Technical Specifications) of Section-IX (Technical Provisions). 20.2.7 The Contractor shall provide the Project Manager with a certified report of the results of any such test and/or inspection. If the Employer or Project Manager or their designated representatives fails to attend the test and/or inspection, or if it is agreed between the parties that such persons shall not do so, then the Contractor may proceed with the test and/or inspection in the absence of such persons, and may provide the Project Manager with a certified report of the results thereof. 20.2.8 The Project Manager may require the Contractor to carry out any test and/or inspection not required by the Contract, provided that the Contractor's reasonable costs and expenses incurred in carrying out such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of work on the Works and/or the Contractor's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected. 20.2.9 Any inspection and/or witnessing of tests or the waiving of such tests and/or surveillance by the Employer and Project Manager or their two Nos. Representatives shall not relieve the Contractor of its obligations and responsibilities under the Contract regardless of any approval or consent given by the Employer and Project Manager.

	All work covered by the Contract shall be subject to surveillance, testing and inspection by the representatives of the Employer. The Inspectors may require witnessing any or all the tests to be carried out. For such purpose the Contractor shall provide free access at all times during manufacture, assembly and testing to the premises in which the work is being carried out. 20.2.10 If any dispute or difference of opinion shall arise between the parties in connection with or arising out of the test and/or inspection of the Plant or part of the Works that cannot be settled between the parties within a reasonable period of time, it may be settled in accordance with GCC Subclause 50. 20.2.11 The Contractor shall afford the Employer and the Project Manager, at the Employer's expense, access at any reasonable time to any place where the Plant are being manufactured or the Works are being installed, in order to inspect the progress and the manner of manufacture or installation, provided that the Project Manager shall give the Contractor a reasonable prior notice.
	GCC Subclauses 20.3 and 20.4 are deleted in their entirety.
21.1	**Rejection** Last para of subclause is replaced with following: "The tests shall be repeated under the same terms and conditions without any additional cost to the Employer."
23.1	**Order to Suspend** Following is added at the end of subclause: "During such period, the Contractor shall not remove from the Site any Plant, any part of the thereof or any Contractor's Equipment, without the prior written consent of the Employer."
24.1	**Cost of Suspension** Following is added at the end of second para: "or for the proper execution or for the safety of the Works or Plant unless such necessity results from any act or default of the Project Manager/Engineer or the Employer or in consequence of any of the Employer's Risks under Sub-Clause 37.2."
24.4	**Resumption of Work** First paragraph of Sub-Clause 24.4 is deleted and substituted by the following: "If the Contractor chooses not to treat prolonged suspension as an omission or termination under Sub-Clause 24.3, the Employer shall, upon the request of the

	Contractor, take over the responsibility for protection, storage, security and insurance of the suspended Works and of the Plant which has been delivered to the Site and which is affected by suspension and the risk of loss or damage thereto shall thereupon pass to the Employer."
25.1	**Time for Completion** The text of Sub-Clause 25.1 is deleted and substituted by the following: "The Works at the place of the project mentioned in the Preamble to Conditions of Contract shall be completed tested and commissioned within the period mentioned in the Preamble to Conditions of Contract."
26.1	**Extension of Time for Completion** The Existing Text of the provision is deleted and replaced with the following. *The Contractor shall be entitled subject to provisions of this clause to an extension of the Time for Completion if and to the extent that completion for the purposes of Clause 25.1 is or will be delayed by any of the following causes:* *(a) a Variation (unless an adjustment to the Time for Completion has been agreed)* *(b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,* *(c) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.* *If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with this Clause. The Engineer shall after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Employer and Contractor accordingly. While determining each extension of time under this Clause, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.* *The Engineer shall make his determinations and notify the finalized/approved determination within reasonable time but not later than 90 days after submission of interim/final particulars by the Contractor in pursuance of this Clause as per prevalent SoPs .* **Notification Conditions for the Claims under This Clause** Provided that the Engineer is not bound to make any determination unless the Contractor has:- (a) within 28 days after such event has first arisen notified the Engineer with a Particulars copy to the Employer, and (b) within 28 days, or such other reasonable time as may be agreed by the Engineer, after such notification submitted to the Engineer detailed particulars of any extension of time to which he may consider himself entitled in order that such submission may be investigated at the time.

26.3	<u>Earlier Completion</u> (i) At the end of Sub-Clause 26.3(a) the following text is added and Clause is re-designated as 26.3. "The extra sum to be paid to the Contractor for Completion of Works prior to the date of Completion established under Sub-Clause 25.1 shall be computed on the basis of the sums mentioned in the Preamble to Conditions of Contract." *(Not Applicable)* (ii) Sub-Clause 26.3 (b) is deleted.
	Subclause GCC 26.4 is added as follows:
26.4	Rate of Progress If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works or any Section is at any time, in the opinion of the Project Manager/Engineer, too slow to comply with the Time for Completion, the Project Manager/Engineer shall so notify the Contractor who shall thereupon take such steps as are necessary, subject to the consent of the Project Manager/Engineer, to expedite progress so as to comply with the Time for Completion. The Contractor shall not be entitled to any additional payment for taking such steps. If, as a result of any notice given by the Project Manager/Engineer under this Clause, the Contractor considers that it is necessary to do any work at night or on locally recognized days of rest, he shall be entitled to seek the consent of the Project Manager/Engineer so to do. Provided that if any steps, taken by the Contractor in meeting his obligations under this Sub-Clause, involve the Employer in additional supervision costs, such costs shall, after due consultation with the Employer and the Contractor, be determined by the Project Manager/Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any moneys due or to become due to the Contractor and the Project Manager/Engineer shall notify the Contractor accordingly, with a copy to the Employer. In case of any delay on account of repeated/inordinate/erroneous submittals of designs/technical data as well as the repeated request for change of manufacturers, the Employer shall recover any additional costs incurred in maintaining design review/approval services for such extended period besides imposition of liquidated damages. In case of Transmission Line Contract, only two (02) manufacturers are allowed to be changed to any valid reasons/refusal letter from original manufacturer. However, evaluation of new proposed manufacturer will be carried out on the criteria applicable in tender document

	The Contractor shall submit to Engineer and Employer the daily, weekly, monthly progress reports and cash flow projections on the format approved by the Engineer. The monthly reports shall be submitted within 05 days from completion of the respective month. The Contractor shall make available and install [insert appropriate number] number of WEBCAMs alongside necessary storage of atleast 06 months and servers for continuous monitoring of site (instant sites in case of T/Lines) activities. The Contractor will provide access to the Engineer and Employer's designate persons. The placing/location/coverage decision for the installation of WEBCAMs will be done with consent of Engineer.
27.1	**Delay in Completion** Sub-Clause 27.1 is deleted and substituted by the following: "If the Contractor fails to deliver the Works, or any part thereof, within the time stated in Sub-Clause 25.1, or fails to complete the whole of the Work, or, if applicable, any Section within the relevant time prescribed by Sub-Clause 25.1, then the Contractor shall pay to the Employer the relevant sum mentioned in Preamble to Conditions of Contract as liquidated damages for such default (which sum shall be the only moneys due from the Contractor for such default) for every day or part of a day which shall elapse between the relevant time for Delivery or Time for Completion and the actual date of delivery at site or the date stated in a Taking–Over Certificate of the whole of the Works or the relevant Section, as the case may be, provided that the aggregate amount of such liquidated damages shall in no event exceed the maximum amount specified as in Preamble to Conditions of Contract The Employer may deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract. The liquidated damages for each day of delay and the maximum amount of liquidated damages shall be the amounts mentioned in the Preamble to Conditions of Contract."
28.1	**Notice of Tests** The words " The Employer" at the start of subclause are deleted and substituted with following: "As soon as the Plant or any part thereof has, in the opinion of the Contractor, been completed operationally and structurally and put in a tight and clean condition as specified in the Special Provisions or Technical Provisions,

	excluding minor items not materially affecting the operation or safety of the Plant, the Contractor"
28.4	The Employer shall not provide any labour, materials, electricity, fuel, water, stores, apparatus and feedstock to Contractor to carry out the Tests.
28.6	**Disagreement as to Result of Tests** The following sentence is added at the end of subclause. "The parties shall then proceed in accordance with the procedure set out in GCC Clause 50."
28.7	**Consequences of Failure to Pass Tests on Completion** The words "by arbitration" appearing at the end of the Sub-Clause 28.7(c) are deleted and substituted by the words "by the Project Manager/ Engineer".
30.4	**Extension of Defects Liability Period** At the end of 4th paragraph of Sub-Clause the following is added: "or a mutually agreed period."
30.5	**Failure to Remedy Defects** In first line after the words "reasonable time" the following is added: "fixed by the Project Manager/ Engineer".
30.11	The following text is inserted at end of this provision However, the issuance of Defect Liability Certificate can be withheld by the Project Manager/Engineer if Contractor fails to submit completion report along with As built data/drawings, material reconciliation reports, Operation & Maintenance manuals and Hard and Soft Copies of site records/data to the Engineer for information and approval prior to expiry of Defect Liability Period.
30.13	New Sub-Clause 30.13 is added as herein below: **Unfulfilled Obligations** "After the Defects Liability Certificate has been issued, the Contractor and the Employer shall remain liable for the fulfillment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force."
31.1	**Engineer's Right to Vary** The following is added at the end of second paragraph: "No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with Clause 31.

	Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of Contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor."
31.5	**Record of Costs** The word "Engineer" in 4th line of Sub-Clause is deleted and substituted by "Project Manager/ Engineer/ Employer".
	New Sub-Clauses 31.6 is added as given below:
31.6	**Value Engineering** The Contractor may, at any time, submit to the Project Manager/Engineer a written proposal which in the Contractor's opinion will reduce the cost of constructing, maintaining or operating the works, or improve the efficiency or value to the Employer of the completed Works or otherwise be of benefit to the Employer. Any such proposal shall be prepared at the cost of the Contractor. However Employer is not bound to accept such proposal.
32.1	**Ownership of Plant** Subclause GCC 32.1 is replaced with following: "32.1.1 Ownership of the Plant (including spare parts) to be imported into Pakistan shall be transferred to the Employer upon loading on to the mode of transport to be used to convey the Plant from the country of origin to that country. 32.1.2 Ownership of the Plant (including spare parts) procured in Pakistan shall be transferred to the Employer when the Plant are brought on to the Site. 32.1.3 Ownership of the Contractor's Equipment used by the Contractor and its Subcontractors in connection with the Contract shall remain with the Contractor or its Subcontractors. 32.1.4 Ownership of any Plant in excess of the requirements for the Works shall revert to the Contractor upon Completion of the Works or at such earlier time when the Employer and the Contractor agree that the Plant in question are no longer required for the Works. 32.1.5 Notwithstanding the transfer of ownership of the Plant, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor until Risk Transfer Date of the Works or the part thereof in which such Plant are incorporated."
33.1	**Terms of Payment** 33.1.1 The Employer shall pay the Contractor in the following manner and

at the following times, on the basis of the Prices given in the section on Schedules of Price. Payments will be made in the PKR only. Applications for payment in respect of part deliveries may be made by the Contractor as work proceeds.

(A) Terms of Payment

(i) RTV material, application and other services

In respect of supply of RTV material, its application and other services, the following payments shall be made:

1. Ninety (90%) of the total value of application & other services executed, including the proportion of RTV material, against receipt of invoice(s) on successful completion of application works complete in all respect, after submission of following documents:

   i) Original invoices in triplicate (having NTN) duly verified by concerned quarters.

   ii) Non-payment certificate to the effect that said payment has not been claimed/ received earlier.

   iii) Inspection Certificate for RTV material, issued by the nominated inspection team of NationalGrid.

   iv) Certificate of Origin for RTV material used for application works.

   v) Manufacturer's or Supplier's Warranty certificate for RTV material as per Technical Specifications.

   vi) Inspection and Completion Certificates for RTV application works, issued by concerned formation of NationalGrid against each invoice that the said application works have been completed satisfactorily in all respect as per the approved schedule of work and that no item of work remains outstanding against the Contractor.

   vii) Income Tax and other Taxes will be deducted at the time of payment.

2. 10% balance payment (Retention Money) deducted from each invoice will be made upon expiry of Defect Liability Period and subsequent issuance of Defect Liability Certificate.

   Partial payment is applicable under the Contract.

(vi) Reimbursement of Duties, Indirect Taxes, and other local charges

For any sum expended by the contractor in respect of custom duties and local indirect taxes shall be paid by the Employer within 45 days against submission of claim supported by documentary

evidence acceptable to employer. The reimbursement of taxes will only be made if NationalGrid's WEBOC system is used. *(Not Applicable)*

All payments will be subject to withholding taxes as per Income Ordinance, 2001/ International Tax Treaty & Sales Tax Act 1990. Further, payments shall be made only to those entities appearing in Active Taxpayer List (ATL) for both Income Tax & Sales Tax.

(B) Payment Procedures

The procedures to be followed in applying for certification and making payments shall be as follows:

Summary of Procedure

Sr. #	Item	Procedure
1	RTV material, its application and Other Services	Direct Payment
2	Custom Duties and taxes (on Imported items) *(N/A)*	Paid by Contractor and reimbursed by Employer *(N/A)*
3	Sales tax (local items & services)	Paid by Contractor and reimbursed by Employer
4	Local transportation *(N/A)*	Direct Payment *(N/A)*

* **Foreign Contractor** shall be paid by the Employer through irrevocable Letter of Credit opened in favour of the Contractor in a bank in its country, upon submission of documents specified herein. *(Not Applicable)*

Local Contractor shall be paid foreign currency component through inland letter of credit opened in favour of contractor in equivalent Pak Rs on parity rate (interbank TT selling) prevailing on the date of Bill of Lading. The date of bill of Lading should fall within the proposed schedule of delivery updated at the time of contract as per committed completion period. For Local currency component, local Contractor shall be paid through direct payment. *(Not Applicable)*

(i) Charges for opening of Letter of Credit and amendments shall be borne by the Contractor. The currency of LC shall be the same as quoted in the bid.

(ii) Irrevocable Letter of Credit will be established by CFO (NationalGrid), 2nd Floor, Shaheen Complex, Egerton Road, Lahore

	within Seventy Five (75) days from the date of signing of Contract in any scheduled bank in Pakistan in favor of Contractor in a designated bank in his country. The timeline for the establishment of L/C will be as under:- *(Not Applicable)* • Within 15 days from issuance of Notification of Award/Letter of Acceptance, the Contractor will submit the following information to the Chief Financial Officer (NationalGrid), Attention: Deputy Manager (L/C), 2nd Floor, Shaheen Complex, Egerton Road, Lahore under intimation to the Procuring Agency: *(Not Applicable)* a. Signed and Stamped Copy of Notification of Award. b. Name & Complete address of Beneficiary. c. Name & complete address of Beneficiary Bank. d. Beneficiary's Bank Account Number & Swift Code. e. Proforma Invoice in original duly signed/stamped including relevant payment terms. (Draft Proforma Invoice is attached as Form-19) f. Freight Breakup. g. No. of Packages. h. Weight and Measurement of goods. i. Port of Shipment. j. Volume. k. Expected Date of Shipment. l. Origin of Goods. m. Delivery Period. n. Relevant H.S Codes to be incorporated in the L/C o. Insurance Cover (if applicable) (any other documents required by the L/C focal person –DM (L/C) NationalGrid) • Draft LC from bank will be provided to Procuring Agency and Contractor by LC section within 07 days. • Draft will be got vetted from Contractor within 07 days, otherwise it will be considered as deemed approved. In this case, LC section will proceed for opening of LC as per Contract Agreement. Any amendment thereof shall be borne by the supplier. *(Not Applicable)*
(iii)	The Contractor shall pay the custom duties and other incidental charges through Manager (Custom Clearance & Logistics) NationalGrid, Karachi. The same shall be reimbursed to the Contractor as per actual. *(Not Applicable)* The Contractor will coordinate with Manager (Custom Clearance & Logistics) NationalGrid, Karachi for custom clearance and will be

responsible and pay the charges for unloading and loading at sea port, inland transportation and insurance to the site/Employer ware house, storage at site and insurance. For purpose of clearance of material at port, the Contractor shall hire services of any NationalGrid authorized clearing agent (appearing in NationalGrid authorized agents list) *(Not Applicable)*

(iii) Upon shipment of Plant from outside Pakistan, the contractor shall notify the Employer, Manager (Custom Clearance & Logistics) NGC, Karachi, Pakistan and the Insurance Company by fax/cable the full details of the shipment, including Contract number, description of Goods, quantity, the vessel, the bill of lading number and date, port of loading, date of shipment, port of discharge, etc. The Contractor shall mail the following documents to the Employer and Manager (Custom Clearance & Logistics) NGC, Karachi with a copy to the Insurance Company, in such a manner that the same are received by all concerned at least **15 days** before arrival of the Plant at the port or place of arrival. The Contractor will be responsible for any consequent expenses due to late receipt of the said documents. *(Not Applicable)*

a) Copies of the Contractor's invoice showing Goods description, quantity, unit price and total amount.

b) Original and four copies of the negotiable clean, on board bill of lading marked "freight prepaid" and four copies of non-negotiable bill of lading.

c) Copies of the packing list identifying contents of each package.

d) Insurance certificate.

e) Manufacturer's or Supplier's Warranty certificate.

f) Inspection certificate, issued by the nominated inspection agency and the manufacturer's factory inspection report, alongwith manufacturer's Warranty certificate.

g) Certificate of origin.

