

Standard Bidding Document

Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis
(Non-Consultancy Services)

National

Single Stage-One Envelope

CORRIGENDUM # 1	CORR-P125500-001
Initiation Date	October 06, 2026



October 08, 2026

*NTC (National Telecommunication corporation (NTC)), Director (Procurement)
Room # 05, Ground Floor, NTC HQs, Islamabad
Phone: +92-300-500-5219, Email: kashif.nawaz@ntc.org.pk*

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PROCUREMENT NOTICE

PROCUREMENT OF NON-CONSULTANCY SERVICES

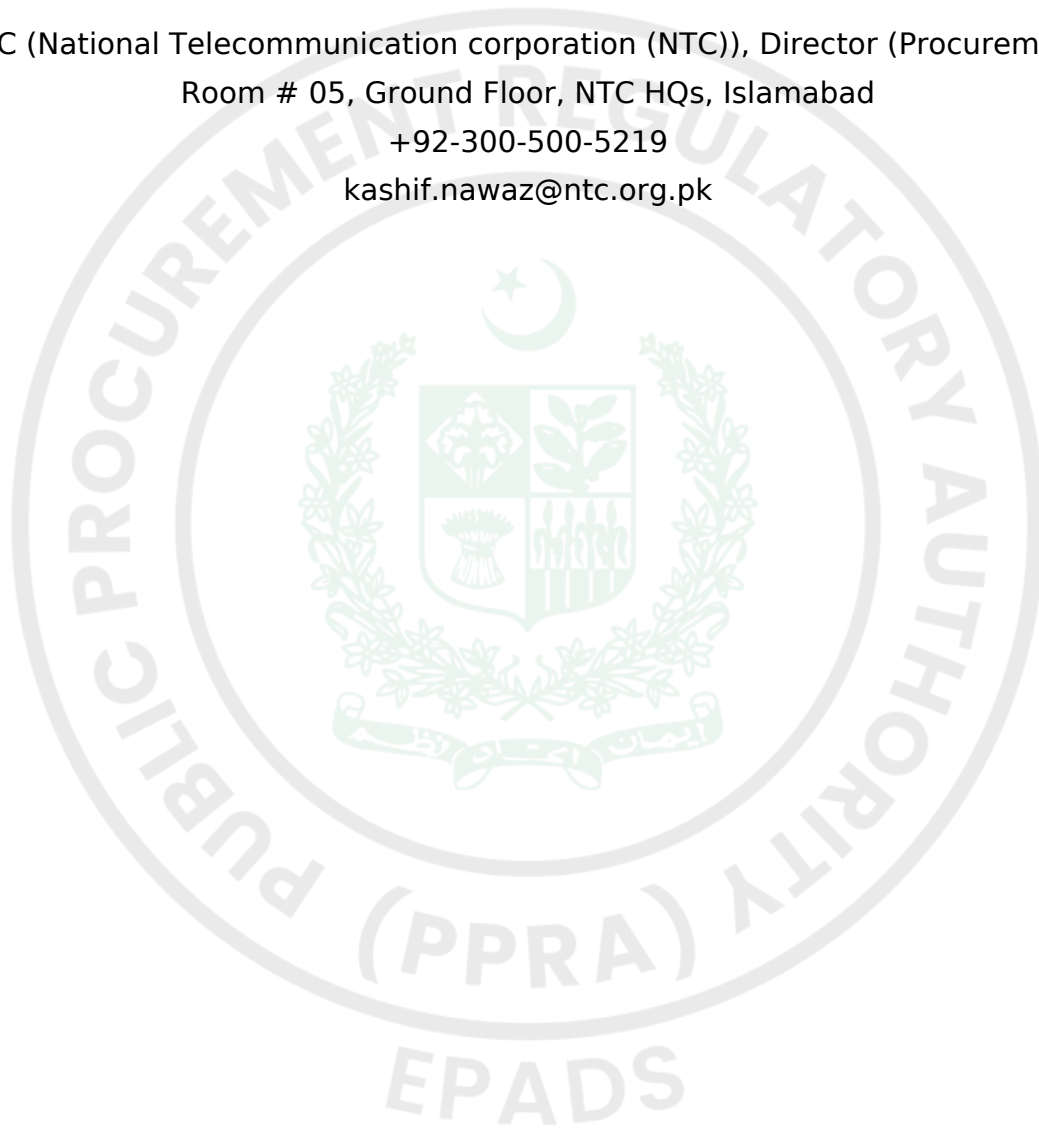
1. The **NTC (National Telecommunication corporation (NTC))** has reserved Funds for the procurement planned for FY **2026-27**. The **NTC (National Telecommunication corporation (NTC))** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the **"Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis"** with the reference of **"P125500"**
2. The **NTC (National Telecommunication corporation (NTC))** invites Bids through **EPADS v2.0** from eligible Bidders registered on **EPADS v2.0** for provision of Non-Consultancy Services.
3. **Single Stage-One Envelope** Procedure of Principal Method of Procurement (i.e. Open Competitive Bidding) will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2026 and any Regulations, and Instructions issued by the Authority (from time to time).
4. All Bids must be accompanied by a Bid Security described in Bid Security Section in Bidding Document in the form of **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft** or Bid Securing Declaration on the prescribed format described.
5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **<https://epads.gov.pk/opportunities/federal/procurements/125500>**.
6. The e-bids, prepared in accordance with the instructions in the e-Bidding documents, must be submitted through **EPADS v2.0** on or before **Tuesday, October 27, 2026 11:00 AM**. E-bids will be opened on the same day at **Tuesday, October 27, 2026 11:30 AM**. Manual submission of Bids shall not be entertained. Those vendors who have not yet registered on the new

version of **EPADS v2.0**, may register themselves on <https://vendors.epads.gov.pk/>.

A tutorial to explain the registration process is available at <https://www.youtube.com/watch?v=MNW6T38v7tc>

In terms of Rules 65 of Public Procurement Rules, 2026 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and also available on **EPADS v2.0** as well as Authority's website at (www.ppra.gov.pk).

NTC (National Telecommunication corporation (NTC)), Director (Procurement)
Room # 05, Ground Floor, NTC HQs, Islamabad
+92-300-500-5219
kashif.nawaz@ntc.org.pk





Instructions to Bidders

A. Introduction

1. Scope of Bids

1.1. The Procuring Agency (PA), as indicated in the **Bids Data Sheet (BDS)** invites Bids through **EPADS v2.0** for the provision of Non-Consultancy Services as specified in the BDS and **in Section Evaluation Criteria, Specifications & Schedule of Requirements**. The name, identification, and number of items/deliverables are provided in the **BDS**. **Single Stage-One Envelope** procedure of the open competitive method shall be used. The successful Bidders will be expected to provide the services within the specified period and timeline(s) as stated in the **BDS**.

2. Source of Funds

2.1. Source of funds is referred in Clause-1 of Procurement Notice.

3. Fraud & Corruption

3.1. As defined under Rule 2(1)(x) of Public Procurement Rules, 2026.

4. Eligible Bidders

4.1. A bidder shall be eligible to participate in a procurement process, if it—

4.1.1. possesses the technical competence, financial resources, equipment and other physical facilities, personnel, managerial capability, experience and past performance necessary to complete the procurement contract,

4.1.2. has the legal capacity to enter into a procurement contract;

4.1.3. has not been declared bankrupt or, in the case of company or firm, insolvent or being wound up and its activities or affairs are suspended by a Competent Authority or by the Court of law;

4.1.4. is not under any legal proceedings which may result in bankruptcy or any other situation entailing the total or partial loss of the right to administer and dispose of the property;

4.1.5. has not been convicted by a final judgment of a Court of Law,

4.1.6. is not blacklisted by the procuring agency or cross-debarred by the Authority at the time of the submission of bid;

4.1.7. is not blacklisted or debarred at the time of the submission of bid by an international financial institution, international organizations, or other multilateral development Bank for the period defined by them; and

4.1.8. is not convicted in the case of a company, its owners and beneficial owners, directors or officers of a criminal offence related to-

4.1.8.1. its professional conduct; or

4.1.8.2. a prohibited practice within the period specified in the tender documents and has not, or in the case of a company, its owners and beneficial owners, directors or officers have not, been debarred from a procurement process in Pakistan.

4.2. Except as permitted under the Ordinance, rules and regulations, the procuring agency shall not establish a criterion for eligibility of a bidder that-

4.2.1. discriminates against or among a bidder or against categories of bidders; or

4.2.2. is not required for the performance of the procurement contract; or

4.2.3. is not related to the avoidance of management of legal, reputational or economic risk to the procuring agency unless it is in the national interest to do so, and the criteria is set out in the bidding documents.

5. Qualification of the Bidder

5.1. All Bidders shall provide Bid Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

B. Bidding Documents

6. Contents of Standard Bidding Document

6.1. The Services required, bidding procedure, and terms and conditions of the contract are prescribed in the bidding document. In addition to the Invitation for Bids, the bidding document which should be read in conjunction with any addendum issued in accordance with **ITB 6.1** include:

Section I -Invitation to Bid

Section II Instructions to Bidders (ITB)

Section III Bid Data Sheet (BDS)

Section IV Evaluation Criteria, Specifications, Schedule of Requirements, and Technical Specifications.

Section V Fraud & Corruption

Section VI General Conditions of Contract (GCC)

Section VII Special Conditions of Contract (SCC)

Section VIII Contract Forms

6.2. The Bidder is expected to examine all instructions, requirements, forms, terms and specifications in the bidding documents. Failure to furnish all the information required in the bidding document will be at the Service provider's risk and may result in the rejection of his bids.

7. Clarifications

7.1. Clarifications of the bidding documents may be requested in writing through EPADS v2.0 by any bidder up to three days prior to the deadline for the submission of bids.

The procuring agency shall respond promptly and in writing to any request by a bidder for clarification of the bidding documents and, in any event, no

later than two days prior to the deadline for the submission of bids or proposals.

Responses to requests for clarification shall be communicated simultaneously and in writing to all bidders participating in the procurement proceedings.

No bidder shall be allowed to alter or modify his bid after the bids have been opened however, the procuring agency may seek and accept clarification to the bid that do not change the substance of the bid, through EPADS v2.0.

7.2. Procuring Agency's response will be uploaded on the EPADS v2.0, including a description of the inquiry.

7.3. Should the Procuring Agency deem it necessary to amend the bidding document as a result of a clarification, it shall do so following the procedure under **ITB 8** .

7.4. If indicated **in the BDS**, the bidder's designated representative is invited at the bidder's cost to attend a pre-bid meeting at the place, date and time mentioned **in the BDS**. During this pre-bid meeting, prospective bidder(s) may request clarification(s) regarding the schedule of requirements, the Evaluation Criteria or any other aspects of the bidding document.

7.5. Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by bidders, and the responses given, together with any responses prepared after the meeting will be uploaded on EPADS v2.0. Any modification to the bidding document that may become necessary as a result of the pre-bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to **ITB 8** .

7.6. To assist in the examination, evaluation and comparison of Bids of the Bidders, the Procuring Agency may, ask any Bidder for a clarification of its bid including breakdown of prices, through EPADS v2.0. Any clarification submitted by a bidder that is not in response to a request by the Procuring Agency shall not be considered.

No change in the prices or substance of the bid shall be sought, offered, or

permitted.

The alteration or modification in the bid which in any way affect the following parameters will be considered as a change in the substance of a bid:

- 7.6.1. evaluation & qualification criteria;
- 7.6.2. required scope of work or specifications;
- 7.6.3. all securities requirements;
- 7.6.4. tax requirements;
- 7.6.5. terms and conditions of bidding documents; and
- 7.6.6. change in the ranking of the bidders.

From the time of bid(s) opening to the time of contract award, if any bidder wishes to contact the procuring agency on any matter related to the bid, it should do so in writing or through electronic form that provides record of the content of communication.

8. Amendment of Bidding documents

8.1. Before the deadline for submission of bids, the procuring agency for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder or pre-bid meeting may modify the bidding documents by issuing addendum.

8.2. Any addendum issued including the notice of any extension of the deadline shall be part of the bidding document pursuant to **ITB 8 .1** shall be uploaded on EPADS v2.0 as well as Authority's website. The procuring agency shall promptly publish the addendum at the procuring agency's website indicated in the **BDS**:

Provided that the bidder who had either already submitted his bid, shall have the right to withdraw his already submitted bid and submit the revised bid, prior to the original or extended bid submission deadline.

8.3. To give prospective bidders reasonable time in which to take an addendum/corrigendum into account in preparing their bids, the Procuring

Agency may, at its discretion, extend the deadline for the submission of bids after record reason in writing:

Provided that the Procuring Agency shall extend the deadline for submission of bids, if such an addendum is issued within last three (03) days of the bid submission deadline.

C. Preparation of Bids

9. Documents Constituting the Bids

9.1. The bids prepared by the bidders shall constitute the following components: -

9.1.1. Forms of bid and Bid Prices completed in accordance with ITB 10 and 11;

9.1.2. Documentary evidence established in accordance with ITB 8 that services to be provided by the bidder are eligible services, and conform to the bidding documents;

9.1.3. Documentary evidence established in accordance with ITB 9 that the bidder is eligible and/or qualified for the subject bidding process;

9.1.4. Documentary evidence established in accordance with ITB 9.3 that the bidder has been authorized to provide the services;

9.1.5. Bid security or Bids Securing Declaration furnished in accordance with ITB 14; and

9.1.6. Any other document required in the BDS.

10. Documents Establishing Eligibility of the Services and Conformity to bidding documents

10.1. To establish the conformity of the Non-Consulting Services to the Bidding document, the bidder shall furnish as part of its bid the documentary evidence that services provided conform to the requirements.

10.2. Standards for the provision of the Non-Consulting Services are intended to be descriptive only and not restrictive.

11. Documents Establishing Eligibility and Qualification of the Bidder

11.1. Pursuant to ITB 8, the bidder shall furnish, as part of its bid, all those documents establishing the bidder's eligibility to participate in the bidding process and/or its qualification to perform the contract if its bid is accepted.

11.2. The documentary evidence of the bidder's eligibility to bids shall establish to the satisfaction of the procuring agency that the bidder, at the time of submission of its bid, is from an eligible country.

11.3. The documentary evidence of the bidder's qualifications to perform the contract if its bid is accepted shall establish to the satisfaction of procuring agency that:

11.3.1. the bidder has the financial, technical, provisions of services and supply/production capability necessary to perform the Contract, meets the qualification criteria specified in BDS.

11.3.2. that the bidder meets the qualification criteria listed in the Bids Data Sheet.

12. Form of Bid

12.1. The bidder shall fill the Form of Bid furnished in the bidding documents. The Bid Forms must be completed without any alterations to its format and no substitute shall be accepted.

13. Bids Prices

13.1. The Bids Prices quoted by the bidder in the Forms of Bid and in the price schedule shall conform to the requirements specified or exclusively mentioned hereafter in the bidding document.

13.2. All items in the Schedule of Requirements must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced and neither explicitly mentioned, their prices shall be construed

to be included in the prices of other items.

13.3. The Bid price to be quoted in the Forms of Bid in accordance with ITB 10 shall be the total price of the bid, excluding any discounts offered.

13.4. The bidder shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total bid price of the services, it proposes to provide under the contract.

13.5. Prices quoted by the bidder shall be fixed during the currency of the contract and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and shall be rejected pursuant to ITB 28, unless otherwise price adjustment is permissible under Conditions of the Contract.

14. Price Adjustment

14.1. Price adjustment shall not be applicable on the contract with less than 12 months period.

14.2. Procuring agency may increase the remuneration of the human resources involved in non-consultancy services upto maximum 15% on annual basis.

14.3. Procuring agency shall incorporate the provisions to allow wage rate in compliance with Federal Government's minimum wage notification, subject to the condition that clause 11.2 shall not be applicable in that case.

15. Bids Currencies

15.1. Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS.

16. Bid Validity Period

16.1. Bid(s) shall remain valid for the period specified in the BDS after the bid submission deadline prescribed by the Procuring Agency. A Bid valid for a shorter period shall be rejected by the Procuring Agency as non-responsive.

17. Bid Security or Bid Securing Declaration

17.1. Unless otherwise specified in the BDS, the bidder shall furnish as part of its bid, in the amount and currency specified in the BDS or Bid Securing Declaration on the format provided in Form 9 The scanned copy of the Bids Security shall be uploaded in the EPADS v2.0 while submitting bid, whereas the original forms of Bid Security shall be submitted to the procuring agency before the bid submission deadline. The bidder who failed to submit the original bid security before the submission deadline shall be disqualified straightaway.

17.2. The Bid Security or Bid Securing Declaration is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB 14.5

17.3. The Bid Security shall be payable promptly upon written demand by the Procuring Agency in case any of the conditions listed in 14.5 are invoked.

17.4. Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible after the award of contract, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the Procuring Agency pursuant to ITB 13. The Procuring Agency shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, whichever of the following that occurs earliest:

17.4.1. the expiry of the Bid Security;

17.4.2. the entry into force of a procurement contract and the provision of a Performance Guarantee, for the performance of the contract if such a guarantee, is required by the bidding document;

17.4.3. the rejection by the Procuring Agency of all Bids;

17.4.4. the withdrawal of the Bid prior to the deadline for the submission of bids, unless the bidding document stipulate that no such withdrawal is permitted.

17.5. The Bid Security may be forfeited or the Bid Securing Declaration executed:

17.5.1. if a bidder:

17.5.1.1. withdraws its bid during the period of bid validity as specified by the Procuring Agency, and referred by the bidder in the Forms of Bid, except as provided for in the ITBs; or

17.5.1.2. does not accept the correction of errors pursuant to ITB 23; or

17.5.2. in the case of a successful bidder fails:

17.5.2.1. **to sign the contract in accordance with ITB 32; or**

17.5.2.2. **to furnish Performance Guarantee in accordance with ITB 33.**

17.6. The bid security shall be valid for a period specified in BDS. Bids with shorter bid security validity period shall be rejected straight away.

18. Alternative Bids by Bidders

18.1. Alternatives will not be considered, unless specifically allowed for in the BDS.

18.2. When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS and the method of evaluating different time schedules will be described in Section V, Evaluation and Qualification Criteria.

19. Withdrawal, Substitution, and Modification of Bids

19.1. Before Bids submission deadline, any bidder may withdraw, substitute, or modify his bid after it has been submitted.

20. Format and Signing of Bids

20.1. The bidder shall prepare and submit his bid with due diligence after carefully reading all the terms and conditions before submission through EPADS v2.0.

D. Submission of Bids

21. Submission of Bids through EPADS v2.0 before Dead deadline

21.1. The Technical and Financial Bids as the case may be, shall be submitted in the due portion of the EPADS v2.0, before bid submission deadline. The bid submission option shall be automatically disabled once the deadline is over.

21.2. The Procuring Agency may, under exceptional circumstances and at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 8. In such a case, all rights and obligations of the Procuring Agency and the Bidders that were previously subject to the original deadline shall thereafter be subject to the revised deadline.

E. Opening and Evaluation of Bids

22. Opening & Evaluation of Bids by the Procurement Cell

22.1. As per Rule 10 of Public Procurement Rules, 2026 (PA to establish a Procurement Cell which shall carryout procurements a per Rule 10 of Public Procurement Rules, 2026)

23. Opening & Evaluation of Bids by the Bid Evaluation Committee

23.1. As per Rule 11 of Public Procurement Rules, 2026 (PA to constitute odd number Bid Evaluation Committee for the purpose of bid opening and evaluation of all procurements with an estimated value up to two billion rupees)

24. Third Party Validation

24.1. **In compliance with Rule 12** of Public Procurement Rules, 2026, the third-party validation committee or firm shall validate all procurements above five hundred million and up to two 2 billion rupees. The third-party validation shall be conducted at specifications, bidding documents preparation, technical (if any) & final evaluation stages.

25. External Bid Evaluation Committee

25.1. **As per Rule 13 of Public Procurement Rules, 2026**, procurements with an estimated value above two billion rupees shall be opened and evaluated by the Procuring Agency's notified External Bid Evaluation Committee.

26. Opening of Bids

26.1. The Procuring Agency will open all bids through EPADS, in the presence of bidders' or their representatives who choose to attend, and other parties with a legitimate interest in the bid proceedings at the place, on the date and at the time, specified in the **BDS**. The Bidders' representatives present shall sign attendance sheet as proof of their attendance.

26.2. The bids shall be opened one at a time, and the following read out and recorded: (a) the name of the bidder; (b) the presence of a bid security, if required; and (c) any other details as the procuring agency may consider appropriate.

26.3. No bid will be rejected at the time of bid opening except for bids whose bid security has not been provided to the procuring agency before submission deadline.

26.4. The procuring agency shall prepare minutes of the bid opening. The record of the bid opening shall include, as a minimum: the name of the bidder and the bid price, if applicable.

27. Confidentiality

27.1. Information relating to the examination, clarification, evaluation and comparison of bids and recommendation of contract award shall not be disclosed to bidders or any other person(s) not officially concerned with such process, until the time of the announcement of the respective evaluation report.

27.2. Any effort by a bidder to influence the procuring agency processing of bids or award decision may result in the rejection of his bid.

28. Preliminary Examination of Bids

28.1. Prior to the detailed evaluation of bids, the procuring agency will determine whether each bid:

28.1.1. meets the eligibility criteria defined in **ITB 3**;

28.1.2. has been prepared as per the format and contents defined by the procuring agency in the bidding document;

28.1.3. is accompanied by the required securities; and

28.1.4. is substantially responsive to the requirements of the bidding document.

28.2. The procuring agency will confirm that the documents and information specified under **ITB 7,8 and 9** have been provided in the bids. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Bidders, the bid shall be rejected.

28.3. If a bid is not substantially responsive, it will be rejected by the procuring agency and may not subsequently be evaluated for complete technical responsiveness.

29. Examination of Terms and Conditions, Technical Evaluation

29.1. The procuring agency shall evaluate the technical aspects of the bids submitted in accordance with **ITB 21**, to confirm that all requirements specified in **Section V - Evaluation Criteria, Technical Specifications and Schedule of Requirements**, prescribed in the bidding document have

been met without material deviation or reservation.

29.2. If after the examination of the terms and conditions and the technical evaluation, the procuring agency determines that the bid is not substantially responsive in accordance with **ITB 21**, it shall reject the bids.

30. **Correction of Errors**

30.1. Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

30.1.1. if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the procuring agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;

30.1.2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and

30.1.3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

30.1.4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Forms of bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

30.2. The amount stated in the bid will be adjusted by the procuring agency in accordance with the above procedure for the correction of errors and, with the concurrence of the bidder that shall be considered as binding upon the bidder. If the Bidder does not accept the corrected amount, his bid will then be rejected, and the Bid Security may be forfeited or the Bid Securing Declaration may be executed in accordance with **ITB 14**.

31. **Conversion to Single Currency**

31.1. As per Rule 42(2) of Public Procurement Rules, 2026.

32. Evaluation of Bids

32.1. The procuring agency shall evaluate bids in accordance with Rule 42 of Public Procurement Rules, 2026 and compare only those bids determined to be substantially responsive, pursuant to **ITB 21**.

32.2. In evaluating the Technical Bids of each Bidder, the Procuring Agency shall apply the evaluation criteria and methodologies specified in the **Bid Data Sheet (BDS)** and in accordance with the Statement of Requirements and Technical Specifications. No other evaluation criteria or methodologies shall be permitted.