(iv) For any sum paid by the Contractor in respect of custom duties and taxes in consequence of importation of Plant, shall be reimbursed by the Employer within the time mentioned in GCC Subclause 33.5 against presentation of acceptable claim supported by documentary evidence in original to the Employer. The expenses against this item shall be reimbursed from the amount of Provisional Sums provided in Schedule of Price for this purpose." *(Not Applicable)*

	33.1.2 Retention of Payment If at any time any payment would fall due for Works or part of Works and, if there shall be any defect in part of such Works during defect liability period, in respect of which such payment is proposed, the Employer may retain the whole or any part of such payment. Any sum retained by the Employer pursuant to the provisions of this Clause shall be paid to the Contractor after the said defect is removed and after expiry of defect liability period. **33.1.3 Payment Where Taking-Over Certificate Issued for Section or Part of Works** *(Not Applicable)* If any section or part of the Works shall be taken-over separately under Clause 29 (Taking-Over) hereof, the payments herein provided for on or after Taking-Over shall be made in respect of the section or part taken-over and reference to the price shall mean such part of the price as shall, in the absence of agreement, be apportioned thereto by the Project Manager/Engineer. **33.1.4 Extra Payment** No extra payment in respect of overtime, additional materials, or special conditions or hardship shall be claimed by the Contractor unless otherwise provided in the Contract or such payments have been previously authorized in writing by the Project Manager/Engineer or the Employer. **33.1.5 Breakdown of Lump Sum Items** For the purposes of statements to be submitted in accordance with Sub-Clause 33.1 hereof, the Contractor shall submit to the Project Manager/Engineer, within twenty eight (28) days after the receipt of the Letter of Acceptance, a breakdown for each of the lump sum items contained in the Bid. Such breakdowns shall be subject to the approval of the Project Manager/Engineer. *(Not Applicable)*
33.2	**Method of Application** Sub-Clause 33.2 is deleted and substituted by the following: (1) The Contractor shall submit to the Employer/Project Manager/Engineer ten (10) copies of the Application for Certificate of Payment (invoices) each signed by the Contractor and in such form as the Employer/Project Manager/Engineer may from time to time prescribe. Application shall be accompanied by such invoices, receipts or other documentary evidence as the Engineer/Project Manager may from time to time require. (2) The Application for Certificate of Payment for progress of Work under Schedule of Price shall be submitted after end of each month accompanying also a statement signed by the Contractor in the form acceptable to Employer or in such other form as the Engineer may from time to time prescribe showing the amounts to which the Contractor may consider

	himself to be entitled upto the end of the month in respect of: i. The permanent work executed. ii. Payment of account of lump sum item in the Price Schedule not included under head (i) above. (3) The Applications for Certificate of Payment for supply of Goods shall be submitted on the delivery of any Goods and shall also be accompanied by the following documents: a) Shipping Documents comprising of i) Payment/Commercial Invoice ii) Clean on board Bill of Lading or airway bill issued by the freight forwarder (for imported Goods only) iii) Delivery Note/Acknowledgement of the material receipt at site or at Employer designated Warehouses in case of Spare Parts iv) Packing list v) Certificate or Policy of Freight Insurance from Ex- factory to the Project Site or to Employer designated Warehouses in case of Spare Parts, of the portion of the Goods for which Certificate of Payment is requested b) Certificate that the Goods complies with the Specifications c) Certificate of origin, issued by the Contractor d) Warranty Certificate e) Pre-shipment Inspection certificate/Inspection certificate or letter of waiver, issued by the Engineer. f) Any other document as considered necessary by the Engineer (4) The Application for Certificate of Payment shall state the amount claimed and shall set forth in detail, in the order of the Price Schedule, particulars of the Work executed up to the date named in the Application and subsequent to the period covered by the last preceding certificate, if any. (5) Any payment claims for Foreign Exchange part under Clause GCC 47.1 will be paid through direct payment procedure (Crossed Cheque) in equivalent PKR as per exchange rate applicable on date of payment.
33.5	**Payment** Sub-Clause 33.5 is deleted and substituted by the following: "The amount due to the Contractor under any Interim Payment Certificate issued by the Project Manager/Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 27, be paid by the Employer to the Contractor within the period mentioned in Preamble to Conditions of Contract after such Interim Payment Certificate has been jointly verified by Employer and Contractor, or, in the case of the Final Certificate (referred to in Sub-Clause 33.10) within the period mentioned in Preamble to Conditions of Contract after

	such Final Payment Certificate has been jointly verified by Employer and Contractor. Deduction shall be made from the net amounts payable to the Contractor of any sum(s) in accordance with the prevalent Federal and/or Provincial laws, provided that no such deduction shall be made from those payments in respect of which the Contractor has obtained exemption under the Law."
33.6	Delayed Payment The text of Sub-Clause 33.6 is deleted and substituted by the following: "In the event of the failure of the Employer to make payment within the times stated in Sub-Clause 33.5, the Employer shall pay to the Contractor compensation at the rate of KIBOR+1% for local currency and LIBOR% for foreign currency per annum, upon all local currency sums unpaid from the date by which the same should have been paid. The provisions of this Sub-Clause are without prejudice to Contractor's entitlement under Sub-Clause 46.1."
33.8	**Payment by Measurement** Actual quantities of works shall be finalized upon completion of final substation layout/orientation, and approval of civil works drawings. **Work to be measured** The Employer / Project Manager, shall, except as otherwise stated, ascertain and determine by measurement the value of the work done in accordance with the Contract and the Contractor shall be paid that value in accordance with this Clause. The Employer / Project Manager shall, when he requires any part of the Work to be measured, give reasonable notice to the Contractor, who shall: (a) forthwith attend or send a qualified representative to assist the Employer / Project Manager in making such measurement, and (b) supply all particulars required by the Employer/ Project Manager Should the Contractor not attend, or neglect or omit to send such representative, then the measurement made by the Employer/ Project Manager or approved by him shall be taken to be the correct measurement of such part of the Work. For the purpose of measuring such Work as are to be measured by records (including video records from WEBCAMs) and drawings, the Employer/ Project Manager shall prepare records and drawings as the work proceeds and the Contractor, as and when called upon to do so in writing, shall, within fourteen (14) days, attend to examine and agree such records and drawings with the Employer/ Project Manager and shall sign the same when so agreed. If the Contractor does not attend to examine and agree such records and drawings,

	they shall be taken to be correct. if, after examination of such records and drawings, the Contractor does not agree the same or does not sign the same as agreed, they shall nevertheless be taken to be correct, unless the Contractor, within fourteen (14) days of such examination, lodges with the Employer/ Project Manager notice of the respect in which such records and drawings are claimed by him to be incorrect. On receipt of such notice, the Employer/ Project Manager shall review the records and drawings and either confirm or vary them. **Method of Measurement** The Work shall be measured net, notwithstanding any general or local custom, expect where otherwise provided for the Contract.
	Sub-Clause 33.12 Withholding of Payment New Sub-Clause 33.12 is added as given below: If the Works or any parts thereof are not being carried out to the Project Manager/Engineer's satisfaction and in order to protect the Employer from loss on account of: (a) defective work not rectified (b) claims filed against the Contractor (c) failure of the Contractor to make payments due for Plant procured or labour employed by him (d) damage to any other contractor employed by the Employer (e) Contractor's non–compliance with the Contract (f) any Government dues recoverable from the Contractor if notified by the Government (g) Any other reason as deemed necessary by the Employer, for substantiation of invoice. The Project Manager/Engineer may notify withholding of such payments or part thereof as may, in his opinion, be related to the aforesaid reasons/grounds. When the reasons/grounds for withholding the payment are removed by the Contractor, the Project Manager/Engineer shall upon being satisfied to that effect issue Certificate of Payment in respect of withheld amounts without markup and penalty. In addition, the Employer/Engineer reserves right to withhold Contractor's payment on following accounts. a) Notwithstanding the terms of Clause 33.1 or any other Clause of the Contract, no amount will be certified by the Engineer for payment/paid by Employer until the Performance Security/Advance Payment Security, if required under the Contract, has been provided by the Contractor,

	approved by the Employer and is valid for the required duration stated in the Contract. b) Employer reserves the right to withhold the payments in case of Contractor's non-compliance with reporting requirements under Clause-26.4 and insurance requirements under Clause 43 of Conditions of Contract. c) If there is any ambiguity in the payment/claim or Interim Payment Certificate, the Employer may withheld the payment to such extent and may process the remaining amount. In such case, the withheld amount may be included in the next Payment Certificate alongwith clarification for ambiguity pointed out by Employer. d) In case of Contractor's non-compliance with the laws/regulations of the tax authorities' (Federal/Provincial), the Employer reserves the right to withhold the payments for ensuring the necessary compliance. e) In case the Engineer determines that the Contractor do not possess sufficient T&P as per requirements of works/tender documents, He has right to withhold the payments. Any delay in payments due to aforementioned provisions do not give any right to Contractor for Remedies under Clause 26.1 and 33.7.
	<u>Subclauses GCC 33.13 and GCC 33.14 are added as follows:</u>
33.13	No payment made by the Employer herein shall be deemed to constitute acceptance by the Employer of the Works or any part(s) thereof.
33.14	**Payments Due from Contractor for non- compliance** Employer may, without prejudice to any other method of recovery, deduct the amount due from any money is his hand due to or which may become due to the Contractor or recover same through the Performance Security as per the provisions of the contract. . Such deduction shall not relieve the Contractor from his obligations to complete the Work in accordance with the Contract to the satisfaction of the Employer.
35.2	**<u>Currency Restrictions</u>** The text of Sub-Clause 35.2 is deleted and substituted by the following: "Any required foreign currency transactions shall be met by the Contractor at his cost from his own resources."
35.3	**<u>Rates of Exchange</u>**

	The text of Sub-Clause 35.3 is deleted and substituted by the following: "Any import, if required and approved by the Employer shall also be paid in local currency with exchange rate for the period as notified by the National Bank of Pakistan."
36.4	**Payment against Provisional Sums** Sub-Clause 36.4 is deleted and substituted by the following: "Provisional Sum if any will be expended on the direction of the Engineer through Variation Orders which would be valued in accordance with the provisions of Clause 31 Conditions of Contract."
37.2	**Employer's Risks** The text of Sub-Clause 37.2 is deleted and substituted by the following: "The Employer's Risks are: (a) (Insofar as they relate to Pakistan) war and hostilities (whether war be declared or not), invasion, act of foreign enemies (b) (Insofar as they relate to Pakistan) rebellion, revolution, insurrection, military or usurped power or civil war (c) ionizing radiation or contamination by radioactivity from any nuclear fuel, radio-active toxic explosives or other hazardous properties of any explosive nuclear assembly or nuclear components thereof (d) pressure waves caused by aircraft travelling at sonic or supersonic speed (e) (Insofar as they relate to Pakistan) riot, commotion or disorder, unless solely restricted to the employees of the Contractor. (f) use or occupation of the Work or any part thereof by the Employer (g) fault, error, defect or omission in the design of any part of the Works by the Engineer, Employer or those for whom the Employer is responsible for which the Contractor has disclaimed responsibility in writing within a reasonable time after the receipt of such design (h) the use or occupation of the Site by the Works or any part thereof, or for the purposes of the Contract: or interference, whether temporary or permanent with any right of way, light, air or water or with any

	easement, way leaves or right of a similar nature which is the inevitable result of the construction of the Works in accordance with the Contract (i) the right of the Employer to construct the Works or any part thereof on, over, under, in or through any land (j) damage (other than that resulting from the Contractor's method of construction) which is the inevitable result of the construction of the Works in accordance with the Contract (k) the act, neglect or omission or breach of contract or of statutory duty of the Engineer, the Employer or other contractors engaged by the Employer or of their respective employees or agents."
39.2	**Loss or Damage Before Risk Transfer Date** The words "by arbitration under Clause 50" are deleted and substituted by the words "by the Project Manager/ Engineer".
39.4	New Sub-Clause 39.4 is added as given below: **Duty to Minimize Delay** Each Party shall at all times use all reasonable endeavors to minimize any delay in the Performance of the Contract as a result of Risks. The Contractor shall give notice to the Employer and vice versa the Employer shall give notice to the Contractor in case of foreseeable delay by the Risks.
40.1	**Contractor's Liability** The text of Sub-Clause 40.1 is deleted and substituted by the following: 40.1.1 Except as provided under Sub-Clause 41.1, the Contractor shall be liable for and shall indemnify the Employer against all losses, expenses and claims in respect of any loss of or damage to physical property (other than the Works), death or personal injury occurring before the issue of the last Defects Liability Certificate to the extent caused by: (a) defective design, material or workmanship of the Contractor, or (b) negligence or breach of statutory duty of the Contractor, or their respective employees and agents. 40.1.2 If any proceedings are brought or any claim is made against the

	Employer that might subject the Contractor to liability under GCC Subclause 40.1.1, the Employer shall promptly give the Contractor a notice thereof and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Contractor fails to notify the Employer within 28 days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the 28-day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Employer shall, at the Contractor's request, afford all available assistance to the Contractor in conducting such proceedings or claim, and shall be reimbursed by the Contractor for all reasonable expenses incurred in so doing.
40.2	**Employer's Liability** The text of Sub-Clause 40.2 from the words "or of death or personal injury" to the end of the Sub-Clause, is deleted and substituted by the following: "..... (other than the Works) or of death or personal injury to the extent caused by any of the Employer's Risks listed in paragraphs (f), (g), (h), (i), (j), and (k) of Sub-Clause 37.2 but not otherwise."
42.1	**Limitations of Liability** Following Subclause 42.1 (c) is added at the end of GCC 42.1: "(c) in case of criminal negligence or willful misconduct."
42.2	**Maximum Liability** the words "the sum stated in the Preamble to Conditions of Contract or if no such sum is stated" appearing in 2nd line of Sub-Clause are deleted.
42.6	**Foreseen Damage** Sub-Clause 42.6 is deleted in its entirety.
	Subclause 43.0 is added under the heading "**Insurance**" as follows: 43.0.1 To the extent specified herein, the Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified herein. The identity of the insurers and the form of the

	policies shall be subject to the approval of the Employer, who should not unreasonably withhold such approval. 43.0.2 The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to this clause, except for the Third Party Liability, Employees, and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to this Clause except for the Marine Insurance of Plant and Employees. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies 43.0.3 The Contractor shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Contractor.
43.1.1	<u>The following further Sub-Clauses are 43.1.1, 43.1.2 and 43.1.3 are added:</u> **<u>Marine Insurance of Plant</u>** (1) The Contractor shall in the joint names of the Contractor and the Employer, obtain Marine Cargo All Risks Insurance to cover loss or damage to the Plant or part thereof during transport. (2) The insurance for each consignment of Plant or part thereof shall attach from the time the Plant or part thereof leave the warehouse or place of storage and terminate after ninety (90) days on its completion of unloading at the Site or until insurance survey whichever occurs first. Upon arrival of each consignment at the Site, the Contractor shall, immediately arrange insurance survey by the insurance company. (3) The sum insured for imported Plant or part thereof shall be for its full replacement value at the Site i.e. 100 % CIP value at the Site for each consignment of the Plant or part thereof plus not less than 30 % of CIP value at the Site to cover any additional costs resulting from loss or damage thereof. (4) The Insurance Policy for imported Plant etc. shall be on "All Risks" basis and shall not be limited to the attachment/endorsement of following clauses: (a) Institute Cargo Clauses (A) (b) Institute War Clauses (Cargo)

	(c) Institute Strikes Clauses (Cargo) (d) Institute Cargo Clauses (Air) excluding sending by Post (e) Institute War Clauses (Air Cargo) excluding sending by Post. (f) Institute Strikes Clauses (Air Cargo) (g) Special Replacement Clauses (Air) (h) Institute Theft, Pilferage and Non-delivery Clauses
43.1.2	**Erection/Construction All Risks Insurance** (1) The Contractor shall insure the Works or part thereof in the joint names of the Contractor and the Employer. (a) from the date following the completion of the first unloading at the Site of the Plant or part thereof and other materials (to be used for construction or erection) and from commencement of Works at Site until the Risk Transfer Date against any loss or damage caused by any of the Contractor's risks and any other risks specified in Sub-Clause 43.1.(a) above and (b) during the Defects Liability Period against any loss or damage which is caused either: (i) by the Contractor in completing any outstanding work or complying with his obligations under Clause 30, or (ii) by any of the Contractor's risks and any other risks specified in Sub-Clause 43.1(a) above, which occurred prior to the Risk Transfer Date. (2) The sum insured shall be the full replacement value at the Site, which includes: (a) (i) FOB value of imported Plant to be erected (ii) Ex-factory value of Indigenous Plant to be erected, if any (b) freight and insurance including local transport (c) customs duties and taxes etc. (d) cost of erection (e) cost of civil engineering work including escalation (f) clearance of debris, maximum @ 5 % of minimum amount of

	Third Party Liability Insurance Plus 30% to cover any additional costs resulting from loss or damage thereof.
43.1.3	**General** Should a loss be sustained, the Contractor shall replace or repair any loss or damage at his own cost and complete the Works in accordance with the Contract as soon as possible after occurrence of such loss or damages, without waiting for the settlement of the insurance claim."
43.2	**Contractor's Equipment** Sub-Clause 43.2 is deleted and substituted by the following: "The Contractor shall insure the Contractor's Equipment for its full replacement value while on the Site against all loss or damage caused by any of the Contractor's Risks."
43.7	**Remedies on the Contractor's Failure to Insure** In 3rd line after the word, "purpose", the expressions- "and reasonable costs including the man-hours costs of Employer's Personnel" are added.
43.9	New Sub-Clauses 43.9 to 43.12 are added as follows: **Currency of Insurance** "All policies of Insurance of the Plant shall provide for payment of indemnity to be made in such amounts as will allow making good of loss of or damage to the whole or any part of the Works preferably PKR."
43.10	**Contractor to Notify** "It shall be the duty of the Contractor to notify the insurers of any such insurances referred to above of any matter or event which by the terms of such insurances are required to be so notified. All formalities in connection with insurance survey(s) shall be the sole responsibility of the Contractor. The Contractor shall indemnify and keep indemnified Employer against all loss, claims, demands, proceedings, costs, charges and expenses whatsoever arising out of or resulting from any default by the Contractor in complying with the requirements of this Sub-Clause whether as a result of the avoidance of any such insurance or otherwise. In case of any insurance claim, the Contractor shall pursue the insurance claim if any, till such time final settlement of such insurance claims is effected."