32.3. **In case of tie of bids, the bidders shall be provided an opportunity to offer their best and final monetary offer through EPADS. However, in no case the rates shall be higher than the original financial bids.**

32.4. The Procuring agency/Employer's evaluation of a bid will take into account:

32.4.1. the bid price, excluding provisional sums and the provision, if any, for contingencies in the summary bill of quantities, but including day work items, where priced competitively;

32.4.2. price adjustment for correction of arithmetic errors in accordance with **ITB 30**;

32.5. converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with **ITB 31**;

32.6. 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.

32.7. If these bidding documents allow bidders to quote separate prices for different lots, and the award to a successful bidder of multiple lots, the methodology of evaluation to determine the lowest evaluated lot combinations in the Form of Bid, is specified in the **BDS**.

33. Determination of Most Advantageous Bids

33.1. Selection technique will be adopted for determining the Successful Bid in accordance with the criteria referred in the **BDS** or prescribed in the separate section titled as Evaluation Criteria.

34. Abnormally Low Financial Bids

34.1. Subject to sub-rule (2), a procuring agency may, in the procurement of goods, works and services, reject a bid if it has determined that the price, in combination with other constituent elements of the bid, is abnormally low in relation to the subject matter of the procurement such that it raises material concerns on the part of the procuring agency as to the ability of the bidder to perform the procurement contract satisfactorily for the offered price.

34.2. A procuring agency shall not reject a bid as abnormally low under sub-rule (1) unless the procuring agency—

34.2.1. requested through EPADS from the bidder a written clarification of bid, including a detailed price analysis of its bid price in relation to the subject matter of the procurement contract, scope, methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding documents; and

34.2.2. having taken into account the information provided by the bidder in response to a request under clause (a) and the information included in the bid, the procuring agency determines that the bidder has failed to demonstrate its ability to perform the procurement contract satisfactorily against the offered price.

34.3. The procuring agency shall promptly communicate to the bidder concerned its decision to reject the bid, including the reasons for the decision. The procuring agency may reinitiate the bidding process after communication of such decision.

34.4. Every abnormally low bid shall be investigated in order to determine the reason for submitting the bid including whether the bid was submitted in order to remove other bidders from competition.

34.5. In case it is established after investigation that the bidder submitted an abnormally low bid to remove other bidders from competition or to frustrate the bidding process, the procuring agency may blacklist the bidder in accordance with Rule 25(1)(d).

35. Rejection of Bids

35.1. As per Rule 45 of Public Procurement Rules, 2026

36. Cancellation of procurement

36.1. As per Rule 46 of Public Procurement Rules, 2026

37. Single Responsive Bid

37.1. The procuring agency may consider single responsive subject to underlying conditions of Rule 50 of Public Procurement Rules, 2026.

38. Alternate Dispute Resolution (ADR)

38.1. As per Rule 66 of Public Procurement Rules, 2026

39. Arbitration Clause

39.1. (Appointing Authority for the Arbitrator shall be Chief justice of Honorable Islamabad High Court OR Managing Director (PPRA) OR Secretary (Ministry of Law & Justice),

40. Fee of the Arbitrator

40.1. The fee shall be specified in PKR as determined by the Appointing Authority and shall be shared equally by each party.

41. Socio-economic development

41.1. As per Rule 63 of Public Procurement Rules, 2026, PA to encourage the inclusiveness of small and medium enterprises, and marginalized groups by according preferences in line with the notified policies of the Federal Government

42. Environmental objectives

42.1. As per Rule 64 of Public Procurement Rules, 2026, The procuring agency may seek to procure services with a reduced environmental impact throughout their life cycle when compared to services with the same primary function that may otherwise be procured.

F. Award of Contract

43. Appointment of Contract Manager

43.1. The procuring agency shall designate a Contract Manager for each procurement or class of procurement who shall manage the contract as per Rule 58 & 59 of Public Procurement Rules, 2026.

44. Criteria of Award

44.1. The procuring agency will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding document and who has been declared as Successful Bid .

45. Procuring Agency's Right to reject All Bids

45.1. The procuring agency reserves the right to reject all the Bids and to annul the procurement process at any time prior to acceptance of the bid(s), without thereby incurring any liability to the affected bidder(s).

45.2. Notice of the rejection of all bids shall be given promptly to all bidders that have submitted the bids. The procuring agency shall upon request communicate to any bidder the grounds for the rejection of his bid, but is not required to justify those grounds.

46. Procuring Agency's Right to Vary Quantities at the Time of Award

46.1. The procuring agency reserves the right, at the time of contract award, to increase or decrease not more than 15% of the original scope of related services originally specified in the Schedule of Requirements, provided that such variation does not exceed the percentage indicated in

the **Bid Data Sheet (BDS)**. This adjustment shall be made without any change in the unit price or other terms and conditions of the Bids and Bidding Documents.

47. Notification of Award

47.1. Prior to the award of contract, the procuring agency shall issue a Final Evaluation Report giving justification for acceptance or rejection of the bids.

47.2. Bidder whose bid has been accepted, will be notified for the award by the Procuring Agency prior to expiration of the Bid Validity period through EPADS. The Letter of Award will state the sum that the procuring agency will pay the successful bidder in consideration for the execution of the scope of works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

47.3. The notification of award will constitute the formation of the Contract, subject to the condition that bidder furnish the Performance Guarantee in accordance with **ITB 33** and signing of the contract in accordance with **ITB 32**.

48. Signing of Contract

48.1. Promptly after notification of award, Procuring Agency shall send the successful bidder the draft agreement, incorporating all terms and conditions as agreed by the parties to the contract. The successful bidder and the procuring agency shall sign the contract.

49. Performance Guarantee

49.1. After the receipt of the Letter of Award, the successful bidder, within the specified time, shall deliver to the Procuring Agency a Performance Guarantee in the amount and in the form stipulated in the **BDS and SCC**, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.

49.2. Failure of the successful bidder to comply with the requirement of **ITB 33.1** shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the procuring agency may

make the award to the next ranked bidder or call for new bids.

50. Advance Payment

50.1. The Procuring Agency will provide an Advance Payment as stipulated in the Conditions of Contract, subject to a maximum amount, as stated in the **BDS**. The Advance Payment request shall be accompanied by an Advance Payment Guarantee in the form provided in Contract Forms.

51. Arbitration

51.1. The Arbitrator shall be appointed by mutual consent of the both parties as per the provisions specified in the **SCC**.

52. Corrupt & Fraudulent Practices

52.1. Procuring Agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

G. Grievance Redressal & Complaint Review Mechanism

53. Constitution of Grievance Redressal

53.1. The Principal Accounting Officer or head of procuring agency or any authorized officer shall constitute a committee comprising of odd number of members completely outside the procuring agency from any other procuring agency or from the pool of experts maintained by the Authority and accessible through EPADS with necessary powers and authorizations, to address the complaints of bidders or parties that may occur prior to the entry into force of the procurement contract.

53.2. Any party may file a written complaint, two days prior to the proposal submission deadline, against the eligibility parameters, evaluation criteria or

any other terms and conditions described in the bidding documents, if found contrary to the provisions of the procurement regulatory framework, and the same shall be addressed by the GRC.

53.3. Any bidder or party feeling aggrieved by any act of the procuring agency after the submission of bid, may lodge a written complaint concerning his grievances within seven days of announcement of the technical evaluation report and five days after issuance of final evaluation report.

53.4. In case, the complaint is filed against the technical or final evaluation report, the GRC may suspend the procurement proceedings till the decision.

53.5. In case, the complaint is filed after the issuance of the final evaluation report, the complainant may not 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-single envelope bidding procedure is adopted.

53.6. The GRC shall investigate and decide upon the complaint within ten days of its receipt.

53.7. Any bidder or party not satisfied with the decision of the GRC or if GRC fails to decide within ten days under sub-rule 6, may file an appeal before the Appellate Committee of the Authority, comprising odd number of members including an external member within ten days of communication of decision subject to depositing the prescribed fee and in accordance with the procedure determined by the Authority. The Appellate Committee of the Authority shall decide the appeal within 45 days from the receipt of the appeal. The Appellate Committee may suspend the process of award of contract to such period as deemed appropriate during the pendency of appeal. The decision of the Appellate Committee of the Authority shall be considered as final.

H. Blacklisting/ Debarment

55. Procedure for Blacklisting/Debarment

55.1. The procuring agency may initiate blacklisting proceedings against contractor/supplier in accordance with Rule-25 of the Public Procurement Rules, 2026 , Mechanism for Blacklisting, Debarment Regulations, 2026 and “procedure for filling and disposal of review petition under rule-25(6) of Public Procurement Rules, 2026.





Bid Data Sheet

Bids Data Sheet (BDS)

The following specific data for the procurement of Goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

BDS Clause Number

ITB Number

Amendments of, and Supplements to, Clauses in the Instruction to Bidders

A. Introduction

BDS Clause Number 1

ITB Number 1.1

Name of Procuring Agency: **NTC (National Telecommunication corporation (NTC))**

The subject of procurement is: **Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis**

Expected commencement date: **Monday, November 30, 2026**

BDS Clause Number 2

ITB Number 2.1

Financial year for the operations of the Procuring Agency: **2026-27**

Name and identification number of the Contract: **P125500**

BDS Clause Number 3

ITB Number 4.6

JV/Consortium or Association Allowed: **Yes**

Number of JV/Consortium Members: **5**

B. Bidding Documents

BDS Clause Number 4

ITB Number 7.1

The Bidders may seek clarifications through **EPADS v2.0**: Clarification Date: Saturday, October 24, 2026

BDS Clause Number 5

ITB Number 8.1

Any addendum, in case issued, shall be published on **NTC (National Telecommunication corporation (NTC))** website and on **EPADS v2.0**.

BDS Clause Number 6

ITB Number 9.1

List of documents required along with the bid:

1. Valid Bid Security
2. Documentary evidence and certificates as per Qualification Criteria
3. Company Profile
4. Legal JV Agreement (If applicable)
5. Documentary evidence as per eligibility Criteria

BDS Clause Number 7

ITB Number 11.1

The qualification criteria to establish the supply / production capability of the bidder.

see Eligibility Criteria

BDS Clause Number 8

ITB Number 7.6

Services and Their related documents:

See section Required Services and Scope of Work

BDS Clause Number 9

ITB Number 13.1 & 13.2

Price schedule will be provided according to the format defined and acquired.

see section price schedule.

BDS Clause Number 10

ITB Number 7.6.2

Specifications:

see section of specifications.

C. Preparation of Bids

BDS Clause Number 11

ITB Number 13.5

The price shall be **Fixed**.

BDS Clause Number 12

ITB Number 15.1

Currency of the Bids shall be : **PKR**

BDS Clause Number 13

ITB Number 16.1

The Bids/Bid Validity period shall be: **180 Days**

BDS Clause Number 14

ITB Number 17.1

The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in **BDS 6**

Instrument of Bid Security Shall be in the Name of : **NTC**

The Bid Security shall be in the form of: **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft**

BDS Clause Number 15

ITB Number 17.3

The Bids security shall be valid for twenty-eight (28) days beyond the expiry of the Bids validity period specified in the bidding documents, for example the bid validity is 180 days so the bid security shall be valid for $180+28 = 208$ days.

BDS Clause Number 16

ITB Number 18.1

Alternative Bids to the requirements of the bidding documents will not be permitted.

D. Submission of Bids

BDS Clause Number 17

ITB Number 21.1

Bid shall be submitted online on **EPADS v2.0** whereas hard copy of the bid security should be submitted to the following;

Room # 05, Ground Floor, NTC HQs, Islamabad

Bids that are not submitted on EPADS v2.0 shall be disqualified.

The deadline for Bids submission is: **Tuesday, October 27, 2026 11:00 AM**

E. Opening and Evaluation of Bids

BDS Clause Number 18

ITB Number 26.1

The Bids opening shall take place on **EPADS v2.0**.