43.11	**Procurement of Insurance Policies** The Contractor shall procure and submit the insurance cover before Date of Commencement. Further, in case of delay, the Employer reserves the right to procure the insurance policies at risk and cost of the Contractor. In case of loss incurred during absence of insurance cover, the Contractor shall be fully responsible to indemnify the Employer from any such event as per sums which would have otherwise been recoverable from insurance cover.
43.12	**Insurance Company** All insurances shall be affected with either National Insurance Company of Pakistan or any other insurance company operating in Pakistan and acceptable to the Employer.
44.1	**Force Majeure** The words "and which are unavoidable notwithstanding the reasonable care of the party affected," are added in the first line after the word "the parties". Text in sub-para (b) is deleted and para (c) and (d) are re-numbered as (b) and (c).
44.6	**Damage Caused by Force Majeure** At the end of the Sub-Clause 44.6 the following is added: "However the Contractor shall put up his claim to the Employer / Engineer with full details and justification."
44.8	**Payment on Termination for Force Majeure** Text in sub-para (c) is deleted and para (d) and (e) are re-numbered as (c) and (d). New Sub-para (e) shall be added as follows: In calculating any monies due from the Employer to the Contractor, account shall be taken of any sum previously paid by the Employer to the Contractor under the Contract, including any advance payment paid pursuant to clause 33.1 (Terms of payment) of the contract agreement
44.10	**Force Majeure Affecting Engineer's Duties** Sub-Clause 44.10 is deleted in its entirety.
45.2	**Contractor's Default**

	Text of subclause is numbered as sub-para 45.2.1 and the following sub-para 45.2.2 is added:
45.2.2	Upon receipt of the notice of termination under GCC Subclauses 45.2.1 or 42.2.2, the Contractor shall, either immediately or upon such date as is specified in the notice of termination, (a) cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Works already executed, or any work required to leave the Site in a clean and safe condition; (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) below; (c) deliver to the Employer the parts of the Works executed by the Contractor up to the date of termination; (d) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Works and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor; and (e) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor as of the date of termination in connection with the Works. The Employer or such other contractor may use for such completion any Contractor's Equipment which is upon the Site as he or they may think proper, and the Employer shall pay the Contractor a reasonable compensation for such use.
45.4	**Payment after Termination** The text of subclause is replaced with following: "The Employer shall not be liable to make any further payments to the Contractor until the Works have been completed. When the Works are so complete, the Project Manager/Engineer shall certify the total cost of such completion of Works. The Employer may recover the extra cost of such completion, as certified by the Project Manager/Engineer, from any sums otherwise due and payable to the Contractor and/or by disposing of the Contractor's Equipment and stores taken over by the Employer under this Clause or as otherwise provided by law. If there is no such extra cost the Employer shall pay any balance due to the Contractor." In calculating extra cost of such completion, account shall be taken of any sum previously paid by the Employer to the Contractor under the Contract, including any advance payment paid pursuant to clause 33.1 (Terms of payment) of the contract agreement.
	New Sub-Clause 45.6 is added as follows:

45.6	**Integrity Pact** If the Contractor, or any of his agents or servants is found to have violated or involved in violation of the Integrity Pact signed by the Contractor as Schedule-J to his Bid, then the Employer shall be entitled to: (a) recover from the Contractor an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Contractor, agents or servants; (b) terminate the Contract; and (c) recover from the Contractor any loss or damage to the Employer as a result of such termination or of any other corrupt business practices of the Contractor or any of his, agents or servants. The termination under Sub-Para (b) of this Sub-Clause shall proceed in the manner prescribed under Sub-Clauses 45.2 to 45.5 and the payment under Sub-Clause 45.4 shall be made after having deducted the amounts due to the Employer under Sub-Para (a) and (c) of this Sub-Clause.
46.1	**Employer's Default** The comma and the word "or" at the end of paragraph (d) of Sub-Clause 46.1 are deleted and substituted by period (.) Paragraph (e) of Sub-Clause 46.1 is deleted.
46.3	**Payment on Termination for Employer's Default** The words "including loss of profit" in the second paragraph of Sub-Clause 46.3 are deleted.
47.1	The title and text of subclause are deleted and substituted with following: (The formula/guidelines issued by Pakistan Engineering Council (PEC) in May 2022 and or any latest version issued by PEC shall be applicable. The indices and the factors for price adjustment shall be decided by the Engineer for each type of work as per PEC guidelines for each type/nature of goods/equipment/consulting and non-consulting services etc.) If the currency in which Contract Price is expressed is different from the currency of the country of origin of the materials indices, a correction factor shall correspond to the ratio of exchange rates between two currencies on the date for adjustment and base date as defined above. Any price adjustment claims against the subject Clause will be paid to the EPC Contractor in Pakistan in equivalent Pak Rupees on the date of payment in Pakistan.

47.2	Following clause 47.2 is added and existing clause 47.2 is re-numbered as 47.3. (The formula/guidelines issued by Pakistan Engineering Council (PEC) in May 2022 and or any latest version issued by PEC shall be applicable. The indices and the factors for price adjustment shall be decided by the Engineer for each type of work as per PEC guidelines for each type/nature of goods/equipment/consulting and non-consulting services etc.)
48.1	**Customs and Import Duties** The Contractor shall pay all customs, import duties and taxes in consequence of the importation of the plant and Employer will not reimburse it.
48.3	Following Sub-Clauses 48.3 to 48.5 are added: **Port Charges and Port Congestion** The Contractor shall be deemed to have obtained all the information regarding facilities and charges, in respect of port clearance, loading and unloading, storage, transportation, congestion and confirmed the requirements thereof at his own responsibility and all such costs and charges are deemed to be included in the rates and prices of the Schedule of Prices.
48.4	If any tax exemptions, reductions, allowances, or privileges may be available to the Contractor in Pakistan, the Employer shall use its best endeavors to enable the Contractor to benefit from any such tax savings to the maximum allowable extent.
48.5	For the purpose of the Contract, it is agreed that the Contract Price specified in the Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date 28 days prior to the date of bid submission in Pakistan (hereinafter called "Tax" in this GCC Subclause 48.5). If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Contractor, Subcontractors, or their employees in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction therefrom, as the case may be, in accordance with GCC Clause 47.2 hereof.
	Sub-Clause 49.1 Notice to Contractor The following is added at the end of Sub-Clause 49.1: "For the purposes of Sub-Clause 49.1 the Contractor shall, immediately after receipt of Letter of Acceptance, intimate in writing to the Employer and the Engineer by registered post, the address of his principal place of

	business or any change in such address during the period of the Contract."
	Sub-Clause 50 Disputes & Arbitration Clause 50 is deleted and in its place the following Sub-Clauses 50.1 to 50.5 are inserted: 50.1 If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or other termination of the Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Project Manager/Engineer, the matter in dispute shall, in the first place, be referred in writing to the Project Manager/Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. No later than the fifty sixth (56) day after the day on which he received such reference, the Project Manager/Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state that it is made pursuant to this Clause. Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Work with all due diligence, and the Contractor and the Employer shall give effect forthwith to every such decision of the Project Manager/Engineer unless and until the same shall be revised, as hereinafter provided in an amicable settlement or in an arbitral award. In any case where the Conditions of Contract provide that the decision of the Project Manager/Engineer is to be final and conclusive, such decision shall not be referable to arbitration under this Clause nor shall the same be questioned in any other form of proceedings whatsoever. 50.2 If either the Employer or the Contractor be dissatisfied with a decision of the Project Manager/Engineer or if the Project Manager/Engineer fails to give notice of his decision on or before the fifty sixth (56) day after the day on which he received the reference, then either the Employer or the Contractor may, on or before the twenty eighth (28) days after the day on which the said period of fifty six (56) days expired, as the case may be, give notice to the other party to commence arbitration, as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving

		the same to commence arbitration, as hereinafter provided, as to such dispute and, subject to Sub-Clause 50.5, no arbitration in respect thereof may be commenced unless such notice is given. If the Project Manager/Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notification of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the twenty eighth (28) day after the day on which the parties received notice as to such decision from the Project Manager/Engineer the said decision shall become final and binding upon the Employer and the Contractor.
	50.3	Where notice of intention to commence arbitration as to a dispute has been given in accordance with Sub-Clause 50.2, arbitration of such dispute shall not be commenced unless an attempt has first been made by the parties to settle such dispute amicably through mutual negotiation within ninety (90) days from the date of notification of Project Manager/Engineer's decision.
	50.4	Any dispute in respect of which: (a) the decision, if any, of the Project Manager/Engineer has not become final and binding pursuant to Sub-Clause 50.1 and (b) amicable settlement has not been started/reached within the period stated in Sub-Clause 50.3 shall be finally settled, unless otherwise specified in the Contract, under the Rules of Pakistan Arbitration Act, 1940 (Act No. X of 1940) and Rules made thereunder as amended, by one or more arbitrators appointed under such Rules. The said arbitrator(s) shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or valuation of the Project Manager/Engineer for the purpose of obtaining said decision pursuant to Sub-Clause 50.1. No such decision shall disqualify the Project Manager/Engineer from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute. The venue of arbitration proceedings shall be the place in Pakistan as mentioned in the Preamble to Conditions of Contract.
	50.5	Where neither the Employer nor the Contractor has given notice of intention to commence arbitration of a dispute within the period

	stated in Sub-Clause 50.1 or 50.2 and the related decision has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have, refer the failure to arbitration in accordance with Sub-Clause 50.4. The provisions of Sub-Clauses 50.1 to 50.2 shall not apply to any such reference."
	Following clauses 52 to 56 are added:
52	**Liens** Each contractor, for himself and for any persons directly or indirectly responsible to him, and for his or their material, equipment and employees, and for all other persons performing any labor or furnishing any labor or material for any/or all of the Work covered by his Contract, will be required to release or waive, to the full extent permitted by law, all mechanical and other liens, for or on account of the Work done or equipment and material furnished hereunder and the improvements or structures herein same may be incorporated, and the land to which they are appurtenant shall at all times be free and clear of all such liens
53	**Taxes and Duties**
53.1	Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies, and charges assessed on the Contractor, or their employees by all municipal, state, or national government authorities in connection with the Works in and outside of Pakistan. If Contractor is joint venture, it may authorize one partner to bear taxes, duties, levies and charges assessed on its behalf provided that the liability of the Contractor shall remain binding on it.
53.2	Notwithstanding GCC Sub-Clause 53.1 above, the Employer shall reimburse to the Contractor, all customs and import duties as well as other local taxes like, e.g., a value added tax (VAT), imposed by the law of Pakistan on the Plant specified in Schedule of Price and that are to be incorporated into the Works on actual basis (without overhead and profits) within forty five (45) days against presentation of acceptable claim submitted to the Employer, supported by documentary evidence, from the Provisional Sums provided in the Schedules of Price. *(Not Applicable)* General Sales tax, Provincial sales Tax and all other taxes payable by the Contractor in Pakistan on the Plant specified in Schedule of Price that are to be incorporated into the Works shall be reimbursed by the Employer on actual basis (without overhead and profits) within forty five (45) days against presentation of acceptable claim submitted to the Employer, supported by documentary evidence, from the Provisional Sums provided in the Schedule of Price, provided that such reimbursements shall be subject to Withholding as per rules mentioned

	in respective federal and provincial laws of Employer's country and provided further that the contractor is registered with relevant Tax Authority(ies) and Employer can claim input from relevant Tax Authority(ies). The reimbursement of taxes will only be made if Employer's WEBOC system is used.
53.3	If any tax exemptions, reductions, allowances, or privileges may be available to the Contractor in Pakistan, the Employer shall use its best endeavors to enable the Contractor to benefit from any such tax savings to the maximum allowable extent. Further, any Tax Treatise will be considered between Employer's country and Contractor's country (if applicable).
53.4	For the purpose of the Contract, it is agreed that the Contract Price specified in Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date 28 days prior to the date of bid submission in Pakistan (hereinafter called "Tax" in this GCC Subclause 53.4). If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Contractor, or their employees in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction therefrom, as the case may be, in accordance with GCC Clause 47.2 hereof.
53.5	**Tax Provisions in Subcontracts** Provisions to the like effect as those contained in this Clause shall be incorporated in Subcontracts.
54	**Liability of the Contractor** The Contractor or assigns shall follow strictly, all relevant labour laws including the Workmen's Compensation Act and the Employer shall be fully indemnified for all claims, damages etc. arising out of any dispute between the Contractor, or permitted assigns and the labour employed by them.
55.	**Joint and Several Liability** If the Contractor is a joint venture of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfilment of the terms of the Contract and shall designate one of such persons to act as leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.
56.	**Details to be Confidential** The Contractor shall treat the details of the Contract as private and confidential,

	save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the prior consent in writing of the Employer or the Project Manager/Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract, the same shall be referred to the decision of the Project Manager/Engineer whose award shall be final.

STANDARD FORMS

Standard Forms include the following:

- Form of Contract Agreement
- Form of Performance Security
  (Bank Guarantee)
- Form of Bank Guarantee/Bond for Advance Payment
- Indemnity Bond For Secured Advance
- Draft Performa Invoice
- Draft Letter of Credit.

(Note: Standard Forms provided in this document for securities are to be issued by a bank. In case the bidder chooses to issue a bond for accompanying his bid or performance of contract or receipt of advance, the relevant format shall be tailored accordingly without changing the spirit of the Forms of securities).

FORM OF CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter called the "Agreement") made on the _____ day of _____(month) 20_____ between _____
_____ (hereafter called the "Employer") of the one part and _____ (hereafter called the "Contractor") of the other part.

WHEREAS the Employer is desirous that certain Works, viz _____ should be executed by the Contractor and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW this Agreement witnessed 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) Notification of Award (NOA)
   (c) The Letter of Acceptance
   (d) The completed Form of Bid
   (e) The Priced Schedule of Prices with Preamble
   (f) The Preamble to Conditions of Contract
   (g) The Particular Conditions of Contract
   (h) The General Conditions of Contract
   (i) The completed Schedules to Bid
   (j) The Specifications
   (k) The Drawings

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy defects therein in conformity and in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works 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 Contract Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Signature of the Contactor	Signature of the Employer
_____	_____
(Seal)	(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:	Witness:
_____	_____
(Name, Title and Address)	(Name, Title and Address)

FORM OF PERFORMANCE SECURITY
(Bank Guarantee)

Guarantee No._____
Executed on _____
Expiry date _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address:_____
Name of Principal (Contractor) 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 _____ (hereinafter called the Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, 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 Employer's above said Letter of Acceptance for _____ _____ (Name of Contract) for the _____

_____ (Name of Project).

NOW THEREFORE, if the Principal (Contractor) 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 Employer, 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 Clause 30, Defects after Taking Over, 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 defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer'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 Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal (Contractor) 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 Employer 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)

FORM OF BANK GUARANTEE FOR ADVANCE PAYMENT

(Not Applicable)

Guarantee No._____
Executed on_____
Expiry date _____

WHEREAS the _____ (hereinafter called the Employer) has entered into a Contract for _____
_____
_____ (Particulars of Contract), with
_____
_____ (hereinafter called the Contractor).

AND WHEREAS the Employer has agreed to advance to the Contractor, at the Contractor's request, an amount of _____ (Rs._____) which amount shall be advanced to the Contractor as per provisions of the Contract.

AND WHEREAS the Employer has asked the Contractor to furnish Guarantee to secure advance payment for performance of his obligations under the said Contract.

AND WHEREAS _____ (Bank) (hereinafter called the Guarantor) at the request of the Contractor and in consideration of the Employer agreeing to make the above advance to the Contractor, has agreed to furnish the said Guarantee.

NOW THEREFORE the Guarantor hereby guarantees that the Contractor shall use the advance for the purpose of above mentioned Contract and if he fails, and commits default in fulfillment of any of his obligations for which the advance payment is made, the Guarantor shall be liable to the Employer for payment not exceeding the aforementioned amount.

Notice in writing of any default, of which the Employer shall be the sole and final judge, as aforesaid, on the part of the Contractor, shall be given by the Employer to the Guarantor, and on such first written demand payment shall be made by the Guarantor of all sums then due under this Guarantee without any reference to the Contractor and without any objection.

This guarantee shall come into force as soon as the advance payment has been credited to the account of the Contractor.

This guarantee shall expire not later than _____ by which date we must have received any claims by registered letter, telegram, telex or telefax.

It is understood that you will return this Guarantee to us on expiry or after settlement of the total amount to be claimed hereunder.

_____
Guarantor (Bank)

Witness:

1. _____ Signature _____

_____ Name _____
Corporate Secretary (Seal)

Title _____

2. _____

_____ _____
Name, Title & Address Corporate Guarantor (Seal)

INDEMNITY BOND FOR SECURED ADVANCE

(Not Applicable)
AGAINST MATERIALS BROUGHT AT SITE

(ON RS.40 NONJUDICIAL STAMP PAPER)

This Deed of Indemnity is issued by M/s. _____ _____ *(Name* of *the Contractor)* in favour of *M/s.*_____ *(Name* of *the Employer).*

Whereas_____ (hereinafter called the Employer) has agreed to pay the Secured Advance against the cost of material through any Bank or like agency by any other method by virtue of the terms of the contract existing between the parties. The details of the material and their price for which secured advance is being sought for the period _____till consumption of the material is as under :-

1. _____ at Rs._____ per _____ = Rs.
2. _____ at Rs._____ per _____ = Rs.
3. _____ at Rs._____ per _____ = Rs.
4. _____ at Rs._____ per _____ = Rs.

THEREFORE THIS DEED OF INDEMNITY WITHNESSETH AS FOLLOWS:
I/We _____ of M/s. _____ do hereby indemnify M/s _____ for all losses due to thefts, arson, pilferage, loss due to flood and inundation, shortage, deterioration and depreciation etc. through any act of Man or God or slump in the Market of any or all the materials financed or paid by the Employer on our request for financing payment against material.
I/We_____ shall indemnify _____ against any or all claims, action damages arising out of or resulting to the said material.
I/We _____ further declare that we will faithfully abide by the above declaration and solemnly affirm that we will not remove, sell, pilferage any of the materials against which M/s __ has paid us such a secured advance and will not pledge the same with any Bank, Finance Corporation, Firm, Company, Individual or the like agency or create any change whereon in any from what so ever.
I/We_____do hereby also declare that in the event of my/our infringement of the declaration made above _____ will be entitled to forfeit all such material and also proceed against me/us according to the relevant clause pertaining to breach of contract and further invoke the power or seek any remedies secured of _____ under the contract Agreement signed with us or otherwise available under law.

Place_____ Dated _____

Contractor _____

SECTION 8

SPECIAL PROVISIONS

The special provisions contain instructions for execution of work in addition to General Conditions of Contract and Particular conditions of contract.

1 SCOPE OF WORKS:

1.1 Procuring/manufacturing of RTV Silicon Rubber High Voltage Insulator Coating (HVIC) material/ compound.

1.2 Packing, loading, insuring, forwarding, transportation, supply, delivery, unloading, mobilizing of RTV Silicon Rubber High Voltage Insulator Coating (HVIC) material/compound.

1.3 Cleaning/ Washing of equipment insulator surface.

1.4 Packing, loading, insuring, forwarding, transportation, supply, delivery, unloading, mobilizing of Disc Insulators from transmission line Site to factory/application site and from factory/application site to transmission line site. *(N/A)*

1.5 Application of RTV Silicon Rubber High Voltage Insulator Coating (HVIC) on Equipment Insulator Surface, & testing to ensure quality of coated insulator surface and returning of spare RTV coating material to NationalGrid designated store.

1.6 Replacement/re-stringing of Disc Insulators of Transmission lines with RTV Coated Porcelain Disc Insulators back on towers. *(N/A)*

1.7 Transfer of unusable/faulty/damaged dismantled material to the store along with stacking of material.

1.8 Other items not specifically mentioned in this Specification but are required for the successful completion of the package.

2 SUBMISSION OF BAR CHARTS/ WORK METHDOLOGY:

2.1 The Contractor will submit bar charts outlining the sequence and methods to carry out the Works, including the number of crews/gangs and shifts per day and hours per shift keeping in view the shutdown duration as specified in Schedule of Shutdown duration, key personnel to be deputed for this specific project, number of crews/gangs, type of T&Ps and facilities and other services to be used.

3 AVAILABILITY OF SHUTDOWNS:

3.1 The works mentioned above will be carried out during approved Shutdowns

on respective Grid Station Equipment from ISMO.

3.2 The contractor will submit schedule for shutdowns to Director General (FO) North, NGC Lahore, keeping in view the shutdown duration schedule/delivery schedule and after completion of one equipment/ group/T/Line will get notice to proceed perusal to clause hereafter.

3.3 Shutdowns on Grid Equipment will be arranged by Field Operations (North) (NationalGrid's Formation) and contractor will coordinate with the Field Operations (North) for obtaining the shutdowns.

3.4 The contractor will depend on the availability of shutdowns and accordingly, will deploy sufficient skilled manpower for completion of the work in the allotted shutdown period. It shall also be ensured that contractor shall complete the cleaning/washing/application of RTV Coating of Equipment Insulator Surface within the stipulated shutdown period as per system constrains.

3.5 Contractor shall deploy adequate man power along with a supervisor at each site, so as to complete the work within stipulated time.

3.6 Contractor should have valid Permit to Work (PTW) throughout working period and contractor will be required to work on the PTW specified. Contractor should ensure all the safety precautions during execution of works.

4 CO-ORDINATION:

4.1 The contractor has to remain in constant touch with the Engineer-in-Charge regarding availability of required outages and to prepare an advance schedule thereof. The Engineer-in Charge for the work shall be recommended by Director General (Field Operations) North Lahore.

4.2 The contractor shall have to obtain Permit to Work (PTW) on day to day basis which will be issued by Field Operations office for specific time duration to the authorized Engineer approved by Engineer-in-Charge.

4.3 Failure to return the permit within the stipulated time period will be viewed seriously. All care shall be taken to return the permit on time.

4.4 The contractor shall have to establish proper co-ordination for the assigned work with EMPLOYER and other agencies.

5 ARRANGEMENTS OF T&P AND OTHER MATERIAL:

5.1 Site / warehouse, electricity, water and all allied / necessary logistics and arrangements for execution of entire work under this contract will be the responsibility of the contractor. No additional amount will be given to contractor except quoted cost.

5.2 The contractor shall arrange himself all tools and plants but not limited to including Bucket crane, discharge rod, equipment, Safety appliances, consumables, transportation, Store cum erection and transient insurance of insulators, Labor and other items in sufficient quantity as may be required for execution of work at his own Risk & Cost. Employer will not pay anything

extra except the rates quoted as per the bidding documents and accepted by Employer.

6 MOBILIZATION:

6.1 Quick mobilization & execution of the work in the shutdown period is the essence of the contract. If for any reason, the period of shutdown has to be cut short or changed, the work shall have to be executed according to the new time schedule provided to the contractor for which deployment of additional gangs and T&P etc. shall be arranged by the contractor without any additional cost to EMPLOYER.

6.2 The contractor shall have to mobilize gangs at a short notice i.e. (in 2-3 days' notice). It is the responsibility of the contractor to keep himself in contact with Engineer -in- charge regarding availability of shutdown/date of the execution of work. The Engineer-in Charge for the work shall be recommended by Employer/Director General (Field Operations) North Lahore. The contractor shall engage adequate number of gangs so as to complete the entire work in the allotted shutdown period.

6.3 The contractor shall deploy additional Manpower, Machinery, Material etc., as and when considered necessary by the Engineer-in-charge or his representative, without any additional liability on any reason whatsoever.

6.4 The contractor shall ensure that while executing the said work, no damage/tampering is done to EMPLOYER's property like porcelain insulators, conductors, and Hardware Fittings, switch yard equipment's etc otherwise the cost will be recovered as per assessment of EMPLOYER.

7 EXECUTION:

7.1 The employer will allocate RTV coating material and arrange requisite shutdowns for smooth initiation of RTV coating work with good pace to contractor which he will collect from NationalGrid designated store and will transport those materials to the vicinity selected for RTV coating at its own cost & risk.

Application of RTV coating on Grid Equipment: *(N/A)*

7.2 The contractor shall have to arrange its own scaffolding, other necessary arrangements for making access to Grid Equipment along with all T&P and other resources for cleaning/ washing of insulator surfaces.

7.3 After lowering down the strings of un-coated insulators, application of RTV coating can be done at manufacturer / applicator's premises or at project site.

Case I (RTV application job at project Site): The contractor will either develop application facility at project site/ use mobile application facility for application of RTV coating. Electricity, water, security and all allied/necessary logistics and arrangements will be the responsibility of

contractor. In this regard, no additional sum will be paid to contractor in any respect except the quoted price.

Case II (RTV application Job at manufacturer/applicator's premises/factory): Contractor will insure and transport uncoated & coated insulators to & from its own premises/factory for RTV application at his own cost & risk. The contractor will ensure that transportation will not cause any damage to uncoated & coated insulators and complete responsibility to maintain quality of application lies with the contractor. In this regard, all the allied/necessary logistics and arrangements will be the responsibility of contractor. *(Not Applicable)*

7.4 Contractor shall carry out washing & cleaning activity on each insulator as specified in section-IX of the bidding document.

7.5 The contractor shall then prepare each equipment insulator surface for RTV coating as specified in section-IX of the bidding document.

7.6 When surface of insulator becomes dry, contractor will apply RTV Coating on disc insulators by spray method keeping in view all the instruction of RTV manufacturer and international standards/ NationalGrid technical provisions. Responsibility to maintain quality of application lies with the contractor.

7.7 After successful completion of all the testing requirements on RTV coated insulators as per section-IX of the bidding document, the contractor will proceed for assembling and re-stringing with healthy/tested coated insulators. While changing insulators due care has to maintain the existing sag, Torque, wrench shall be used for fixing Hardware fittings, material and components. *(N/A)*

7.8 Addition or deletion of the no. of equipment insulator, may however take place during the execution of the work.

8 NOTICE TO PROCEED:

8.1 Upon completion of RTV job of one site, the plant or any part thereof shall be delivered only upon an Authorization in writing (herein after called the "Notice to proceed") and obtained by the contractor from the project Manager stipulating that the plant or any thereof may be delivered to next site. The Notice to Proceed will be issued by the project Manager on the contractor's valid application for request for "Notice to Proceed".

9 PACKING OF EXTRA INSULATORS: *(Not Applicable)*

9.1 After completion of the project, contractor will pack extra RTV Coated insulator, initially provided for smooth initiation of RTV coating work with good pace, in bubble paper and then Styrofoam of around 8mm thickness. The contractor will return and hand over these insulators to authorized representative of Director General (Field Operations) North Lahore. In this

regard, entire responsibility of transportation lies with contractor.

10 WASTAGE/BREAKAGE:

10.1 No breakage/ damage of the any NationalGrid equipment/ Structure or insulator will be allowed.

10.2 Recovery shall be made for damaged Equipment/ insulators/ Structure during coating/cleaning works as per prevailing market rate from contractor bills along with GST etc.

10.3 Utmost care has to be taken while loading & Unloading of T&Ps / materials handling T&Ps /materials, hoisting, straining, suspending, tools & plants, insulators etc. Any loss or damage arising out of mishandling of the T&P/material, negligence and /or because of carelessness or lack of knowledge of contractor's employees shall be to contractor's account. EMPLOYER shall be at liberty to recover such damages from the contractor out of outstanding dues, Contract performance guarantee or any others means available with the EMPLOYER.

10.4 Any damages to the EMPLOYER property such as insulators, conductor, hardware fittings, switchyard equipment, cross-arm, etc. will have to be rectified by replacing the damaged items by the contractor; otherwise the cost will be recovered as per the loss assessment by EMPLOYER.

11 SAFETY:

11.1 The contractor shall provide all Personnel Protective Equipment (PPE) like safety belt, safety helmets, hand gloves, earthing arrangement etc. to all his workers. Entire responsibility shall be of contractor that deployed personnel follow Safety Plan and use Personal Protective equipment.

11.2 The contractor shall make proper earthing arrangement at each tower crossing and other necessary points where insulator replacement is being taken up.

11.3 The contractor shall ensure the use of safety apparatus by all laborers/supervisors during execution of work. It is the responsibility of the contractor to execute the entire job without any accident/mishaps.

11.4 All safety rules regarding human life are to be observed by the contractor.

12 INSURANCE:

12.1 The contractor has to obtain workman compensation Insurance policy from any of the nationalized Insurance Co. covering all the risk factors for the labour deployed on job. The policy is to be obtained prior to commencement of work. It will be contractor' responsibility to maintain adequate insurance coverage at all times during the period of contract. The rate quoted should be inclusive of total premium amount for the said policy. Employer will not reimburse the premium paid towards the policy. Contractor has to submit workmen compensation insurance policy before commencement of work.

12.2 Insurance such as transit insurance of materials, third party & workmen

insurance, insurance of tools & tackles and plant & equipment or any other insurance for erection shall be arranged by the Contractor at his cost and expense.

12.3 The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the works and obligatory in terms of law against all perils and the responsibility to maintain adequate insurance coverage at all times during the period of contract shall be of the Contractor alone. The Contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations.

12.4 The perils required to be covered under the insurance shall include all risks, but not limited to fire and allied risks, miscellaneous accidents, workman compensation risks, loss or damage in transit, theft, pilferage, riot and strikes and malicious damages, civil commotions, weather conditions, accidents of all kinds etc. The Contractor shall be responsible for the safety and security of the employees of the Contractor & his Sub-contractors throughout execution of the works.

SECTION 9

TECHNICAL PROVISIONS

1. General

1.1 All designs, equipment, materials and workmanship shall comply with and be tested in accordance with requirements of the specifications. Equipment or parts, which are not covered by the specifications, shall comply with rules, codes and regulations of the International Electro-Technical Commission (IEC) or approved National Standardizing bodies.

1.2 The general intent of these specifications is to require the supply of equipment and materials equal or superior to those actually described herein. Unless otherwise stated, reference to the brand or manufacture, if made is only for the sake of comparison as to type, design, character or quality of the equipment and materials desired and shall not be interpreted as eliminating other equipment and materials of equal performance, quality and durability.

2. SPECIFICATIONS AND DRAWING

2.1 The contract shall be executed in strict conformity with the specifications and/or Drawings given or mentioned in this section and the supplier shall do no 'Work' without proper specifications, instructions and/or Drawings.

2.2 The Employer shall interpret the meaning of the Specification, data, drawing etc, and shall have a right to reject or accept any work or material which in his assessment does not meet the requirements of the Specification and/or applicable National and International standards, codes, rules, etc. mentioned elsewhere in the specification

2.3 Specifications and/or drawings are intended to complement each other so that if anything is shown on the drawings as required but not mentioned in the specifications or vice versa, or in the event of conflict between any two clauses of the Specification/document of different codes/ standards specified or provided with the document, the more stringent requirement as per interpretation of the Employer apply, unless confirmed otherwise by the Employer in writing based on a written request from the Contractor.

2.4 If any errors, omissions or discrepancies are found in the figures, specifications and/or drawings or, if any feature shall appear to the supplier to be indefinite or unclear, the same shall be referred to the Employer whose written explanation and/or clarification shall be obtained before proceeding with the work.

2.5 The Manufacturer/ supplier shall submit to Employer for his approval in-accordance with Programme as per GCC 12.1, four (4) copies of all drawings technical literature, data, operation and maintenance instruction books and/or manuals required under the specifications and such other documents as required in the Technical Specifications or other provisions of the bidding documents or, if Employer deems necessary, require changes or modifications to be made therein, Employer shall return two copies to the Contractor/Manufacturer marked. "Approved", "Approved as Noted" or "Returned for Correction". Each drawing, which is noted "Returned for Correction" has to be resubmitted for approval after incorporation of the desired changes.