Day : **Tuesday**

Date: **Tuesday, October 27, 2026**

Time : **11:30 AM**

BDS Clause Number 19

ITB Number 32.1

Selection technique adopted will be: **Least Cost Based Selection (LCBS)**
see *Evaluation Criteria*

F. Award of Contract

BDS Clause Number 20

ITB Number 49.1

The Performance guarantee shall: **10.00%**.

The Performance Guarantee shall be acceptable in the form of: **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft**

BDS Clause Number 21

ITB Number 51.1

Arbitrator shall be appointed by mutual consent of the both parties.

G. Review of Procurement Decisions

BDS Clause Number 22

ITB Number 53.1

Grievance against this procurement shall be submitted online on **EPADS v2.0**.



Eligibility Criteria

Bidder's Type	Required Registration
Partnership Firm	FBR (NTN)
Company (Private Limited)	FBR (GSTN)
Company (Public Limited)	Punjab (PRA)
Company (Holding Company)	SECP
Company (Limited by Guarantee)	PEC
State Owned Enterprise (Private Limited)	Registrar of Firms
State Owned Enterprise (Public Limited)	

Eligibility Criteria	Document
The bidder/JV must be registered with Tax Authorities and active Tax payer for Income Tax and Sales Tax.	Yes
The bidder/JV must have relevant experience of provision of similar services for at least three years in Pakistan. The participant bidder shall provide all the record of its previous installations along with contracts/purchase orders.	Yes
The bidder/JV must be registered with Pakistan Engineering Council (PEC) in Category C3 or higher, with Specialization Codes EE07, EE08 and EE04/EE05/EE11	Yes

The firm must provide undertaking on at least PKR 200/- Judicial Paper that: a. The firm is not black listed from any government organization in Pakistan. b. The firm does not have any linkage with India and/or Israel regarding ownership, sponsoring, financing etc	Yes
One Bid per Bidder- A bidder shall submit only one bid, in the same bidding process, either individually as a bidder or as a member in a joint venture or any similar arrangement. No bidder can be a sub-contractor while submitting a bid individually or as a member of a joint venture in the same bidding process	Yes



Evaluation Criteria

Least Cost Based Selection (LCBS)



Required Services

Lot Title : BoQ

Bid Security : 3000000 PKR

Position	Delivery Schedule	Quantity
Satellite Solution – Satellite Communication For Data Connectivity (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package
Power/Electrical Components – Off-Grid Solar Power System (PV, Battery Storage, Inverter/ESS) & External Electrical Works) (details and Quantities defined under Specification/Requirements)	Address: GM Central - NTC RHQ, 6-Race Course Road, Lahore Schedule: 20 Weeks Quantity: 1/Package	1/Package
Mobile Vehicle Platform Solution – Mobile Vehicle Platform For Data Connectivity (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package

Position	Delivery Schedule	Quantity
OFC Solution – Provision Of Data Connectivity Through OFC (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package
Wireless LAN (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package
Facility Components – Prefabricated Living Pod (Structural Skid Frame, Envelope, Sanitary Fit-Out & Internal Electrical) (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package
Next Generation Firewall (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package

Position	Delivery Schedule	Quantity
Network & Security Equipment (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package
Installation, Testing And Commissioning Services (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package
Civil, Building & Structured Cabling Works (Site Preparation, & Wi-Fi Site Deployment) (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package
Installation, Testing And Commissioning Services (details and Quantities defined under Specification/Requirements)	Address: Various Sites across punjab Schedule: 20 Weeks Quantity: 1/Package	1/Package

Position	Delivery Schedule	Quantity
Media Connectivity /Bandwidth Charges	Address: Various Sites across punjab Schedule: 60 Months after Commissioning Quantity: 1/Service Package	1/Service Package
SLA Cost- Service Level Agreement	Address: Various Sites across punjab Schedule: 60 Months after Commissioning Quantity: 1/Service Package	1/Service Package
HR Cost- Human Resource Bill Of Quantity	Address: Room # 05, Ground Floor, NTC HQs, Islamabad Schedule: 60 Months after Commissioning Quantity: 1/Service Package	1/Service Package

Related Services :

No



Services Specifications

Lot Title : BoQ

Position: Satellite Solution - Satellite Communication For Data Connectivity (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
I	Hardware for Satellite Bandwidth					
1	VSAT Satellite Hardware	1.2m Ku-band dish, 6W BUC, LNB, and Satellite Modem	21			
Total amount in Pak Rupees with Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Power/Electrical Components - Off-Grid Solar Power System (PV, Battery Storage, Inverter/ESS) & External Electrical Works) (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Off-Grid Solar Power System (per site, Nos.)						
1	Solar PV Module – 3kW Mono PV array	28	Site			
2	Solar PV Mounting Structure – GI/MS structure suitable for site	28	Site			
3	Sigen Energy Controller / Inverter – Sigenenergy SigenStor, 3.6 kW, single phase	28	Site			
4	LiFePO4 Battery – Approx. 6 kWh	28	Site			
5	Sigen Energy Gateway / Backup Interface – Compatible with SigenStor	28	Site			
6	DC Isolator – DC-rated isolator	28	Site			
7	DC SPD – DC surge protection device	28	Site			
8	AC SPD – AC surge protection device	28	Site			
9	MCB / RCBO Protection – As required for critical load DB	28	Site			
10	Critical Load Distribution Board – Dedicated DB	28	Site			
11	Earthing / Grounding – Complete system earthing	28	Site			
12	Remote Monitoring – mySigen / remote monitoring	28	Site			
13	Cabling & Termination – PV / AC / equipment cabling as quoted	28	Site			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
14	Installation & Commissioning - Complete turnkey installation	28	Site			
External Electrical Feeder, Earthing & Site Lighting						
15	External electrical feeder - Sized for demand, voltage drop, fault level and installation conditions	6,000	r.ft			
16	Cable trench - Including sand bedding and reinstatement	6,000	r.ft			
17	Sand bedding - Complete	28	m ³			
18	Cable protective cover - Complete	6,000	r.ft			
19	Warning tape - Continuous above cable	6,000	r.ft			
20	External main board - MCCB/RCCB and surge protection	28	No.			
21	Earthing system - Earth electrodes, conductors, clamps and connections	28	Set			
22	External LED security lights - Minimum four per location	120	No.			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Mobile Vehicle Platform Solution – Mobile Vehicle Platform For Data Connectivity (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
1	Mobile Satellite Communication Vehicle Platform (Hyundai's Porter H-100s shall be provided by NTC)	Custom Communication Body – Refer to Annex-A2.1 for detailed specifications and scope.	19			
2		1.2m Ku-Band Antenna & Mount	19			
3		Ku-Band BUC, LNB & Feed Assembly	19			
4		Satellite Modem (iDirect)	19			
5		18U Equipment Rack & PDU	19			
6		10KVA Generator	19			
7		3KVA Online UPS with 100AH LiFePo4 Batteries	19			
8		Router	19			
9		Switch & Networking	19			
10		Electrical, Cabling, DB, Protection	19			
11		Stabilizers & Mounting System	19			

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
12	Installation, Integration, Testing and commissioning	19				
13		1.5 kWp Solar PV System + 1.5 kVA Hybrid Inverter + 100Ah LiFePO ₄ Battery Backup; complete with mounting, protection and cabling. Refer to Annex-A2.2 for technical details.	19			
Total amount in Pak Rupees Inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						
Annex-A2.1:	Detailed Custom Communication Body specification is provided in the Annex-A2.1 worksheet.					
Annex-A2.2:	Detailed technical specifications for S. No. 13 Solar Power System are provided in worksheet: Annex-A2.2.					

Position: OFC Solution – Provision Of Data Connectivity Through OFC (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
1	OFC Based Connectivity	Hardware for OFC bandwidth installation & commissioning charges	12			
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Wireless LAN (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
1	WiFi 7 Wireless Access Points as per Technical Specifications at Annex-B1	No	460			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Facility Components – Prefabricated Living Pod (Structural Skid Frame, Envelope, Sanitary Fit-Out & Internal Electrical)
(details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	QTY	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Prefabricated Living Pod – Structural, Envelope, Sanitary & Internal Electrical Fit-Out (per pod, 112 Nos.)						
1	Prefabricated Living Pod – Self-supporting welded mild-steel skid frame; transportable and relocatable	18	No.			
2	Structural skid frame – Engineered for dead/imposed/transport/lifting/wind loads	18	No.			
3	Corrosion protection – Documented coating system and dry-film thickness	18	Lot			
4	Composite wall panels – EPS min. 15 kg/m ³ ; min. 0.40 mm pre-painted galvanized steel skins	1	m ²			
5	Composite roof panels – Weather-shedding profile, internal finished skin, sealed penetrations	1	m ²			
6	Panel accessories – Complete weather-tight envelope	18	Lot			
7	Roof drainage – Positive drainage gradient; no ponding	18	Lot			
8	Floor assembly – Minimum 1.5 mm vinyl; bonded joints and moisture-resistant skirting	1500	m ²			

S#	Description	QTY	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
9	External door – Weather seals, corrosion-resistant hardware and lockset	18	No.			
10	Window – Min. 5 mm glazing, ventilation section, insect screen, lock and security grille	18	No.			
11	Sanitary compartment – WC, wash basin/tap, bib cock, trapped floor drain, waterproofing, anti-slip finish	18	No.			
12	Internal electrical installation – Flame-retardant copper conductors	18	Lot			
13	LED lights – living area – Minimum two internal LED lights	36	No.			
14	Bracket fan point – Complete point	18	No.			
15	General-purpose sockets – Minimum two	36	No.			
16	Distribution board – Complete enclosure and circuit identification	18	No.			
17	External power inlet – With protective earthing and equipotential bonding	18	No.			
18	Electrical testing – Test certificate for each pod	18	No.			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Next Generation Firewall (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
1	Firewall Type 1 Appliance	No	2			
2	Perpetual Licenses	No	2			
3	Year-1 Support	Job	2			
4	Year-2 to Year-4 Support	Job	6			
5	HA Configuration	Job	1			
6	Installation / Configuration / Commissioning	Job	1			
7	Training	Job	1			
8	Documentation	Lot	1			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Network & Security Equipment (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Satellite Connectivity – Ku-Band VSAT Solution						
1	Ku-Band VSAT Satellite Antenna – outdoor antenna system, complete with reflector, feed assembly, OMT/polarizer, feed support, heavy-duty mount and installation accessories; antenna size to be finalized through link budget.	40	Set			
2	Ku-Band DVB-S2X Satellite Modem / Remote Terminal – IP satellite modem supporting DVB-S2X / X.509 client certificates. Waveform, adaptive coding and modulation (ACM), high-efficiency IP transmission, Ethernet interface, QoS, traffic shaping, remote provisioning and centralized hub management.	40	No.			
3	Ku-Band BUC / SSPA – outdoor transmit amplifier sized according to the engineered link budget, including RF cabling, weatherproof RF connections and protection. Can support up to 2Mbps return path	40	No.			
4	Ku-Band LNB / LNA – low-noise receive chain suitable for the selected Ku-Band satellite and hub frequency plan.	40	No.			
5	Ku-Band RF Feed / OMT / Polarizer Assembly – complete transmit/receive RF interface with required waveguide and accessories.	40	Set			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
6	Outdoor RF Coax / Waveguide Cabling – low-loss Ku-Band interconnection, connectors, grounding and weatherproofing accessories.	40	Set			
7	Antenna Mounting & Foundation – galvanized/engineered pedestal, anchor bolts, foundation and mechanical installation accessories.	40	Set			
8	Satellite router / Secure Satellite Communications Gateway – integrated site satellite communications box providing satellite modem/interface, secure IP networking, encryption interface, LAN/WAN connectivity, remote provisioning and centralized management integration.	40	No.			
9	X.509 client certificates/ AES-256 Bit Encryption – hardware/software-based encryption capability for secure site-to-hub communications, supporting encrypted traffic across the NTC closed satellite network.	40	Site			
10	Dedicated Satellite Hub – dedicated central hub infrastructure for the 112-site network, including hub modem platform, RF interface, network gateway and centralized service control. To be install at NTC HQ	1	Lot			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
11	DVB-S2X Satellite Communications – primary satellite communications transport using DVB-S2X technology with AES-256 / X.509 client certificates. for efficient IP connectivity between all remote sites and the dedicated central hub, with centralized bandwidth/QoS management and support for network scaling up to approximately 0.5 Gbps.	1	Lot			
12	Central Hub Management & Full Network Control – centralized configuration, provisioning, bandwidth allocation, QoS, monitoring, alarms, diagnostics, user/site management and performance reporting.	1	Lot			
13	Satellite Network Scalability – engineered architecture capable of supporting aggregate network capacity up to approximately 0.5 Gbps (500 Mbps), subject to satellite bandwidth, link budget and hub capacity.	1	Lot			
14	Satellite Network Security & Closed-Network Integration – secure integration of all remote sites into the NTC private/closed network with no requirement for public Internet access for the protected service path.	1	Lot			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
15	Lightning Protection, Grounding & Surge Protection – complete RF/equipment grounding, lightning arrestors and surge protection for each remote satellite installation.	40	Set			
16	Satellite Installation, Alignment & Commissioning – antenna assembly, satellite acquisition, polarization, RF commissioning, modem provisioning, encrypted tunnel activation and end-to-end acceptance testing.	40	Site			
Secure Network Equipment						
17	Edge Router / Server (AES 256 Bit secure WAN/LAN routing, encryption, QoS and NTC closed-network integration	40	No.			
18	Managed Gigabit Ethernet switch with 08 x POE+ Ports	40	No.			
19	Network cabinet / rack	40	No.			
20	Patch panel	40	No.			
21	Cat-6 UTP cabling	40	Site			
22	Cat-6 patch cords	40	Set			
23	Network termination and cable-management accessories	40	Lot			
Total amount in Pak Rupees inclusive of Taxes						

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
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Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.

Position: Installation, Testing And Commissioning Services (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Transportation, Installation, Testing, Commissioning & Handover (Pod)						
1	Transportation – Includes loading/unloading logistics	Trip	28			
2	Lifting/offloading – Safe offloading and positioning	Lot	28			
3	Pod positioning & levelling – Complete installation	No.	28			
4	Utility connection & commissioning – Complete integrated commissioning	Lot	28			
5	Factory Acceptance Test – Documented inspection and test dossier	No.	28			
6	Site Acceptance Test – Documented acceptance test	No.	28			

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
7	Training & handover – O&M manuals and operating instructions	Lot	28			
8	As-built documentation – Location-wise dossier	Lot	28			
9	Quality dossier / asset ID – Material certificates, photos, NCRs, rectification and commissioning records	No.	28			
10	Warranty support – Structural, envelope, sanitary, electrical, doors/windows, coatings and workmanship	Lot	28			
Installation & Commissioning (Network/Connectivity)						
11	VSAT installation and satellite antenna alignment	Site	28			
12	Satellite modem installation and configuration	Site	28			
13	Edge Router provisioning and configuration	Site	28			
14	LAN/VLAN configuration	Site	28			
16	Secure NTC closed network / integration	Site	28			
17	Solar, UPS and power-system installation	Site	28			
18	Earthing and lightning-protection installation/testing	Site	28			
19	End-to-end system integration and testing	Site	28			
20	Site Acceptance Test and commissioning documentation	Site	28			

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
NTC Central Network Infrastructure						
21	Central satellite hub / teleport interface	Lot	1			
22	NTC core network integration	Lot	1			
23	Central VSN concentrator	Lot	1			
24	Network Management System (NMS)	Lot	1			
25	Central management server/platform	No.	1			
26	Central backup connectivity / resilience	Lot	1			
Operations & Maintenance						
27	NOC monitoring and network management	Year	1			
28	Preventive maintenance for all sites	Year	1			
29	Corrective maintenance and field support	Year	1			
30	Technical support and helpdesk	Year	1			
31	Critical spare equipment pool	Lot	1			
32	As-built documentation and network records	Lot	1			
33	NTC/field staff operational training	Lot	1			
Total amount in Pak Rupees inclusive of Taxes						

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
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Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.

Position: Civil, Building & Structured Cabling Works (Site Preparation, & Wi-Fi Site Deployment) (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Site Preparation & Pod Platform (Civil)						
1	Site reconnaissance & setting out – For each site	28	Lot			
2	Pod platform excavation – Final dimensions per approved design	1	m ³			
3	Compacted formation – Engineered bearing condition	3500	m ²			
4	Crushed aggregate sub-base – Under complete platform	100	m ³			
5	Damp-proof membrane – Complete coverage	3500	m ²			
6	Reinforced concrete slab – Approx. 12 ft × 10 ft; final reinforcement/thickness by design	45	m ³			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
7	Edge formwork - Complete	400	m			
8	Pod anchoring - Compatible with skid frame	28	Set			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Installation, Testing And Commissioning Services (details and Quantities defined under Specification/Requirements)

Specifications / Requirements:

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Transportation, Installation, Testing, Commissioning & Handover (Pod)						
1	Transportation - Includes loading/unloading logistics	Trip	28			
2	Lifting/offloading - Safe offloading and positioning	Lot	28			
3	Pod positioning & levelling - Complete installation	No.	28			
4	Utility connection & commissioning - Complete integrated commissioning	Lot	28			
5	Factory Acceptance Test - Documented inspection and test dossier	No.	28			

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
6	Site Acceptance Test - Documented acceptance test	No.	28			
7	Training & handover - O&M manuals and operating instructions	Lot	28			
8	As-built documentation - Location-wise dossier	Lot	28			
9	Quality dossier / asset ID - Material certificates, photos, NCRs, rectification and commissioning records	No.	28			
10	Warranty support - Structural, envelope, sanitary, electrical, doors/windows, coatings and workmanship	Lot	28			
Installation & Commissioning (Network/Connectivity)						
11	VSAT installation and satellite antenna alignment	Site	28			
12	Satellite modem installation and configuration	Site	28			
13	Edge Router provisioning and configuration	Site	28			
14	LAN/VLAN configuration	Site	28			
16	Secure NTC closed network / integration	Site	28			
17	Solar, UPS and power-system installation	Site	28			
18	Earthing and lightning-protection installation/testing	Site	28			
19	End-to-end system integration and testing	Site	28			

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
20	Site Acceptance Test and commissioning documentation	Site	28			
NTC Central Network Infrastructure						
21	Central satellite hub / teleport interface	Lot	1			
22	NTC core network integration	Lot	1			
23	Central VSN concentrator	Lot	1			
24	Network Management System (NMS)	Lot	1			
25	Central management server/platform	No.	1			
26	Central backup connectivity / resilience	Lot	1			
Operations & Maintenance						
27	NOC monitoring and network management	Year	1			
28	Preventive maintenance for all sites	Year	1			
29	Corrective maintenance and field support	Year	1			
30	Technical support and helpdesk	Year	1			
31	Critical spare equipment pool	Lot	1			
32	As-built documentation and network records	Lot	1			
33	NTC/field staff operational training	Lot	1			

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: Media Connectivity /Bandwidth Charges

Specifications / Requirements:

S#	Category	Description	A/U	Qty	Monthly amount without Tax	Monthly amount with Tax	Total amount with Tax
1	Satellite Bandwidth	36 MHz standard Ku Band Satellite Bandwidth as per Table-1 sites to be provided by lawful service provider in Pakistan	LOT	1			
2		Bandwidth management and QoS	LOT	1			
3		Satellite Bandwidth scalable up to 80 MHz standard Ku-Band as per Table-1 sites	LOT	1			
4	Optical Fiber Cable Bandwidth	Provision of 50 Mbps CIR Data (For Intranet) Connectivity through OFC inclusive of relevant Hardware installation & commissioning charges	Per Site	11			

S#	Category	Description	A/U	Qty	Monthly amount without Tax	Monthly amount with Tax	Total amount with Tax
Total amount in Pak Rupees per month inclusive of Taxes							
Total amount in Pak Rupees for 60 months inclusive of Taxes							
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.							

Position: SLA Cost- Service Level Agreement

Specifications / Requirements:

S#	Category	Description	Qty	Unit Monthly SLA Charges per Site without Tax	Unit Monthly SLA Charges per Site with Tax	Total Monthly SLA Charges per Site with Tax
1	O&M SLA	Service through Service Level Agreement (SLA) for O&M commencing from PAC issuance date.	51			
Total amount in Pak Rupees per month inclusive of Taxes						
Total amount in Pak Rupees for 60 months inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

Position: HR Cost- Human Resource Bill Of Quantity

Specifications / Requirements:

Sr.	Human Resource Designation	UOM	QTY	Basic Pay	Other Benefits	Unit Price per Month without Services Charges	Bidder's Services Charges per Personnel/month excl. Tax	Tax @ 15%	Unit Price per Month with Services Charges incl. Tax	Total Price per Month with Services Charges incl. Tax
A. Category -I										
Other Benefits: EOBI @ 5% of Min Wage +Social Security or Insurance @ 6% of Basic Pay +PKR 250/- (Group Life Insurance);										
1	Drivers	Personnel	25	60,000	PKR 4,653/-	64,653				
2	Security Guards	Personnel	80	50,000		54,653				
3	Telecom Technician	Personnel	9	70,000		74,653				
4	Engineering Supervisor	Personnel	3	80,000		84,653				
5	Engineer	Personnel	3	100,000		104,653				
Total amount in Pak Rupees per month inclusive of Taxes										
Total amount in Pak Rupees for 60 months inclusive of Taxes										
Note:										

Sr.	Human Resource Designation	UOM	QTY	Basic Pay	Other Benefits	Unit Price per Month without Services Charges	Bidder's Services Charges per Personnel/month excl. Tax	Tax @ 15%	Unit Price per Month with Services Charges incl. Tax	Total Price per Month with Services Charges incl. Tax
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a) NTC reserve the right to increase/decrease the number of resources throughout the duration of contract.

b) NTC reserve the right to increase or decrease the salaries of Personnel and other benefits in Column (c), however, the contractor's margin shall remain the same.

Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.

Scope of Work

1.

1.1. The objective of this project is to Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity with Civil and Power Infrastructure at 112 Punjab Cattle Market Sites on Turnkey DDP Basis.

1.2. For execution of the project NTC require to establishment of a robust platform equipped with Network connectivity services through VSAT, Optical Fiber Cable and Microwave links for provision of Wi-Fi connectivity services.

1.3. For execution of the project NTC would require ancillary Civil works and Power Infrastructure at sites.

1.3.1. **Network and Security Equipment**

The bidder shall provide Enterprise-grade networking and security infrastructure to protect and optimize data flow.

DVB-S2X Satellite Communications – primary satellite communications transport using DVB-S2X technology for efficient IP connectivity between all 112 remote sites and the dedicated central hub, with centralized bandwidth/QoS management and support for network scaling up to approximately 0.5 Gbps.

1.

1.1.

1.1.1.1. Facility Components

2. Racks/Cabinets and Telecom infrastructure.
3. Cooling systems.
4. Fire detection and suppression systems.
5. Access control systems.
6. IT equipment racks and necessary tools.

6.1.

6.1.1. Power and Electrical Systems

1. Uninterruptible Power Supply (UPS) systems.
2. Distribution boards (DBs).
3. Complete electrical cabling infrastructure.

3.1.

3.1.1. Civil and Structural Works

Building modifications, structural enhancements, flooring, and comprehensive cabling infrastructure.

1.

1.1.

1.1.1. Ancillary Activities

Any additional activities deemed necessary for the successful delivery of services and achievement of project objectives.

1.

1.1.