2.6 The Contractor/Manufacturer after incorporating the desired changes in the drawing shall resubmit four (4) sets of the same to the Employer for approval. Two prints of which shall be stamped "APPROVED" by the Employer and returned to the Contractor/Manufacturer for his record.

2.7 On completion of the Contract the Contractor / Manufacturer shall deliver to the Employer four (4) prints of all approved drawings, technical literature, data which show the work in the final or "as built" condition. The said drawings and documents shall be permanent and non-fadable. In addition to above, two soft copies of above mentioned final drawings made on AutoCAD (latest version) on two separate CDs shall also be provided to the Employer and the Project Manager.

2.8 The Contractor/Manufacturer shall allow 28 days for the Employer's approval of drawings in his schedule of work and in the time allowed for completion of the Contract. Extra time required for approval of drawings due to deficiencies in design or errors in submitted drawings shall be the responsibility of the Contractor/Manufacturer and no extension in time will be allowed on this account.

2.9 All drawings and documents furnished by the Contractor/Manufacturer in accordance with the Contract shall become the property of the Employer.

2.10 Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest current edition or revision of the relevant standards or codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relates to a particular country or regions, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

3 LANGUAGE

3.1 All correspondence, literature, drawings, name plates, diagrams, applicable data, equipment details, instructions and maintenance books and manuals, spare parts, books and descriptive data shall be in the English language.

4 TYPE TESTS REQUIREMENTS

4.1 The bidder shall offer type tested equipment/ RTV material or if the equipment/ material is not previously type tested, the type test shall be carried out in line with relevant IEC / other international applicable standard as mentioned in the policy.

4.2 The bidder shall submit an unconditional undertaking, duly signed and stamped by the bidder and supported by manufacturer (s) accordingly in technical bid, that in case of award of contract if submitted type test reports are not according to NationalGrid type test policy, he will carry out Type Tests as per NationalGrid Type Test Policy within the quoted bid price and without affecting the delivery / competition period as mentioned in the bidding documents. In case of failure to submit an Undertaking of type test as per NationalGrid type test policy along with the bid or in response to post bid clarification:

a. In supply contracts, bid shall be rejected.
b. In EPC contract, such manufacturer shall not be accepted, and bidder will be bound to replace the same with acceptable manufacturer. In case of noncompliance, the bid shall be rejected.

4.3 Within 07 days from approval of technical data / drawings, the contractor shall submit schedule of type testing from laboratory.

4.4 After award of contract, the bidder shall be required to perform requisite type tests before delivery of equipment without affecting the delivery / competition period as mentioned in the bidding document within the quoted bid price. In case of delay or non-compliance of the said requirement, NationalGrid reserves the right to cancel the contract agreement including encashment of performance guarantee and initiate the process for blacklisting as per NationalGrid SOP for blacklisting.

4.5 During evaluation, the Employer may seek any information and timelines regarding missing tests, which in his opinion, are required to be performed as per Specifications from the bidder(s) through post-bid clarification. In case of non-submission of the requisite missing data/ confirmation by the bidder within stipulated time, the bid shall be rejected.

4.6 The offered plant/equipment, not covered in NationalGrid 's Type Test Policy, shall be type tested as per relevant NationalGrid specification.

5. Specifications

5.1 The relevant NationalGrid standard specifications for Equipment/material are given herein below:

1.0 RATINGS

1.1 The RTV Silicone Rubber HVIC shall have the following properties as supplied:

Table –I

Property	Value
Basic Component	HVIC, RTV Silicone coating containing Alumina Tri Hydrate (ATH)
Type	One-Part, RTV
Appearance	Paint
Color	Red or any other subject to Engineer's Approval
Specific Gravity	1.10 to 1.25
Application Temperature Range	5 ^{o}C to 60 ^{o}C
Skin Over time at 25 ^{o}C and 50% relative humidity	15 minutes
Tack free time at 25 ^{o}C and 50% relative humidity	15 to 45 minutes
Percent of Solids by weight	≥ 70%
Dynamic Viscosity, cP (centipoise)	1000 to 3500

1.2 The RTV Silicone Rubber HVIC shall have the following properties as cured at standard conditions (i.e. 25 ^{o}C temperature and 50% relative humidity) after seven (7) days:

Table –II

Property	Value
Method of Application	Spray
Coating Thickness	380 – 500 microns
Dielectric Strength (ASTM D149)	350 to 560 V/mil, minimum
Volume Resistivity (ASTM D257)	$1x10^{14}$ to $37x10^{14}$ Ohm.cm
Dissipation Factor at 100Hz (ASTM D150)	0.01 to 0.09
Tracking Wheel Withstand	1000 hours, minimum
Receding Water Contact Angle	>80 degrees, minimum
Dry Arc Resistance	180 to 200 , Track Seconds
Tracking & Erosion Resistance (IEC 60587)	Minimum grade 1A 4.5
Loss Tangent	<0.6%
Warranty Period	No flashover warranty for 10 years minimum from date of application. No preventive

	maintenance shall be required during the period.

1.3 The RTV Silicone Rubber Insulator Coating shall have hydrophobicity of silicone rubber material classified Wettability Class I (WC-I) or better as per IEC 62073. Accordingly, receding water contact angle shall be 80^{o} or more.

2.0 MATERIALS

2.1 The RTV Silicone Rubber Insulator Coating shall have a chemical structure of 100 percent silicone rubber with highest possible concentration of Low Molecular Weight silicone chains (LMW) before fillers are added. The finished product shall be ultraviolet (UV) radiation exposure resistant. The finished product and its life shall be unaffected by atmospheric conditions due to weather, proximity to the coast, fumes, ozone, acids (particularly nitric acid present in the coastal area and sulfuric acid present in the prevailing environment of oil field areas in the region), bases/alkalis, and hydrocarbon components, dust or rapid changes to air temperature (temperature extremes). There shall be no material degradation such as development of surface cracks and increase in surface hardness, etc.

2.2 The RTV Silicone Rubber Insulator coating shall be resistant to atmospheric and chemical degradation. Salt air, airborne pollutants, industrial pollutants such as cement dust or sulfur and rain or humidity shall not affect the coating.

2.3 The RTV Silicone Rubber Insulator Coating shall be resistant to arcing and corona. The coating shall exhibit high tracking resistance to reduce damage during salt-storms (storms arising from the sea) or other severe contamination events. The track resistance or the RTV Silicone Rubber Insulator Coating material shall meet the requirements of IEC 60587, Method 1, Class 1A 4.5.

2.4 The material of RTV Silicone Rubber Insulator Coating shall be room temperature vulcanized silicone rubber and shall have a Shore 'A' hardness of not less than 60. To prove this property, a test shall be performed.

2.5 The RTV Silicone Rubber Insulator Coating shall be applied by dipping/spray process to have the dry film thickness (DFT) of 0.38mm to 0.5mm in maximum three (3) coats of application.

2.6 The RTV Silicone Rubber Insulator Coating shall be a single component, ready-to-use, and shall not require excessive mixing/shaking before use. However, depending on the application equipment, the humidity and the temperature conditions, thinning/dilution may be required. The manufacturer may be required to supply the suitable thinner and submit

a table showing percentage (%) quantity to be used at different temperatures and humidity levels. The thinner shall be of high flash point. The Coating shall be moisture curable at room temperature.

2.7 The RTV Silicone Rubber Insulator Coating shall exhibit long-term water repellency and hydrophobicity.

2.8 The RTV Silicone Rubber Insulator Coating shall not require use of any primer on the ceramic insulators for adhesion purposes.

2.9 The RTV Silicone Rubber Insulator Coating shall be easy to be removed and reapplied. The Coating shall have excellent arc resistance, excellent unprimed adhesion, easy to apply and spray-able as well as dip-able.

2.10 The RTV Silicone Rubber Insulator Coating Material shall have minimum of 12 months shelf life, which shall effect from the date of manufacturing. The contractor shall submit the warranty to this effect. The expiry date shall be marked on the containers. The delivery of the material shall not take a long time and the material shall not be supplied from the old stock. The remaining shelf life of the material shall be at least nine (9) months when delivered to NationalGrid site. The coating shall be supplied in cans weighing approximately 20kg.

3.0 COMPOSITION AND PROPERTIES

3.1 The RTV Silicone Rubber Insulator Coating shall be One-part RTV silicone rubber made from a basic polydimethyl siloxane (PDMS) polymer system, which may contain a fumed silica reinforcer, a polymerization/condensation catalyst, cross-linking agent, UV resistant absorbent and alumina trihydrate (ATH) filler, adhesion promoter, all dispersed in a carrier solvent. Unless otherwise specified in the data schedule, the solvent shall be non-flammable type suitable for energized applications.

3.2 The RTV Silicone Rubber Insulator Coating shall have the optimum filler particle size and optimum filler concentration to provide even and stable dispersion in the polymer for peak performance and extended shelf life.

3.3 The solvent to be used in the RTV Silicone Rubber Insulator Coating shall be soluble with the polymers and shall have a good evaporation rate to provide speedy curing and have a purity to comply with all safety and environmental regulations. Manufacturer shall specify and provide the technical data of the dilution solvent, if thinning is required.

3.4 The cure system (cross-linker and catalyst) shall be compatible with the filler for best performance and shelf life.

3.5 The manufacturer shall advise/recommend suitable method of application and provide written application instructions.

3.6 The contractor shall submit in the data schedule the number of coats for dip/spray application to obtain the desired coating thickness in the range of 0.38mm to 0.50mm.

3.7 The RTV Silicone Rubber Insulator Coating shall be capable of withstanding high-pressure power washing. To prove this property, a power wash test shall be performed.

3.8 The RTV Silicone Rubber Insulator Coating shall protect the ceramic insulators against flashovers caused by pollution.

3.9 The contractor shall provide warranty that the coating manufactured shall prevent insulator surface contamination based flashovers for a period of 10 years minimum at contamination ESDD (equivalent Salt Deposit Density) level of the area specified.

4.0 MARKING

4.1 The packing and delivery dates of coating shall be labled on the coating cans. The expiry date shall be considered from packaging date and not from the date of shipment of the coating.

4.2 The cans shall be marked for "flammable" or "non-flammable" depending upon the type of solvent used for dispersion of the coating.

5.0 QUALITY ASSURANCE MECHANISM

5.1 The manufacturer should be ISO 9001 certified and shall invariably furnish following information along with his bid, failing which his bid may be rejected.

a. Statement giving list of important raw materials, proposed to be used in the manufacture of the material against this specification, names of sub suppliers for the raw materials, list of standards according to which the raw materials are tested.
b. List tests normally carried out on raw materials in presence of supplier's representative as routine and/or acceptance during production and on furnished goods, copies of test certificates.
c. Information and copies of test certificates in respect of bought out accessories.
d. List of manufacturing facilities available.
e. Level of automation achieved and list of areas where manual processing exists.
f. List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.

g. List of testing equipment available with supplier for final testing as specified. In case if the supplier does not possess al the routine and acceptance testing facilities the bid will be rejected.
h. Special features provided to make it maintenance free.
i. NationalGrid reserves the right for factory inspection to verify the facts quoted in the bid. If any of the facts are found to be misleading or incorrect the bid of that supplier will be out rightly rejected and they may be black listed as per NationalGrid 's SOP.

6.0 APPLICATION OF RTV COATING

6.1 In order to ensure perfect bonding before application of the RTV coating, the surface of the dielectric/porcelain shell shall be carefully cleaned and prepared through following steps:

i. High-pressure water washing/cleaning method will be used first to remove common contaminants, such as accumulated dust and salt.
ii. The surface is then hand wiped with cloth rags.
iii. More tenacious contaminants, such as eradicating dirt, oil, carbon powder, cement dust may require a dry abrasive cleaner, such as ground corncob.
iv. The surface is then hand wiped with cloth rags to remove all contaminants.
v. Oil-less solvent or any other electric equipment cleaning agent can also be used to ensure removal of heavy contaminants or any other harmful substance on the surface of insulator
vi. The surface is then dried naturally before application of RTV Coating.

The process shall be monitored by NationalGrid representatives.

6.2 All surfaces must be clean and dry to ensure proper adhesion of RTV to the insulator surface.

6.3 The coating shall be applied through Dip/spray method assuring the uniformity and thickness of coating as well as the homogeneity of the surface. The RTV surface must become tack free before application of subsequent coats. The curing shall be done under well-controlled environmental conditions – humidity and temperature.

6.4 The layer of RTV coating shall be strongly bonded to the surface of the dielectric/porcelain shell, in such way that it shall not be possible to peel it off. The coating shall be compatible with high-pressure washing.

6.5 The zinc sleeve of the pin of insulator shall not be coated with RTV silicone. The base of the cap shall be coated to a height of 0.5 to 1cm in the zone near to the porcelain shell.

7.0 INSPECTION AND TESTING

All test results shall be provided for review and acceptance by purchaser.

7.1 Routine Tests

All routine (Production) tests prescribed in the relevant IEC Standards shall be performed prior to delivery to NationalGrid, to eliminate manufacturing defects.

7.2 Sample Tests

The sample tests shall be carried out on the RTV coated insulators at manufacturer's own laboratory in the presence of NationalGrid representatives or at an accredited Independent Test Laboratory or any other place agreed with purchaser.

7.2.1 Rules for Insulator Sampling and their Distribution for Tests

7.2.1.1 For sample tests, insulators shall be offered in lots of 10,000 units. The insulators intended for the sample tests shall be taken at random from each lot by the inspector after performing routine tests and elimination of any defective insulator.

7.2.1.2 The number "n" of insulators to be selected is indicated in Table-III below:-

Table-III

Number of insulators selected from each lot	Number of insulators in the 1st partial sample	Number of insulators in the 2nd partial sample
N	n1	n2
18	12	6

The total sample of 'n' insulators is further divided into two partial samples composed of "n1" and "n2" insulators.

7.2.1.3 The sample of "n1" insulators is subjected to the following tests as described in this specification:

i. Visual Examination
ii. Dry Film Thickness Test
iii. Adherence Test
iv. Hydrophobicity Test
v. Contact Angle Measurement Test

7.2.1.4 The sample of "n2" insulators is subjected to the following tests as described in this specification:

i. Visual Examination
ii. Wet Film Thickness Test
iii. High Pressure Water Withstand Test
iv. Boiling Water Test

7.2.2 Visual Examination

Visual inspection will be carried out in order to ensure:

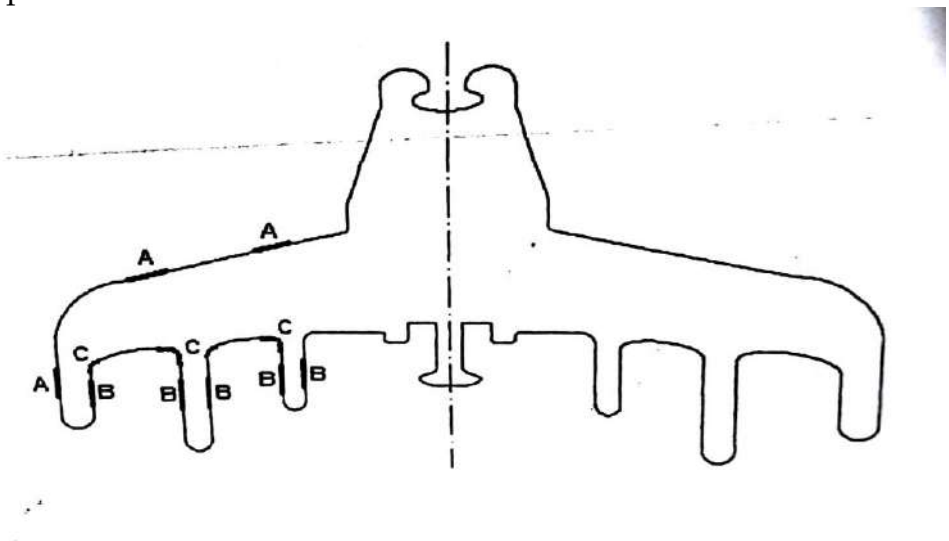
i) **Smoothness & Uniformity:** Coating should be contiguous, uniform, smooth and free of bubbles, water blisters, icicles, lumps and runs. The material shall flow sufficiently on insulator surface during application, amalgamating to form a smooth continuous finish yet not to flow too much on vertical surfaces resulting in **drips** and **icicles** of coating along the ribs of insulator sheds.

ii) **Purity:** Coating material should be free from any contaminant, impurity like metal parts, cement, dust etc. to prevent channeling of leakage current and dry band arcing.

7.2.3 Thickness Test

7.2.3.1 Dry Film Thickness Test

Ultrasonic thickness Gauges will be used to read the thickness of cured silicone coating on porcelain surfaces. The gauges shall be calibrated and checked prior to its use. The measurement shall be performed at nine (9) different positions at the surface of insulator on the below part as well as upper part. On drawing below, areas where these measurements have to be performed are shown.



Alternately, three samples will be cut with a flat blade on the three 120^{o} directions on the upper surface as noted **'A'** and underneath surface noted **'B'**. The measurement of the thickness will be performed with the

magnetic method by interposing between a metallic support and the apparatus the slice of coating to be measured.

The results are correct if

- The average **A** values is above 350µm and below 530µm
- The average **B** values is above 280µm and below 380µm
- The values of thickness could be lower on the C areas but applied regularly.

7.2.3.2 Wet Film Thickness Test

Wet Film gauges will be used to check wet film thickness after application of each coat on insulator. To determine the dry film thickness, percentage of solvent would be subtracted. For example, 0.5mm of wet material at 70% solids would provide 0.35mm of cured coating.

7.2.4 High Pressure Water Withstand Test

A power water wash test shall be performed in accordance with IEEE Std. 957™ to demonstrate that the RTV coated insulators can be power washed without any damage to RTV coating. The test shall be a water spray of a solid stream through a 6mm diameter nozzle at 3800 kPa for a period of ten (10) minutes. The nozzle of the spray equipment shall be at a distance of 3m from the insulator surface. There shall be no signs of water penetration in between RTV silicone rubber coating and insulator surface.

7.2.5 Boiling Water Test

Boiling water test shall be performed in accordance with IEEE Std. 1523-2002 to verify the bonding characteristics of the RTV Silicone Rubber Coating when applied to ceramic insulators. The coated insulator shall be put in water and boiled for 100 hours and removed. The coating shall not exhibit water blisters at the interface between the insulator surface and the coating.

7.2.6 Adherence Test

The adherence test will be performed with specific tool described in standard EN-ISO 2409. Orthogonal traces and parallel traces shall be made. The measurement will be performed on two opposite sides of the upper surface of the same insulator. The adherence on the extremity of the under-ribs shall be controlled by scrapping off a strip along half the circumstances with cutter blade. The layer of silicone shall be adherent, uncoated porcelain/dielectric shell shall not be apparent.

7.2.7 Hydrophobicity Test

Hydrophobicity Test shall be carried out as per Annex A (Hydro Classification Guide) of IEEE Std. 1523-2002.

7.2.8 Contact Angle Measurement Test

Contact Angle Measurement Test shall be performed in accordance with IEC 62073.

7.3 Type Tests

All type tests mentioned below and in schedule of technical data should have been completed at an independent STL Lab/Lab named in NationalGrid's Type Test Policy attached as Annexure to this section.

i. Inclined Plane Tracking and Erosion Test as per IEC 60587
ii. Accelerated Weathering Test (1000 Hours) as per IEC 61109
iii. Artificial Pollution Test by Salt Fog Method as per IEC 60507
iv. Angle of Hydrophobicity as per IEC TS 62073
v. Hydrophobicity Recovery by Corona Test
vi. Dry Arc Resistance as per ASTM D495
vii. Dielectric Strength Test as per ASTM D149a
viii. Volume & Surface Resistivity Test as per ASTM D257
ix. Dissipation Factor Test as per ASTM D150

8.0 PACKAGING AND SHIPPING

The packaging should be made in a way to fully protect the coating at the surface of insulators during transit to their final destination or storage and subsequent installation at site. Packing case size and weight shall take into consideration their appropriateness, the remoteness of the final destination, the goods and the absence of heavy handling facilities at all points in transit.

9.0 PERFORMANCE GUARANTEE

A ten (10) years guarantee starting from the date of final taking over certificate shall be given by the contractor for the RTV coating of insulator confirming that no flash over & no arcing will occur on the coated insulators within ten years guarantee period. Such guarantee letter shall be attached with offer. In case of observance of crack / peel off of the coating within guarantee period, the same shall be attended free of cost.

10. REMOVAL OF EXISTING PORCELAIN INSULATORS AND INSTALLATION OF COATED INSULATORS

(1) **General**

The insulators shall be installed as shown on the drawings and as specified herein.

Shutdown will be arranged by the Employer. Contractor should ensure all the safety precautions during execution of work with respect to Employer's safety norms.

The contractor shall deploy sufficient number of gangs of skilled manpower for completion of the work in the allotted shut down period. It shall also be ensured that contractor shall complete the replacement of insulator strings within the stipulated shutdown period as per system constrains.

The Contractor shall arrange himself all tools and plants including discharge rod, equipment, safety appliances, Consumables, transportation, Store cum erection and transit insurance of insulators, labour and other items in sufficient quantity as may be required for executing the work at his own risk and cost. Employer will not pay anything extra except the rates quoted as per the Bidding documents and accepted by Employer.

(2) **Safety Grounding**

It shall be the Contractor's responsibility to take adequate safety precautions to protect his employees and others from the potential voltage build-up during removal/installation work. The voltage build-up may be comparatively small during normal operations, but could be lethal during switching and ground fault conditions on the energized parallel line. The following minimum safety and grounding procedures shall be followed by the Contractor during work in the Sections with parallel existing high voltage lines.

Temporary electrical grounds shall be placed at both ends of the section requiring special safety precautions and at intervals along the line which is under construction. The grounding sets installed at both ends of the section of line shall remain in place until the completion of the work and shall be removed as the last phase of cleanup. Hot stick shall be used for installing and removing the grounding sets.

All temporary grounds furnished and installed for protection shall be clearly visible for inspection and shall be flagged by use of a red cloth placed at the point of grounding. All grounds, except those placed at both ends of the section, and red flags shall be removed when they are no longer needed for protection.

All conductors shall be bonded to the tower with approved-type tower grounds at any isolated tower where it may be necessary to complete Work. Work on dead end towers shall require grounding on both sides of the tower. Grounds may be removed when the Work is completed, providing the line is not left open circuited at an isolated tower at which work is being completed.

All provisions specified herein shall not prevent the Contractor from installing as many additional grounds as deemed necessary for the protection of workmen against static and accidental contacts with foreign circuits.

Clipping crews and all others working on the conductive pulling lines, isolated conductors shall be protected by individual hot stick clamp type grounds installed at every work location.

(3) **Approved Type Grounding Material**

Approved type moving grounds shall be such as to exert constant pressure on the conductor and the contact rollers shall be with permanently lubricated-type bearings.

Approved-type driven ground rods shall be minimum of 16 mm diameter copper-weld or equivalent. Ground rods shall be driven into the ground a minimum of 2.5 meters.

Approved-type tower grounds shall be hot stick clamp grounds, bonded to the tower with a flexible ground lead.

Approved-type ground leads shall be at least 43 mm^2 cross-section copper or equivalent.

Approved-type insulated platforms shall be constructed of 65 mm nominal dimension lumber supported on 102 mm nominal dimension sills, or of materials of equivalent insulation.

(4) **Safety Precautions at Crossings**

Wherever any power line, communication line, highway or railroad is to be crossed, the owners shall be notified 30 days in advance and all temporary changes shall be pre-arranged.

The Contractor shall not perform removal/installation work over energized power circuits until a Hot-Line Order is placed on the energized line.

Qualified personnel shall remain at the site of work while the Hot-Line Order is in effect and shall ascertain that all personnel are in the clear and properly notified before the Hot-Line Order is released.

All existing lines which are de-energized for crossing shall be short-circuited and grounded at each side of the crossing.

(5) **Atmospheric Adverse Conditions**

All pulling operations shall cease when either wind velocities are such as to cause conductors to deflect more than 1.5 meters at mid-span from the normal no wind position or there is any indication of lightning activity in the area.

11. PRE COMMISSIONING TESTS

(a) Mechanical Tests

1. Check insulators for chips, cracks, etc. Ensure that cotter keys have been properly installed.
2. Make sure that insulators are clean and line is safe to be energized.
3. Ensure that sags for phase conductors are even and according to the specification.
4. Check that ground clearances are as per specification.

(b) Electrical Tests

1. Perform continuity and insulation test of complete transmission line with appropriate test equipment.

NTDC'S SOP FOR BLACKLISTING OF CONTRACTORS

NATIONAL TRANSMISSION & DESPATCH CO. LTD

Company Secretary

No. NTDC/CS/ 191-207 Dated: 27 – 02 – 2019

NOTIFICATION

Approval for revision of SoP for Blacklisting

Ref: This office notification No.NTDC/CS/1728-42 dated 25.07.2017.

The Board of Directors National Transmission & Despatch Company Limited (NTDC) in its 150th meeting held on 25.02.2019 against agenda item No.10 has unanimously resolved and approved the revised/amended SoP for Blacklisting.

Ijaz Ahmad
Company Secretary

Copy to:

1. Managing Director.
2. Dy. Managing Director (AD&M).
3. Dy. Managing Director (P&E).
4. All General Managers.
5. Chief Financial Officer.
6. Chief Law Officer.
7. Chief Internal Auditor.
8. Chief Information System.

A copy of the revised SoP for Blacklisting is enclosed.

NATIONAL TRANSMISSION & DESPATCH CO. LTD

Company Secretary

No. NTDC/CS/ 444-60 Dated: 29 - 03 - 2019

CORRIGENDUM

Approval for revision of SoP for Blacklisting

In continuation to this office Notification No.NTDC/CS/191-207 dated 27.02.2019 on the subject matter, the designation of Chief Engineer (Reliability Assessment) being a committee member in Chapter No.3 under Clause 3.1 at page # 7 of the approved revised/amended SoP for Blacklisting may be read as 'Chief Engineer (Reliability Compliance)'.

Note:

- **All other contents of the notification will remain intact.**

Ijaz Ahmad
Company Secretary

Copy to:

1. Managing Director.
2. Dy. Managing Director (AD&M).
3. Dy. Managing Director (P&E).
4. All General Managers.
5. Chief Financial Officer.
6. Chief Law Officer.
7. Chief Internal Auditor.
8. Chief Information System.

NATIONAL TRANSMISSION AND DESPATCH COMPANY LIMITED (NTDC)

REVISED SOP FOR BLACKLISTING

(As on 25.02.2019)

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CHAPTER NO.1

1.1 INTRODUCTION

The main objectives of any procurement process are transparency, economy, fairness and efficiency so that value for money is achieved.

Blacklisting is one of the most effective tools used in the struggle against inefficiencies and corruption in connection with public procurement. In addition, it serves as a major deterrent against any material breach of contract and further ensures the timely execution of projects by holding delinquent persons accountable.

Rule-19 "Blacklisting of suppliers and contractors" of the Public Procurement Rules, 2004 (hereinafter "**PPRA Rules**") stipulates that;

"The procuring agencies shall specify a mechanism and manner to permanently or temporarily bar, from participating in their respective procurement proceedings, suppliers and contractors who either consistently fail to provide satisfactory performances or are found to be indulging in corrupt or fraudulent practices. Such barring action shall be duly publicized and communicated to the Authority:
Provided that any supplier or contractor who is to be blacklisted shall be accorded adequate opportunity of being heard."

In the light of the Clause above, this SOP has been drafted for procurements made by NTDC.

Any capitalised terms and abbreviations used in this SOP which are not defined herein shall have the meanings given to them in Public Procurement Regulatory Authority Ordinance, 2002 (hereinafter "**PPRA Ordinance**") and PPRA Rules.

1.2 EXTENT OF APPLICATION

i. The procedure shall be applicable and remain in force, along with any amendments thereto, within NTDC until any clear instructions or guidelines are imparted by the Government through PPRA, PEC, or any other competent forum.

ii. The procedure shall also be applicable on the pre-qualified firms.

iii. The procedure shall be applicable on any "Person", which for the purposes of this SOP shall *interalia* include suppliers, bidders, contractors, consultants, firms, individuals, and organizations transacting business with NTDC.

iv. Wherever any provision of this SOP shall be in conflict with provisions of any applicable guidelines of donor agencies, or any other applicable Statute / Law or Rule enforced at the time in Pakistan, the provisions of such applicable guidelines, laws, or rules shall prevail.

v. This SOP shall become a part of the future Bidding Documents and the person(s) will submit an Undertaking along-with his bid that he has read and accepts the provisions of this SOP. Non-submission of an Undertaking may result in rejection of his bid. The said Undertaking will subsequently become part of the Contract Agreement as well.

CHAPTER NO. 2

2. REASONS OF BLACKLISTING

2.1 The causes and reasons to be taken into consideration for Debarment / Blacklisting of any person are given as under:

2.1.1 Pre- Award Stage:

The following shall be considered, *interalia*, the causes / reasons for initiating proceedings under this SOP at the Pre-Award Stage:

i. Indulging in Corrupt, Fraudulent as well as Collusive practices.

ii. Submission of false and spurious documents, making false statements, making frivolous complaints and allegations to gain undue advantage.

iii. Commission of embezzlement, criminal breach of trust, theft, cheating, forgery, bribery, falsification or destruction of records, receiving stolen property, false use of trademark, securing fraudulent registration, giving false evidence, furnishing of false information of serious nature.

iv. Submission of false bid security or infringement of documents to get undue monetary or any other benefit.

v. Breach of confidentiality of evaluation process as mentioned in Appendix-1 based on illegal access or in any way to get undue benefit or to provide benefit or to frustrate the bidding/evaluation process. This will also include attempts to sabotage the bidding process directly or indirectly.

2.1.2 Post- Award Stage:

The following shall be considered, *interalia*, the causes / reasons for initiating proceedings under this SOP at the Post-Award Stage:-

i. Extraordinary delay in signing or refusal to accept the Notification of Award and/or the contract without any cogent reason.

ii. Misconduct, i.e., failure to proceed with the signed contract, withdrawal of commitments, quoting an unreasonably and unfairly low financial offer and subsequently withdrawing such an offer, frustrating the evaluation/bidding process and not responding to written communication in a reasonable time.

iii. Causes mentioned in Clause 2.1.1 (i, ii & iii) above.

iv. Submission of fake / frivolous or mutilated Performance Guarantee or Advance Payment Guarantee etc.

v. Non-satisfactory performance as mentioned in Appendix-2 during the execution of the contract.

vi. Non-performance or Breach of provisions / clauses of the contract agreements.

vii. Notwithstanding the warranty/defect liability period, any defect in a product, equipment, plant, facility or services rendered that may subsequently surface during field operations within 5 years of its commissioning.

viii. Failure to honour obligations within warranty period or defect liability period as defined in the contract.

2.1.3 Other Causes

i. The person is blacklisted by any Government department in Pakistan, or it is established that the firm is involved in any kind of corruption or corrupt practices anywhere in the world.

ii. Violations of provisions / instructions set down in the Bidding Documents.

iii. Any attempt / activity to malign or bring NTDC into disrepute and harm its interest(s).

iv. Person(s) blacklisted by International Financial Institutions (donor agencies) will be liable to be blacklisted after receipt of confirmation from the donor agencies without any further proceeding.

v. Any other cause deemed just and appropriate by NTDC in the given circumstances.

Note:

(1) If above mentioned causes occur either on part of the principal bidder or the local agent, both shall be considered for blacklisting / debarment.

(2) The authorization of the foreign bidder to local agent shall contain his complete particulars including the name of the company, name of the owner, National Tax number (NTN), CNIC (Computerized National Identity Card) No. etc. In case, the said information is found to be missing, even after calling for the same within a reasonable time, the authority letter shall not be accepted.

(3) The Bidding Documents shall be issued against original authority letter or in case of scanned copy, the email of the foreign bidder shall be enclosed. However, at the time of bidding, the original authority letter shall be attached with the bid. In the absence of the same, the bid shall be rejected.

CHAPTER NO. 3

3. FORMULATION OF "NTDC'S RIGHTS PROTECTION COMMITTEE"

3.1 A permanent Committee namely "NTDC's Rights Protection Committee (**RPC or Committee**)" comprising of the following members shall examine the justification of the reasons given by the Project Authority prior to blacklisting / debarment of any firm/supplier/contractor/ individual.

- General Manager (Performance Assessment) NTDC — Convener
- Chief Engineer (Reliability Compliance) NTDC — Member
- Representative of the Chief Law Officer's Office — Member

Depending upon the nature of the case, the Committee may consult or appoint / nominate additional members from within NTDC with the approval of Managing Director (NTDC), provided that the Committee consists of an odd number of individuals as per spirit of Rule 48(1) of the PPRA Rules. Independence of any additional members shall be ensured while making the selection of such additional members. Furthermore, the aforementioned RPC shall also be authorized to seek external expert advice as and when required.

CHAPTER NO. 4

4.1 PROCEDURE FOR BLACKLISTING

Upon receipt of or obtaining information and/or knowledge that any person(s) is involved in practices mentioned in Chapter-2 earlier, the concerned Project Authority / formation shall promptly formulate its recommendations and submit through MD NTDC to NTDC RPC along with its findings, details of charges and documentary evidences to initiate proceedings under this SOP.

4.2 INITIATION OF AN ACTION

(i) Within a period of 15 days after receiving the recommendations of Blacklisting / Debarment from the concerned Project Authority, the Convener of the Committee shall issue a Show Cause Notice ("**Notice**") thereby informing the Person about the alleged charges and shall provide an opportunity to the defend said charges within a time period of 15 (fifteen) days.

(ii) The person(s) shall be accorded adequate opportunity of hearing in order to defend the charges within the given timelines.