1.1.1. Service Level Agreement (SLA) Services (Service Level Agreement)

1.2. System Installations

1.2.1. The bidder shall supply, install and configure the supplied equipment.

1.2.2. The bidder shall provide all cables, connectors, and installation materials required on turnkey basis.

1.2.3. Wiring /cabling shall be of flexible design that can be easily added, rearranged or removed.

1.2.4. Minor modifications in the building like making holes in the wall; roof or floors required for the execution of the works, shall be done by the bidder.

Brief Description

as per Scope of Work



Price Schedule

For Individual Positions

#	Position Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		





General Conditions of Contract

A. General

1. Definitions

1.1. Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

1.1.1. "Applicable Law" means the laws and any other instruments having the force of law in the Government's Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;

1.1.2. "The Contract" means an agreement enforceable by law;

1.1.3. "The Contract Price" means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations;

1.1.4. "The Services" means the work to be performed by the Contractor pursuant to this Contract and as prescribed in the Specifications and Schedule of Activities included in the Contractor's Bid;

1.1.5. "Ancillary Services" means those services ancillary to the provision of Services, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Contractor covered under the Contract;

1.1.6. "GCC" means the General Conditions of Contract contained in this section;

1.1.7. "SCC" means the Special Conditions of Contract by which the GCC may be amended or supplemented;

1.1.8. "Day" means calendar day unless indicated otherwise;

1.1.9. "Effective Date" means the date on which this Contract comes into force and effect;

1.1.10. "The Contractor" means the individual or corporate body whose Bids to provide the Services has been accepted by the Procuring Agency;

1.1.11. "The Project Site," where applicable, means the place or places named in Bid Data Sheet and technical Specifications;

1.1.12. "Government" means the Government of Pakistan;

1.1.13. "Local Currency" means the currency of Pakistan;

1.1.14. "In Writing" means communicated in written form with proof of receipt;

1.1.15. "Completion Date" means the date of completion of the Services by the Contractor as certified by the Procuring Agency;

1.1.16. "Foreign Currency" means any currency other than the currency of the country of the Procuring Agency;

1.1.17. "Party" means the Procuring Agency or the Contractor, as the case may be, and "Parties" means both of them;

1.1.18. "Service" means any object of procurement other than goods or works;

1.1.19. "Subcontractor" means any entity to which the Bidder subcontracts any part of the Services.

2. Applicable Law

2.1. The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

3. Language

3.1. The Contract as well as all correspondence and documents relating to the Contract exchanged between the Contractor and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the SCC. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

4. Notices

4.1. Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the SCC.

5. Location

5.1. The Services shall be performed at such locations as the Procuring Agency may approve and as specified in SCC.

6. Authorized Representatives / Authority of Member in charge

6.1. Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Contractor may be taken or executed by the officials specified in the SCC.

B. Commencement, Completion, Modification, and Termination of Contract

7. Effectiveness of Contract

7.1. This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the SCC.

8. Commencement of Services

8.1. The Contractor shall confirm availability of required resources and begin carrying out the Services not later than the number of days after the Effective Date specified in the **SCC**.

9. Program schedule

9.1. Before commencement of the Services, the Contractor shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

10. Starting Date/Expiration Date

10.1. The Contractor shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the **SCC**.

10.2. Unless terminated earlier pursuant to Clause **GCC 14** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the **SCC**.

11. Entire Agreement

11.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

12. Modification

12.1. Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any modification(s) or variation(s) made by the other Party.

12.2. In cases of any modification(s) or variation(s), the prior written consent of the Procuring Agency is required.

13. Force Majeure

13.1. Definition

For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Contractor and which makes a Contractor's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

13.2. No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

13.3. Extension of Time

Any period within which a Contractor shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

13.4. Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Contractor shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

14. Termination

14.1. By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Contractor in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

14.1.1. If the Contractor fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;

14.1.2. If the Contractor becomes (or, if the Contractor consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;

14.1.3. If the Contractor fails to comply with any final decision reached as a result of arbitration proceedings;

14.1.4. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.1.5. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

14.2. By the Contractor

The Contractor may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

14.2.1. If the Procuring Agency fails to pay any money due to the Contractor pursuant to this Contract and not subject to dispute within thirty (30) calendar days after receiving written notice from the Contractor that such payment is overdue;

14.2.2. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.2.3. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration;

14.2.4. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within thirty (30) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Contractor's notice specifying such breach.

C. Obligations of the Contractor

15. General

15.1. Standard of Performance

15.1.1. The Contractor shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Contractor shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties;

15.1.2. The Contractor shall employ and provide such qualified and experienced Experts and Sub-Contractors as are required to carry out the Services.

15.2. Law Applicable to Services

The Contractor shall perform the Services in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

16. Conflict of Interests

16.1. Contractor Not to Benefit from Commissions and Discounts

The remuneration of the Contractor shall constitute the Contractor's sole remuneration in connection with this Contract or the Services, and the Contractor shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Contractor shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

16.2. Contractor and Affiliates Not to be Otherwise Interested in Project

The Contractor agree that, during the term of this Contract and after its termination, the Contractor and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

16.3. Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

- 16.3.1. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;
- 16.3.2. during the term of this Contract, neither the Contractor nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;
- 16.3.3. after the termination of this Contract, such other activities as may be specified in the **SCC**.

17. Insurance to be Taken Out by the Contractor

17.1. The Contractor(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Sub-contractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, and for the coverage, as shall be specified in the **SCC**; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

18. Contractor's Actions Requiring Procuring Agency's Prior Approval

18.1. The Contractor shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

- 18.1.1. appointing such members of the Personnel not provided by the Contractor;
- 18.1.2. changing the Program of activities; and
- 18.1.3. any other action that may be specified in the **SCC**.

19. Reporting Obligations

19.1. The Contractor shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

20. Liquidated Damages

20.1. Payments of Liquidated Damages

The Contractor shall pay liquidated damages to the Procuring Agency at the rate per day stated in the **SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **SCC**. The Procuring Agency may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

20.2. Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in **SCC**.

20.3. Lack of performance penalty

If the Contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Contractor. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the Contractor

21. Performance Guarantee

21.1. Within the time stipulated in the acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape and amount **specified in SCC.**

21.2. The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Service Provider failure to complete its obligations under the Contract.

21.3. The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in **SCC.**

21.4. The Performance Guarantee will be discharged by the Procuring agency and returned to the Service Provider not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC.**

22. Sustainable Procurement

22.1. The Contractor shall conform to the sustainable procurement contractual provisions, if and as specified in the **SCC.**

D. Contractor's Personnel

23. Description of Personnel

23.1. The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Contractor's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

24. Removal and / or Replacement of Personnel

24.1. Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Contractor, it becomes necessary to replace any of the Key Personnel, the Contractor shall provide as a replacement a person of equivalent or better qualifications.

24.2. If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Contractor shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

24.3. The Contractor shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

25. Change in the Applicable Law

25.1. If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Contractor, then the remuneration and reimbursable expenses otherwise payable to the Contractor under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

26. Services and Facilities

26.1. The Procuring Agency shall make available to the Contractor and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described in the Terms of Reference, at the times and in the manner specified in the Terms of Reference.

26.2. In case that such services, facilities and property shall not be made available to the Contractor, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Contractor for the performance of the Services, (ii) the manner in which the Contractor shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Contractor as a result thereof.

F. Payments to the Contractor

27. Contract Price

27.1. The price payable shall be in Pakistani Rupees unless otherwise specified in the SCC.

28. Terms and Conditions of Payment

28.1. Payments will be made to the Contractor according to the payment schedule stated in the SCC and as per actual invoice submitted by the Contractor.

28.2. Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Contractor of a bank guarantee for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Contractor have submitted an invoice to the Procuring Agency specifying the amount due.

29. Quality Control Identifying Defects

29.1. The principle and modalities of Inspection of the Services by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Contractor's performance and notify him of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Procuring Agency may instruct the Contractor to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

30. Correction of Defects, and Lack of Performance Penalty

30.1. The Procuring Agency shall give notice to the contractor of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

30.2. Every time notice a Defect is given; the contractor shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

30.3. If the contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the contractor will pay this amount, and a Penalty for Lack of Performance.

31. Settlement of Disputes Amicable Settlement

31.1. The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

32. Dispute Settlement

32.1. Arbitration

32.1.1. **Alternate Dispute Resolution (ADR)**, After coming into force of the procurement contracts, disputes, between the parties to the contract may be settled by one or more alternate dispute resolution methods including

Arbitration. Where an Alternate Dispute Resolution process other than Arbitration may not lead to an amicable settlement of dispute, Arbitration shall be resorted to.

32.1.2. The procuring agency shall specify mechanism for the appointment of an arbitrator expressly in the contract and the competent authority who shall appoint the arbitrator.

32.1.3. The laws of Pakistan shall apply to an arbitration unless specifically agreed to otherwise in the contract.



Special Conditions of Contract

SECTION VIII. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

Number of GC Clause

Amendments of, and Supplements to, Clauses in the General Conditions of Contract

Definitions

The Procuring Agency is: NTC (National Telecommunication corporation (NTC)), Director (Procurement) Room # 05, Ground Floor, NTC HQs, Islamabad

Contractor is:

The title of the subject procurement is: Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis

Number of GC Clause 2

Applicable/Governing Law:

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

Number of GC Clause 3

Language:

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English**.

Number of GC Clause 4

Notices:

The addresses for the notices are:

Procuring Agency:

NTC (National Telecommunication corporation (NTC)), Director (Procurement)
Room # 05, Ground Floor, NTC HQs, Islamabad
+92-300-500-5219
kashif.nawaz@ntc.org.pk

Contractor/ Bidder:

[Name, address and telephone number].

The Contractor/ Bidder's Representative(s)

[Name, address, telephone number and e-mail address]

Number of GC Clause 6.1

The Authorized Representatives are:

For the Procuring Agency:

NTC (National Telecommunication corporation (NTC)), Director (Procurement)
Room # 05, Ground Floor, NTC HQs, Islamabad
+92-300-500-5219
kashif.nawaz@ntc.org.pk

For the Bidder:

Name:

Designation:

Address:

Number of GC Clause 7

Effectiveness of the contract

The Contractor/Bidder shall be effective within days from the date of signature of the Contract by both parties

Number of GC Clause 8

Commencement of Contract:

The Contractor/ Bidder shall provide Non-Consultancy Services from the effective date of contract.

Number of GC Clause 10.2

Expiration of Contract:

The time period shall be

Number of GC Clause 14

Termination

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Goods till the time of alternate arrangements.

Number of GC Clause 16

Conflict of Interest:

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing goods or services due to a conflict of a nature described in Clause GCC 16.

Number of GC Clause 20

Liquidated Damages

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.10% to 10.00%** of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

Number of GC Clause 21

Performance Guarantee:

Instrument of Performance Guarantee shall be in the Name of : **NTC**

The amount of performance guarantee shall be 10.00% of the contract price in acceptable form of Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft

Number of GC Clause 27

Currency of Payment:

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

Number of GC Clause 28

Payment terms:

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

Number of GC Clause 29

Identifying Defects:

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

Inspections & Tests Requirements

For being Brand New, bearing relevant reference numbers of the equipment (Certificate from supplier)

For Physical Fitness having No Damages (Certificate from supplier)

For the Country of Origin as quoted by the Supplier (Certificate from manufacturer)

For conformance to specifications and performance parameters, through Prior to delivery inspection (Inspection Report by Procurement Committee / Inspection Team)

For successful operation at site after complete installation, testing and commissioning of the equipment (Installation, Testing and Commissioning Report by Procurement Committee / Inspection Team)

Delivery & Documents

Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;

Original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;

Copies of the packing list identifying contents of each package;

Insurance Certificate;

Manufacturer's or Supplier's Valid Warranty Certificate;

Inspection Certificate issued by the Nominated Inspection Agency (if any), and the Supplier's Factory Inspection Report;

Certificate of Origin.

The above documents would be required even if the equipment has already been imported and is available with the supplier ex-stock

Number of GC Clause 31

Following is the guidance for Dispute Resolution

- i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard.
- ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties.
- iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration by sole arbitrator in accordance with Arbitration Act 1940. The arbitrator shall be appointed by mutual consent of the both parties. The Arbitration shall take place in Islamabad, Pakistan and proceedings will be conducted in English language.
- iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer's fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute.
- v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies due to the Bidder.

Arbitrator's fee:

The fee shall be specified in Pak Rupees, as determined by the Arbitrator, which shall be shared equally by both parties.

Appointing Authority for Arbitrator:

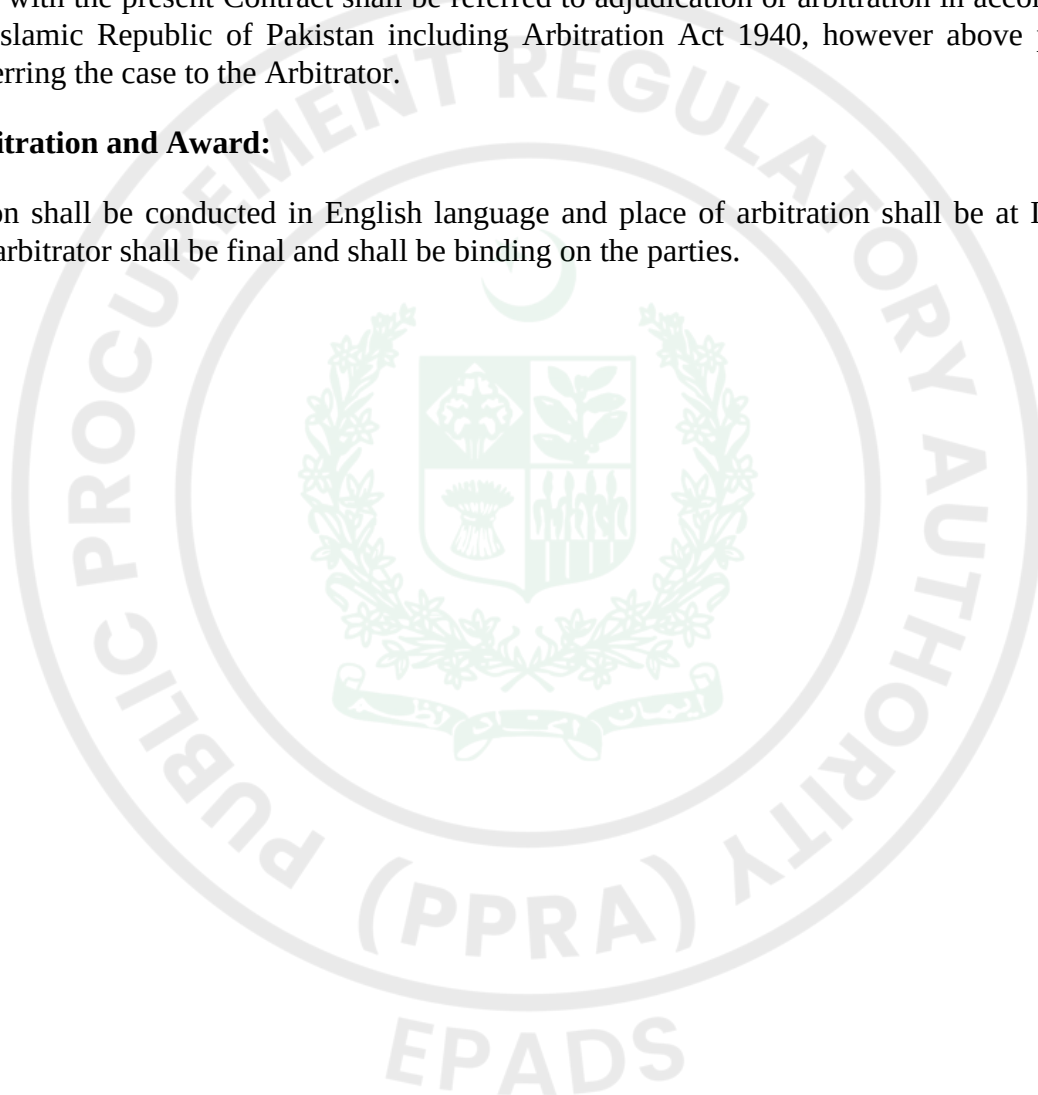
By the Mutual Consent or in accordance with the provisions of Arbitration Act, 1940, in case the parties fail to reach a consensus on the name of sole arbitrator, any party may submit an application to the Chief Justice Islamabad High Court for appointment of sole arbitrator. The Chief Justice IHC may appoint a former judge of any High Court or Supreme Court as the sole arbitrator to resolve the dispute between the parties.

Rules of procedure for arbitration proceedings:

Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall prevail in referring the case to the Arbitrator.

Place of Arbitration and Award:

The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad. The award of the arbitrator shall be final and shall be binding on the parties.





Bid Securing Declaration

Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: **P125500**

To: **NTC (National Telecommunication corporation (NTC)), Director (Procurement) Room # 05, Ground Floor, NTC HQs, Islamabad**

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid Securing Declaration.

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;
2. Disagreement to arithmetical correction made to the Bid price; or
3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.



Contract Form

SECTION IX: CONTRACT FORMS

THIS AGREEMENT made the ____ day of _____ 20____ between NTC (National Telecommunication corporation (NTC)), Director (Procurement) Room # 05, Ground Floor, NTC HQs, Islamabad

(hereinafter called “the Procuring Agency”) of the one part and [name of Bidder] of [city and country of Bidder] (hereinafter called “the Bidder”) of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis (P125500)** and has accepted a Bids by the Bidder for the provision of Services in the sum of [contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency’s Letter of Acceptance; and
8. [add here: any other documents]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, 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 to be executed in accordance with their respective laws the day and year first above written.

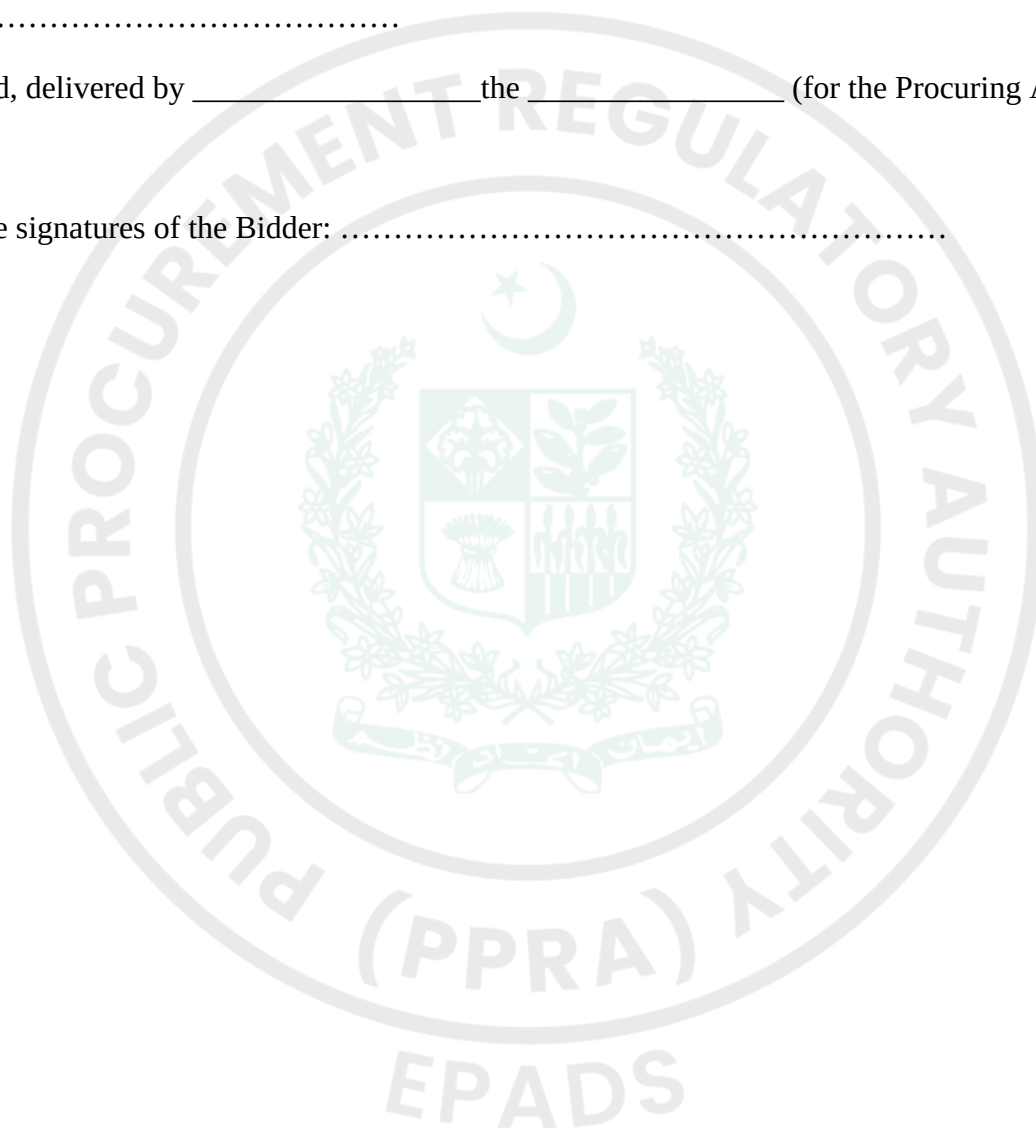
Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

.....

Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Bidder:





Integrity Pact

Integrity Pact

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

Contract

Number: Contract

Value: Contract Title:

Dated:

[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 or any administrative subdivision or agency thereof or any other entity owned or controlled by it (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, fee 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 consultations 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, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact 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 right 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 times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.



Performance Guarantee Form

Performance Guarantee Form

To: **NTC (National Telecommunication corporation (NTC)), Director (Procurement) Room # 05, Ground Floor, NTC HQs, Islamabad**

WHEREAS *[name of Bidder]* (hereinafter called “the Bidder”) has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Non-Consultancy Services(hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