(iii) The Notice to the Person shall be sent at the mailing/postal address as provided under the Contract or any other address provided by way of subsequent written communication by the Person The non-receipt of the Notice due to incorrect / change in mailing address without any written communication shall not be attributable to NTDC. In case of non-receipt of any reply from the accused person within the formulated time, but not less than the time given in 4.2 (i) above, the Committee shall have the right to proceed on Ex-parte basis.

4.3 DECISION

i. The committee shall hold an independent inquiry/investigation as the case may be, and, which may include site visits and interviews with the parties concerned. The Committee shall complete the entire inquiry/investigation, preferably within a period of 30 days after receipt of response from the person against whom proceedings under this SOP have been initiated and shall present the report to the MD NTDC.

ii. If required, the Committee may report the case to an appropriate law enforcement agency depending upon the nature of the case for detailed investigations with the prior approval of Managing Director (NTDC).

iii. The person against whom proceedings have been initiated under this SOP shall not proceed for arbitration/litigation during the proceedings for blacklisting.

4.4 COMMUNICATION OF DECISION

After recommendation for blacklisting by "NTDC's Rights Protection Committee **(RPC)**", the person concerned shall be informed within 10 days of such decision. The decision of the Committee will be notified on NTDC's and PPRA's websites and shall also be conveyed to Pakistan Engineering Council. Blacklisting of firms shall also be conveyed by circular to other Government Departments. All other relevant procuring agencies including PEPCO, DISCOs, and WAPDA, etc., will also be informed simultaneously.

4.5 PERIOD OF DEBARMENT FOR BLACKLISTED FIRMS

(i) The Blacklisting on the grounds and reasons specified herein above in Chapter No. 2 shall be for a reasonable specified period of time and as a general rule of prudence, the period may not exceed three years, except in cases where debarment/blacklisting has been done by any other government department or an International Financial Institution (Donor Agency).

(ii) In case the person has been blacklisted by the government department or the International Financial Institution (donor agency), the period of blacklisting/debarment shall be for a maximum period of 3 years or the time period for which the concerned government department/International Financial Institution (Donor Agency) debarred the contractor (whichever is higher).

4.6 ACTION AFTER PERSONS ARE PLACED ON BLACKLISTING LIST.

i. The decision of blacklisting will be immediately circulated to all concerned as mentioned at Clause 4.4 above.

ii. In case of a contract already awarded to a person which has been blacklisted and termination is either not possible or not feasible, the concerned Project Authority may proceed in this case to complete the contract with the approval of Competent Authority.

iii. The blacklisted person shall stand disqualified from bidding from the date of decision against them. Any pending bids shall also stand rejected. If a contract has

already been awarded to person, it shall be voidable at the option of NTDC as per 4.6 (ii) above.

iv. A separate register or data base will be maintained for blacklisted firms indicating reasons and period.

4.7 EFFECTIVENESS

These guidelines / SOP or any amendments thereof shall take effect immediately after its approval from Board of Directors of NTDC.

APPENDIX-1

PROCESS TO DEAL WITH FRIVOLOUS COMPLAINTS

It has been frequently observed that after opening of tenders, the bidders start to influence the evaluation process. Such attempts result in delay in finalizing of award of contract and cause financial loss to the National exchequer. The evaluation process is confidential till publication of award of contract process.

Provision of guidelines of international donor agencies and PPRA provides sufficient opportunity to bidders for redressal of their grievances. Hence, the attempts made by the bidders during evaluation process or thereafter to influence the contract award decisions fall under the definition of corrupt and fraudulent practices. Therefore, during bidding stage, the following mechanism shall be adopted in case of receipt of any frivolous complaint from the bidder.

i. Anonymous complaints shall not be entertained.

ii. The Procuring Agency reserves the right to call for an affidavit from the complainant verifying the truthfulness and correctness of the contents of the complaint.

iii. The notice of displeasure and explanation will be immediately sent to those persons who lodge frivolous complaint(s) during the evaluation process.

iii (a) If the person itself or through its agent or any third party does not refrain from making frivolous complaints in the same tender or any other tender, an official warning will be sent and their case may be sent to "NTDC's Rights Protection Committee" which may analyse the situation and suggest action including the rejection of the bid of the complainant. However, Project Authority may reject the bid even in first instance depending upon nature of the case or provision of the Bidding Documents.

iii (b) If the same person itself or through its agent or any third party lodges a frivolous complaint in another tender floating in parallel before decision of the Grievance Committee, its bid will straight forwardly be rejected by the project authority. It may also be debarred to participate in the next tender for a minimum period of six months under intimation to the Grievance Committee and MD NTDC.

iv. In order to monitor the record of the persons, a data base will be maintained at NTDC's website and the offices of the project authorities regarding such persons who consistently lodge frivolous complaints during the evaluation process by making clandestine access to confidential record and hamper the award of contract process.

NOTE: It is clarified that the process provided above in Appendix 1 is to discourage anonymous and frivolous complaints only, and does not bar any person feeling aggrieved by any act of the procuring agency from lodging a genuine complaint/grievance as provided under Rule 48 of the PPRA Rules, 2004.

APPENDIX-2

GUIDELINES FOR EVALUATION OF PERFORMANCE OF CONTRACTORS

i. After signing of the contract, the Project authority (or the Consultant / Engineer) must monitor and evaluate the Contractor's performance, that is, whether the Contractor is fulfilling his obligations based on the terms of the contract and plans that were developed and agreed upon with the Project authority at the time of signing of contract or during kick-off meetings..

ii. Though the performance evaluation of any person is an on-going process, which takes place throughout the duration of the contract and also during the Defect Liability / Warranty Period, nevertheless, a person's Performance Evaluation Report may be prepared for the consumption and benefit of the procuring agency or for any other purpose at the completion of the project, as the case may be.

iii. The performance evaluation report shall be prepared for all contracts of more than Rs. 100 million. When based on the Evaluation Report, the performance of a person is non-satisfactory, the procuring agency may initiate the case for blacklisting of the person in accordance with the terms of this SOP. For the avoidance of doubt, consistent failure to provide satisfactory performance shall also include performances in a single or multiple contracts executed or being executed by the same person, as the case may be.

iv. In case of any extra-ordinary delay in performance of a single contract of vital and critical importance, the procuring agency shall have the right to initiate proceedings under this SOP and/or avail any other remedy provided under the law which may *interalia* include: termination of the contract, recovery of losses, debarring the person from participation in future tenders. The procuring agency shall be the sole judge to determine the projects of vital or critical importance.

v. In case of ordinary delay in performance in 2 consecutive contracts within a period of 3 years, the procuring agency shall have the right to initiate proceedings under this SOP and/or avail any other remedy provided under the law which may *interalia* include: termination of the contract, recovery of losses, debarring the person from participation in future tenders.

vi. The proceedings under this SOP shall not prejudice any other rights and/or remedies available to the procuring agency under the contract documents and/or any other law in force.

NGC REVISED TYPE TEST POLICY

NATIONAL TRANSMISSION & DESPATCH COMPANY

GENERAL MANAGER (P&CM) NTDC

No. GM/P&CM/NTDC/154/13-23 Dated: 03-01-2019

1. **General Manager (D&E) Design NTDC, 522-WAPDA House, Lahore.**
2. **M/s NESPAK, Lahore.**
3. **M/s BARQAAB, Lahore.**

SUBJECT: Revised Type Test Policy.

It is to notify that the existing type test policy has been revised and approved by the competent authority attached as Annex-1 for incorporation in upcoming bidding documents as this policy will supersede the previous one.

General Manager (P&CM) NTDC

CC:

DA/As Above

1. PS to Managing Director NTDC, 414-Wapda House, Lahore.
2. D.M.D (AD&M) NTDC, 413-Wapda House, Lahore.
3. Chief Information System, 221-Wapda House, Lahore with a request to publish the attached type test policy on NTDC's website.
4. Chief Engineer (MP&M) NTDC, 622-Wapda House, Lahore.
5. Chief Engineer (SS) NTDC, 143-Wapda House, Lahore.
6. Chief Engineer (T/Line) NTDC, 143-Wapda House, Lahore.
7. Chief Engineer (P&C) NTDC, Wapda House, Lahore.
8. Chief Engineer (Telecom.) NTDC, Wapda House, Lahore.

Master File

G-07-Wapda House Lahore, Pakistan Tel: +92-42-99202282 Fax: +92-42-99202671 Email.gmccc@ntdc.com.pk

Type Test Requirements of NTDC

The following type test policy will be implemented for procurement purpose with immediate effect.

1. The bidder shall offer type tested equipment or if the equipment is not previously type tested as per NTDC type test policy, the type tests shall be carried out in line with this type test policy.
2. The type test policy covers the following equipment as per scope given in Annexure B. However, the equipment which are not mentioned in this type test policy shall be tested as per relevant NTDC specifications and IEC standards.

Grid Station Equipment

i. Circuit Breaker
ii. Disconnector
iii. Potential Transformer/Capacitive Voltage Transformer/CCVT
iv. Current Transformer
v. Surge Arrester
vi. Insulators (Disc & Post)
vii. Hardware (Connectors and Strings
viii. GIS

Transmission Line Equipment

i. Conductor
ii. Hardware and accessories
iii. Spacer damper
iv. Stock Bridge Vibration Damper
v. Insulators

Bushings (Transformer & Shunt Reactor)

Transformer & Shunt Reactor Bushings shall either be from M/s Trench Hefley (France/ Switzerland); M/s Passoni & Villa Italy; M/s F&G Germany & M/s ABB Sweden which have proven performance in NTDC system or pre-type tested transformer bushings from an equivalent manufacturer duly tested at any STL Lab (Annexure-A) as per IEC 60137 and NTDC Specification.

3. The Type Test reports shall remain valid for fifteen (15) years until;

i. The applicable standards have changed.
ii. The design has changed.
iii. The sub-contractors / suppliers have changed.
iv. Manufacturing Facility has changed.

4. The test performed at any other lab which are exclusively required to be performed at labs mentioned in Annex-A and Inspection report** thereof shall not be acceptable except for the provision made in Annex-B (marked by *).

5. The Type Test Reports shall include the complete information regarding outsourced components/ parts of the equipment type tested. The Report shall also include complete identification of the equipment along with drawings stamped by the concerned lab.

6. The following provisions have been made in this Policy with respect to bidding process:

   i. The Bidder shall submit an unconditional Undertaking duly signed and stamped by bidder duly supported by manufacturer(s) in technical bid that in case of award of contract if submitted type test reports are not according to NTDC type test policy, he will carry out type tests as per NTDC Type Test Policy within the quoted Bid price and without affecting the delivery/ completion period as mentioned in the Bidding Documents. In case of failure to submit an Undertaking of type tests as per NTDC type test policy along with the bid or in response to post bid clarification:

      a. In supply contract, bid shall be rejected.
      b. In EPC contract, such manufacturer shall not be accepted and bidder will be bound to replace the same with acceptable manufacturer. In case of noncompliance, the bid shall be rejected.

   ii. Within 30 days from signing of contract, the contractor shall submit schedule of type testing from lab.

   iii. After award of contract, the bidder shall be required to perform requisite type tests before delivery of equipment without affecting the delivery/completion period as mentioned in the Bidding Document with in the quoted bid price. In case of delay or non-compliance of the said requirement, NTDC reserves the right to cancel the contract agreement including encashment of performance guarantee and initiate the process for blacklisting as per NTDC SOP for blacklisting.

Note:

a) The manufacturers may avail this opportunity for carrying out type tests as per NTDC Policy. NTDC can also nominate its inspectors upon request provided that all such costs shall be borne by the manufacturer.

b) NTDC reserves the right to change all or any parts of the type test policy at any time in the best interest of company.

c) For the purpose of type testing, latest IEC and NTDC standards shall be applicable.

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Annexure-A

(List of Approved /STL member labs)

1. Centro Elettrotecnico SperimentaleItaliano S.p.A.
   Via Rubattino 54
   20134 Milano MI
   Italy

2. Institut
   "PrueffeldfuerelektrischeHochleistungstechnik" GmbH (IPH)
   LandsbergerAllee 378A
   D-12681 Berlin
   Germany

3. FGH Engineering & Test GmbH
   Hallenweg 40
   D-68219 Mannheim
   Germany

4. LME (Laboratoires des MatÃ©rielsElectriques)
   Site des RenardiÃ¨res
   EDF- R-&-D-LME
   Avenue des RenardiÃ¨res
   77818 Moret-sur-LoingCedex
   France.

5. Centre d'EssaisRhodanien De l'Appareillage
   CERDA
   ALSTOM Grid
   BP No. 1321
   130 Rue LÃ©on Blum
   69611 Villeurbanne Cedex
   France.

6. L2E VOLTA
   Schneider Electric Industries SAS
   38050 Grenoble Cedex 9
   France

7. Central Research Institute of Electric Power Industry(CRIEPI)
   2-6-1, Nagasaka
   Yokosuka-shi
   Kanagawa 240-0196
   Japan

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8. Hitachi Ltd., High Voltage & High Power Testing Laboratory
   1-1, Kokubu-cho
   Hitachi-shi
   Ibaragi 316-8501
   Japan

9. MEIDENSHA CORPORATION High Power Testing Laboratory
   515, KaminakamizoHigashimakado
   Numazu-shi
   Shizuoka 410-8588
   Japan

10. Mitsubishi Electric Corp. High Voltage & High Power Testing Laboratories
    8-1-1, Tsukaguchi-Honmachi
    Amagasaki-shi
    Hyogo 661-8661
    Japan

11. High Voltage and High Power Testing Laboratory Nissin Electric Co., Ltd
    47, Umezu-Takase-cho
    Ukyo-ku, Kyoto-shi
    Kyoto 615-8686
    Japan

12. Toshiba Corp. Hamakawasaki High Voltage and High Power Testing Laboratory
    2-1, Ukishima-cho
    Kawasaki-ku, Kawasaki-shi
    Kanagawa 210-0862
    Japan

13. DNV GL - Energy, Power TIC
    Utrechtseweg 310
    6812 AR Arnhem
    The Netherlands

14. DNV GL - Energy, Power TIC
    High Power and High Voltage Laboratories
    4379 County Line Road, Chalfont, PA 18914
    USA

15. ZkuÅ¡ebnictvÃ¬, a.s.(ZKU)
    PodnikatelskÃ¡ 547
    190 11 Prague 9
    Czech Republic

16. High Power, high voltage Testing & Evaluation Division,
    12, Bulmosan-ro 10 beon-gil
    Seongsan-gu, Changwon-si
    Gyeongsangnam-do, 642-120
    South Korea

17. Power Apparatus Testing & Evaluation Division in Ansan office
    111, Hanggaul-ro
    Sangnok-gu, Ansan-si,
    Gyeonggi-do, 426-910
    South Korea

18. ABB Switzerland Ltd.
    High Voltage Products and Components, Dept. PGHV-X
    Fabrikstrasse 13, CH-5400 Baden
    Switzerland

19. High-Voltage Institute Kassel
    GE ALSTOM Grid GmbH
    Lilienthalstrasse 150
    D-34123 Kassel
    Germany

20. ABB AG
    CalorEmag Medium Voltage Products
    OberhausenerStrasse 33
    D-40832 Ratingen
    Germany

21. Siemens AG
    Nonnendammallee 104
    D-13629 Berlin
    Germany

22. Siemens AG
    Carl-Benz-Strasse 22
    D-60386 Frankfurt am Main
    Germany

23. PEHLA-Laboratory Regensburg
    Rathenaustr. 2
    D-93055 Regensburg
    Germany

24. ABB AB High Power Laboratory
    LyviksvÃ¤gen 14
    SE-77180 Ludvika,
    Sweden.

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25. STRI AB
    P.O Box 707
    77180 Ludvika,
    Sweden.

26. NEXANS Norway AS
    P.O. Box 42
    1751 Halden
    Norway

27. NEFI
    P.O. Box 108 Sentrum
    3701 Skien,
    Norway.

28. Powertech Laboratories Inc.
    12388 - 88th Avenue
    Surrey, British Columbia, V3W 7R7
    Canada

29. Eaton's Cooper Power Systems Division
    Thomas A. Edison Power Test Laboratories
    11131 Adams Road
    Franksville, WI 53126
    USA.

30. LAPEM-CFE
    Jefe Departamento Distribution
    CP 36630 Irapuato
    GTO Mexico

31. S&C Electric Company
    6601 N Ridge Boulevard
    Chicago, IL 60626
    USA

32. Eaton Corporation
    200 Westinghouse Circle
    Horseheads,NY 14845
    USA

33. Vasgolyoutca 2-4
    H-1158 Budapest
    Hungary

34. KEMA Lab
    Chalfont, USA

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35. Intertek Ausgrid Testing & Certificate Lab
    Australia

36. Kinectrics Lab
    800 Kipling Ave. Etobicoke, ON M8Z 5G5,
    Canada

37. Polotecnico Di Milano
    Plazza Leonardo da Vinci, 32, 20133 Milan
    Italy

38. SAG Frankfurt
    Pittlerstraße 44 63225 Langen,
    Germany

39. EGU HV Laboratory A.S
    Podnikatelska 267 190 11 Prague 9, Bechovice
    Czech Republic

40. Cerisi Laboratario Italiano
    Gomma
    Italy

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Annexure-B
(Scope of Type Testing)

A. G/s Equipment

132 kV CBs (P-193:2010)	
1. Dielectric tests. 2. Measurement of the resistance of the main circuit. 3. Temperature-Rise Test. 4. Short-time withstand current and peak withstand current tests. 5. Short-circuit current making and breaking tests. 6. Critical current test. (if applicable) 7. Earth fault test. 8. Capacitive current switching tests. - Line charging current breaking tests. - Cable charging current breaking test. - Capacitor bank switching tests. (if applicable) 9. Short-line fault test. 10. Out of phase making & breaking test. 11. Electrical endurance tests (if applicable)	Any lab as per Annex-A
12. High Temperature test. 13. Temperature rise test of control and auxiliary circuit. 14. Radio Interference Voltage Test. 15. Verification of Degree of Protection. 16. Tightness test. 17. Electromagnetic Compatibility (EMC) tests. 18. Mechanical operation test at ambient temperature including extended mechanical endurance test. 19. Static terminal load test.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
220 kV and 500 kV CBs (P-171:2008)	
1. Dielectric Tests. 2. Measurement of the resistance of the main circuit (contact resistance). 3. Temperature rise test. 4. Short-time withstand current and peak withstand current tests. 5. Short circuit current making and breaking tests. 6. Capacitive current switching tests: - Line charging current breaking test - Cable charging current breaking test - Capacitor Bank Switching test (if applicable). 7. Critical current tests (if applicable). 8. Short line fault tests. 9. Out-of-phase making and breaking tests. 10. Electrical endurance tests (if applicable) 11. Single phase and double earth fault tests. 12. Switching of shunt reactors	Any lab as per Annex-A

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13. Low and high temperature tests. 14. Additional test on control and auxiliary circuit. 15. Test to prove operation under severe ice conditions (if applicable). 16. Radio interference voltage (RIV) tests. 17. Tightness tests. 18. Electromagnetic compatibility (EMC) tests. 19. Mechanical operation tests at ambient temperature. 20. Verification of the degree of protection. 21. Extended mechanical endurance tests. 22. Humidity tests(if applicable) 23. Static terminal load tests.	**i.** Any Independent lab accredited by ISO/IEC 17025 **ii.** Any lab as per Annex-A **iii.** Inspection reports issued by any STL Lab
Disconnector, Earth Switch and Fast Earth Switch	
a) 132 kV (P-128:2011 & P-223:2011)	
1. Short-time withstand current and peak withstand current tests. 2. Short circuit making performance of earthing switches. (if applicable) 3. Bus-transfer current switching test. 4. Induced current switching test. 5. Temperature-rise test (Continuous Current Test). 6. Measurement of the resistance of main circuit including both contacts. 7. Dielectric tests.	Any lab as per Annex-A
8. Radio Interference Voltage tests. 9. Verification of Degree of protection. 10. Operating and mechanical endurance tests. 11. Test to verify the proper function of the position indicating device. (if applicable) 12. Tightness test. 13. Electromagnetic Compatibility (EMC) tests. 14. Additional test on control and auxiliary circuits. 15. Operation during application of rated mechanical Static terminal load 16. Testing on Mechanical interlocking devices. 17. Low and high temperature test. 18. Extended mechanical endurance tests.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
b) 220 kV and 500 kV (IEC)	
1. Bus Transfer Current Switching tests. 2. Bus Charging Switching tests. 3. Induced Current Switching Tests. 4. Test to prove Short-circuit Making performance of Earthing Switch (if applicable) 5. Short time withstand current and peak withstand current tests. 6. Temperature-rise test (Continuous Current Test). 7. Measurement of the resistance of main circuit including both contacts.	Any lab as per Annex-A

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8. Dielectric tests.	
9. Verification of the degree of protection. 10. Electromagnetic Compatibility (EMC) tests Operating and extended mechanical endurance tests. 11. Radio Interference Voltage tests. 12. Tightness Test 13. Additional test on control and auxiliary circuits. 14. Static terminal load tests. 15. Testing on Mechanical interlocking devices. 16. Low and high temperature test. 17. Test to verify the proper function of the position indicating device (if applicable).	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
Potential Transformer/Capacitive Voltage Transformer	
a) 132 kV PT (P-129:2011)	
1. Temperature-Rise Test. 2. Measurement of the resistance of primary and secondary windings. 3. Lightning impulse withstand voltage test. 4. Short-circuit withstand capability test. 5. Wet test for outdoor type transformer* 6. Tests for accuracy* 7. Power frequency voltage withstand test at Primary & secondary windings, between sections and for earthed terminal* 8. Partial discharge measurement during induced voltage test*	Any lab as per Annex-A
9. Verification of Degree of Protection. 10. Electromagnetic Compatibility Tests. 11. Enclosure Tightness Test at ambient temperature. 12. Pressure Test for the enclosure. 13. Mechanical test. 14. Transmitted Overvoltage Measurement. 15. Measurement of Capacitance and dielectric dissipation Factor test.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
b) Metering PT/CVT (P-206:2005) 132 kV, 220kV, 500 kV.	
1. Short circuit withstand capability tests. 2. Temperature rise test. 3. Dielectric tests*. 4. Chopped Impulse voltage test on primary terminals (if applicable). 5. Tests for accuracy* 6. Wet test for outdoor type transformer* 7. Partial discharge measurement.*	Any lab as per Annex-A
8. Stray capacitance and stray conductance measurement between low voltage terminal and earth.	i. Any Independent lab accredited by ISO/IEC 17025

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9. High frequency capacitance and equivalent series resistance measurement. 10. Determination of temperature coefficient. 11. Transient response tests. 12. Ferro resonance tests. 13. Electromagnetic Compatibility Tests. 14. Verification of Degree of Protection. 15. Enclosure Tightness Test at ambient temperature. 16. Pressure Test for the enclosure. 17. Mechanical test. 18. Measurement of Capacitance and dielectric dissipation Factor test.	ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
c) 220 kV, 500 kV Protection CVT/CCVT (NESPAK)	
1. Short circuit withstand capability tests. 2. Temperature rise test. 3. Dielectric Tests*. 4. Chopped Impulse voltage test on primary terminals (if applicable). 5. Tests for accuracy* 6. Wet test for outdoor type transformer* 7. Partial discharge measurement*.	Any lab as per Annex-A
8. Type test for carrier frequency accessories. 9. Stray capacitance and stray conductance measurement between low voltage terminal and earth. 10. High frequency capacitance and equivalent series resistance measurement. 11. Determination of temperature coefficient. 12. Transient response tests. 13. Ferro resonance tests. 14. Electromagnetic Compatibility Tests. 15. Verification of Degree of Protection. 16. Enclosure Tightness Test at ambient temperature. 17. Pressure Test for the enclosure. 18. Mechanical test. 19. Measurement of Capacitance and dielectric dissipation Factor test.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
Current Transformer Type testing of CT shall be carried out at any independent lab accredited by ISO/IEC 17025/STL Lab as per Annex-A and inspection report can be accepted if CT with same design, higher current rating, higher VA burden & same voltage is type tested in line with this type test policy.	
a) 132 kV CTs(P-90:2012)	
1. Temperature-rise test. 2. Measurement of the resistance of primary and secondary windings. 3. Impulse Voltage withstand test on primary terminal. 4. Short-time withstand current and peak withstand current tests. 5. Tests for accuracy*	Any lab as per Annex-A

6. Wet test for outdoor type transformer. 7. Power frequency voltage withstand test at Primary & secondary windings and between sections. 8. Partial discharge measurement.	
9. Inter-turn over voltage test. 10. Measurement of capacitance and dielectric dissipation Factor test. 11. Electromagnetic Compatibility Tests. 12. Verification of Degree of Protection. 13. Enclosure Tightness Test at ambient temperature. 14. Pressure Test for the enclosure. 15. Mechanical tests.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
b) Metering CTs (P-205:2005) 132 kV, 220kV, 500 kV	
1. Short –time current tests. 2. Temperature - rise test & measurement of resistances of windings. 3. Impulse voltage tests on primary terminals. 4. Tests for accuracy* 5. Wet test for outdoor type transformers. 6. Power Frequency 7. Partial Discharge measurement.	Any lab as per Annex-A
8. Electromagnetic Compatibility Tests. 9. Inter-turn over voltage test. 10. Measurement of capacitance and dielectric dissipation factor. 11. Verification of Degree of Protection. 12. Enclosure Tightness Test at ambient temperature. 13. Pressure Test for the enclosure. 14. Mechanical tests.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
c) 220 kV , 500 kV CTs (P-174:2008)	
1. Short time current tests. 2. Temperature rise test & measurement of resistance. 3. Dielectric Tests. 4. Chopped Impulse voltage test on primary terminals (if applicable). 5. Tests for accuracy* 6. Wet test for outdoor type transformers. 7. Partial Discharge measurement.	Any lab as per Annex-A
8. Electromagnetic Compatibility Tests. 9. Interturn Over voltage test. 10. Measurement of capacitance and dielectric dissipation factor. 11. Verification of Degree of Protection. 12. Enclosure Tightness Test at ambient temperature. 13. Pressure Test for the enclosure. 14. Mechanical tests.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab

Surge Arrester	
Scope of Type Test	**Approved labs**
a) Surge Arrester (P-181:2012)	
1. Insulation withstand tests on arrester housing a. Lightning impulse voltage test b. Switching impulse voltage test c. Power frequency voltage test 2. Residual voltage tests; a. Steep current impulse residual voltage test. b. Lightning impulse residual voltage test. c. Switching impulse residual voltage test. 3. Operating duty tests: a. High current impulse operating duty test. b. Switching surge operating duty test. 4. Short circuit Test. 5. Tests of arrester disconnectors (For arresters fitted with disconnectors). 6. Seal leak rate test. 7. Power frequency voltage verses time test. 8. Bending moment test (For porcelain housed surge arresters for Um>52kV). 9. Environmental test (For porcelain housed surge arresters). 10. Radio interference voltage (RIV) test? 11. Test to verify long term stability under continuous operating voltage. 12. Repetitive charge transfer withstand. 13. Heat dissipation behavior verification of test sample. 14. Test to verify dielectric withstand of internal components of an arrester. 15. Test of internal grading components. 16. Pollution housing test (if applicable)	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab

Bushings (Transformer & Shunt Reactor)[1]	
Scope of Type Test	**Approved labs**
a) Bushing (IEC 60137 & relevant NTDC Specification)	
1. Dry or wet power-frequency voltage withstand test. 2. Dry lightning impulse voltage withstand test. 3. Dry or wet switching impulse voltage withstand test. 4. Thermal stability test. 5. Temperature rise test. 6. Verification of thermal short-time current withstand. 7. Cantilever load withstand test. 8. Tightness test on liquid-filled, compound-filled and liquid-insulated bushings.	Any lab as per Annex-A

[1] Please refer to the criteria approved separately.

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Insulators	
Scope of Type Test	**Approved labs**
a) **Post Insulators (IEC 60168 & 60273)**	
1. Mechanical test (Tensile, Bending, Compression, Torsion) 2. Impulse withstand voltage. 3. Power frequency withstand voltage. 4. Radio interference Voltage. 5. Artificial pollution test. 6. Test for deflection under load.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
Grid Station Hardware	
a) 132 kV, 220 kV, 500 kV Connectors (P-176:2011 & relevant International Standards)	
1. Corona Test. 2. Temperature Rise Test. 3. Short Circuit Test. 4. RIV Test. 5. Ageing/Heat Cycling Test.	Any lab as per Annex-A
6. Electrical Resistance Test. 7. Conductivity Test. 8. Corrosion Test. 9. Tensile strength Test. 10. Brinell hardness Test. 11. Material composition Test. 12. Tightening Torque Test. 13. Bending Test. 14. Mechanical Elongation Test. 15. Cantilever Test.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
b) Strings (P-187-2010) Suspension & Tension	
1. Heat Cycle Test 2. Corona Test	Any lab as per Annex-A
3. Mechanical Test 4. Resistance test conductor	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab

GIS Main Bus	
1. Dielectric Tests. 2. Temperature-rise test. 3. Measurement of the resistance of main circuit. 4. Short time withstand current and peak withstand current tests.	Any lab as per Annex-A
5. Tightness Tests. 6. Tests to prove the strength of enclosures. 7. Tests on partitions.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
GIS Bushings	
1. Dielectric tests. 2. Temperature-rise test. 3. Measurement of the resistance of main circuit. 4. Short time withstand current and peak withstand current tests.	Any lab as per Annex-A
5. Tightness tests. 6. Radio Interference voltage tests.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
GIS Switchgear(on one line bay)	
1. Tests to verify the insulation level of the equipment including partial discharge tests and dielectric tests on auxiliary circuits. 2. Tests to prove the temperature rise of any part of the equipment and measurement of resistance of the main circuits. 3. Tests to prove the ability of the main and earthing circuits to carry the rated peak and the rated short-time withstand current. 4. Tests to verify the making and breaking capacity of the included switching devices.	Any lab as per Annex-A
5. Tests to prove the radio interference voltage (RIV) level (if an outdoor bushing exists). 6. Test to prove the satisfactory operation of the included switching devices. 7. Tests to verify the protection of persons against contact with live parts and moving parts. 8. Tests to verify the protection of the equipment against external effects due to weather and atmospheric agents applicable. 9. Tests to assess the effects of arcing due to an internal fault.	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A

10. Tests to prove the thermal stability of solid insulation (if applicable). 11. Tests to prove the satisfactory operation at limit temperature. 12. Tests to prove the strength of enclosures. 13. Corrosion test on earthing connections (if applicable). 14. Gas tightness test (if applicable). 15. Electromagnetic Compatibility test (if applicable). 16. Additional test on control and auxiliary circuits (if applicable). 17. Test on partitions (if applicable). 18. Test to prove performance under thermal cycling and gas tightness test on insulators (if applicable).	iii. Inspection reports issued by any STL Lab

Apart from above mentioned tests, the following major equipment of GIS shall be type tested in accordance with relevant IEC standards and this policy:

1. CT
2. PT/CVT
3. Circuit Breaker
4. Disconnectors
5. Earthing switch
6. Fast Earthing switch

B. T/Line Material:

Scope of Type Tests	Approved Labs
Conductor	
1. Corona /RIV Test 2. Creep Test 3. Longitudinal Smoothness Test 4. Stress – Strain Test	Any lab as per Annexure-A
5. Resistance test of complete conductor 6. Tensile test of complete conductor	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
Hardware & Accessories	
1. Corona/ RIV test 2. Power arc test 3. Heat cycle test 4. Magnetic loss test	Any lab as per Annexure-A
5. Resistance test 6. Galvanization test 7. Resistance to conductor slippage test 8. Mechanical tests	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab

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Spacer Dampers	
1. Corona and RIV Test 2. Simulated Short Circuit Current Test 3. Flexibility test 4. Energy absorbing test 5. Simulated Oscillation Fatigue Test 6. Conical Fatigue Test 7. Characterization of the Elastic and Damping Properties	Any lab as per Annexure-A
8. Galvanization 9. Clamp slippage test at Ambient Temp. 10. Bolt Torque Test 11. Electrical Resistance Test 12. Elastomer Tests	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
SB-Dampers	
1. Corona and RIV 2. Damper Performance 3. Vertical Fatigue (Damper Fatigue Test)	Any lab as per Annexure-A
4. Galvanization 5. Clamp Slippage Test at Ambient Temp. 6. Bolt Torque 7. Attachment of Weights to Messenger Cable 8. Attachment of Clamp to Messenger Cable	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab
Insulators (80, 100, 120, 160 kN)	
1. Low-frequency dry flashover test 2. Low-frequency wet flashover test 3. Critical Impulse flashover test 4. Radio-Influence Voltage Test 5. Thermal-Mechanical Load Cycle Test 6. Steep Wave Front 7. Power Arc Test 8. Artificial Pollution Performance Test 9. Cement Expansion	Any lab as per Annexure-A
10. Galvanization 11. Cotter Key Test 12. Thermal Shock Test 13. Residual-Strength Test 14. Impact Test	i. Any Independent lab accredited by ISO/IEC 17025 ii. Any lab as per Annex-A iii. Inspection reports issued by any STL Lab

* These test to be performed in STL lab. In case test facility is not available in STL lab, the same tests shall be performed in the presence of STL inspectors in any lab arranged by STL that complies with International test standards.

** An inspection report records tests witnessed by STL Laboratory Inspector in a non-STL Laboratory/ facility that complies with International test standards.

Note:

1. Service condition mentioned in NTDC specification will prevail where the service conditions differ from IEC specification.
2. Only those Independent lab reports accredited by ISO/IEC 17025 & STL lab Inspection reports will be acceptable where tests were witnessed by NTDC representatives.