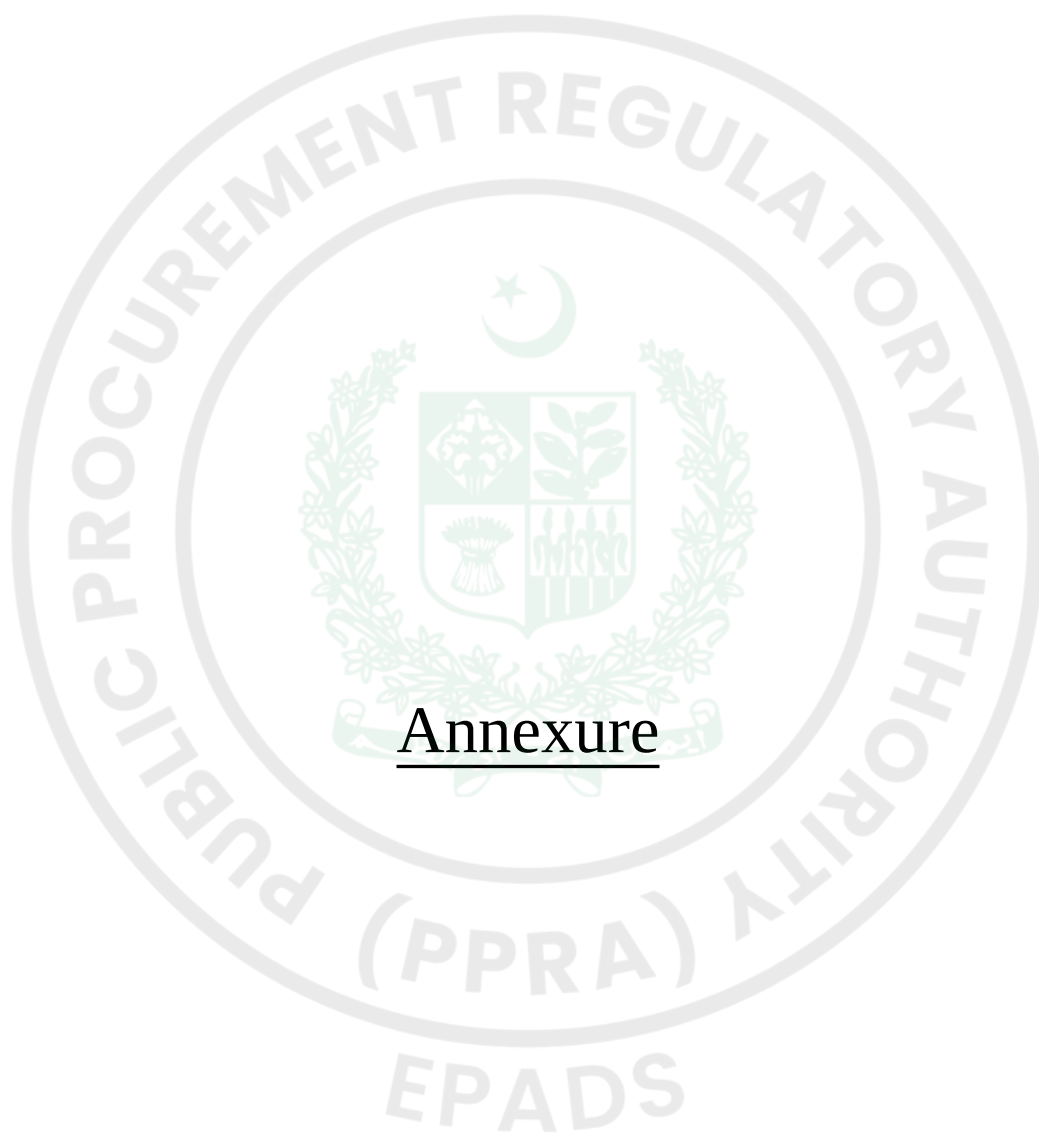
Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]





Annexure

Terms of Contract

The succesful bidder shall sign contract with NTC on the terms and conditions defined herein
Information (Read-Only)

See Form Under Additional Forms and Documents: **Terms of Contract** (page number: 104)

Service Level Agreement

The succesful bidder shall sign SLA contract with NTC on the terms and conditions defined herein
Information (Read-Only)

See Form Under Additional Forms and Documents: **Service Level Agreement** (page number: 116)

WiFi 7 Technical Specification

The bidder must fully comply to the technical specifications defined herein
Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **WiFi 7 Technical Specification** (page number: 122)

NGN Firewall Technical Specificaiton

The bidder must fully comply to the technical specifications defined herein
Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **NGN Firewall Technical Specificaiton** (page number: 123)

Site Survey

The bidder shall conduct survey and submit this survey report along with the bid

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Site Survey** (page number: 127)

Annex-A2.1

Information (Read-Only)

See Form Under Additional Forms and Documents: **Annex-A2.1** (page number: 128)

Annex-A2.2

Information (Read-Only)

See Form Under Additional Forms and Documents: **Annex-A2.2** (page number: 129)

Mobile Vehicle Sites

Information (Read-Only)

See Form Under Additional Forms and Documents: **Mobile Vehicle Sites** (page number: 130)

OFC Connectivity Sites

Information (Read-Only)

See Form Under Additional Forms and Documents: **OFC Connectivity Sites** (page number: 137)

Satellite Bandwidth Sites

Information (Read-Only)

See Form Under Additional Forms and Documents: **Satellite Bandwidth Sites** (page number: 139)

Bill of Quantities

Financial Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Bill of Quantities** (page number: 142)





Procurement Forms







Additional Forms and Documents

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SECTION-II

TERMS & CONDITIONS OF CONTRACT

1 CONTRACT AGREEMENT

- 1.1 Service Contract agreement for a period of five years shall be signed between NTC and the Contractor.
- 1.2 The contract may be extended for a period of further five years on same terms and conditions with 10% non-compounded price increase of **Media Connectivity/Bandwidth Charges, SLA Cost** and contractor's margin in column (e) of **HR Cost**, with mutual consent of NTC and the contractor.
- 1.3 The unit prices quoted by the contractor shall remain valid throughout the contract duration.
- 1.4 During the contract duration, NTC may issue multiple work orders to for execution of contractual work at sites on as-and-when required basis.
- 1.5 NTC does not guarantee and is under no obligation to issue work order unless determined as required by NTC.

2 VARIATION ORDER

- 2.1 NTC Reserve the right to increase or decrease the sites quantity during contract on requirement basis.
- 2.2 Additional sites, if any, shall be executed through separate Work Order(s) issued by NTC specifying the site locations, quantities, and timelines for completion.

3 PERFORMANCE SECURITIES

- 3.1 The contractor shall furnish to NTC a performance security of 5% of contract value (excluding Media Connectivity/Bandwidth Charges, SLA Cost and HR Cost) in the shape of Pay order or CDR or bank guarantee valid for a period of 18 x Months as per prescribed proforma prior to the signing of contract.
- 3.2 The contractor shall also furnish to the NTC a performance security equivalent to 5% of each work order valid for a period of 18 x months in the shape of Pay order or CDR or bank guarantee as per prescribed proforma.
- 3.3 The contractor shall also furnish to the NTC a performance security equivalent to 5% of Annual Recurring cost (Media Connectivity/Bandwidth Charges, SLA Cost and HR Cost) valid for a period of 62 x months in the shape of Pay order or CDR or bank guarantee as per prescribed proforma. This performance security shall be extended for another terms upon extension of contract agreement.
- 3.4 All the correspondence regarding release of performance securities against SLA shall be made with Director (Procurement) NTC HQ.

4 CONTRACTOR'S RESPONSIBILITIES

- 4.1 The Contractor shall be responsible for Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity with Civil and Power Infrastructure at Punjab Cattle Market Sites on Turnkey DDP Basis.

- 4.2 The Contractor shall be responsible for establishment of a robust platform equipped with Network connectivity services through VSAT, Optical Fiber Cable and Microwave links for provision of Wi-Fi connectivity services.
- 4.3 The Contractor shall be responsible for provision of ancillary Civil works and Power Infrastructure at sites.
- 4.4 The Contractor shall be responsible for execution of the project on Turnkey Basis as per Bill of Quantity.
- 4.5 The contractor shall supply, install, test and commission the equipment in accordance with the contract.
- 4.6 All types of transportation for delivery of equipment at sites shall be the responsibility of the contractor.
- 4.7 The contractor shall not subcontract the whole of the work. The contractor shall not subcontract any part of the works without the consent of the NTC.
- 4.8 The Contractor shall execute the basic and detailed design and the implementation activities necessary for successful installation & commissioning of the solution in compliance with the provisions of the Contract or, where not so specified, in accordance with good industry practice. The Contractor shall prepare and furnish the documents for the Project Director's approval or review. Any part of the System covered by or related to the documents to be approved by the Ultimate Consignee/Project Director shall be executed only after the approval of these documents.
- 4.9 The Contractor shall conduct an engineering survey of sites and shall submit the Project implementation schedule to Project Director NTC within 01 x week after signing the contract.
- 4.10 The contractor shall provide the detailed literature for the installed equipment / solution in the form of hard copies and soft copies as mentioned in the BOQ, covering all the details of the solution and their operations, maintenance procedures.
- 4.11 The contractor shall carryout installation and commissioning according to the implementation schedule, including all action/activities and inform/update Project Director of NTC.
- 4.12 The contractor shall provide warranty and SLA support services of the solution.
- 4.13 The contractor shall complete the project in completion Time.
- 4.14 The contractor shall provide Minimum wages, EOBI, Social Security or Insurance and Life Insurance of the Human Resources.
- 4.15 The contractor shall disburse salary of the employees before 30th day of each month.

5 NTC's RESPONSIBILITIES

NTC shall be responsible for the following:

- 5.1 Project Director NTC shall be responsible for issuance of work order to the contractor as per NTC's requirement.
- 5.2 Project Director NTC shall arrange to provide the requisite data and site access for implementation of the project.
- 5.3 Project Director shall assist in timely and satisfactory completion of the project in their areas of jurisdiction as per SOW.
- 5.4 Project Director shall be responsible to verify the delivery BOQ against contract and issue **Acceptance Certificate**.
- 5.5 Project Director shall be responsible to coordinate with any third party (if required).

6 TRANSPORTATION / PACKING

All types of transportation for delivery of equipment / solution at sites shall be responsibility of the contractor. The contractor shall ensure proper/ international packing of equipment to avoid deterioration of equipment etc.

7 TIME FOR COMPLETION

The contractor shall complete supply, installation, testing, and commissioning of connectivity along with Civil and Power infrastructure within **20 x weeks** from each work order by NTC.

8 WARRANTY

- 8.1 The Contractor shall warrant that all equipment/goods supplied under the contract are brand new, un-used, and incorporate all the latest improvements in design and materials unless provided otherwise in the contract. (The contractor shall also furnish undertaking that the equipment/goods supplied is not stolen/smuggled).
- 8.2 This warranty shall remain valid for 01 (One) Year after Provisional Acceptance Certificate (PAC) by Project Director NTC, certifying receipt of equipment/goods in good order and condition.
- 8.3 Upon receipt of defect notice, the Contractor shall, with all reasonable speed, repair or replace, at the NTC's Consignee's store or as the case may be at that time, the defective equipment/goods or part thereof, without costs to NTC.
- 8.4 If the Contractor, having been notified, fails to remedy the defect(s) within a reasonable period, NTC may proceed to take such remedial actions as may be necessary, at the Contractor's risk and cost and without prejudice to any other rights which NTC may have against the Contractor under the contract.
- 8.5 Without prejudice to any other clauses of this contract, the Contractor shall promptly correct at no cost to NTC, any defect in any work of correction executed previously, upon receipt of written notice of defect within original twelve months' warranty period.

9 PROVISIONAL ACCEPTANCE CERTIFICATE

- 9.1 The contractor shall provide PAT /UAT documents to the Project Director for review and approval of GM(Central) NTC within 15 days of signing of contract agreement.
- 9.2 Upon completing the installation, pre-testing, and commissioning of the equipment the contractor shall notify the Project Director in writing to initiate the Provisional Acceptance Test (PAT). The Project Director shall nominate a committee of NTC and PCMMC members to conduct the PAT, verifying the installed equipment against the contractual BOQ and specifications and performing all tests in accordance with the approved PAT documents.
- 9.3 The contractor shall arrange for the tests to be conducted in accordance with the approved PAT documents. Upon successful completion of the PAT, the nominated team will sign the PAT report, confirming compliance.
- 9.4 After the successful conduct of the PAT, the Project Director shall issue the Provisional Acceptance Certificate (PAC) based on the PAT results. If the PAC is not issued within one (1) week of the PAT, the Project Director shall provide

reasons of the delay within one week after receiving a formal request from the contractor.

- 9.5 Any discrepancies or deficiencies identified during the PAT will be communicated to the contractor, who shall address them promptly, but no later than fourteen (14) working days from the date of notification. In such cases, the PAC will only be issued upon successful rectification of the discrepancies and completion of the required tests to the satisfaction of the PAT team.
- 9.6 Delays in issuing the Provisional Acceptance Certificate (PAC) will be attributed to the contractor only if discrepancies identified during the PAT remain unresolved by the contractor.
- 9.7 The Provisional Acceptance Certificate (PAC) will be valid for warranty period of 12 months.
- 9.8 The PAC shall be issued on site wise basis.
- 9.9 If minor / non-service affecting discrepancies remain unresolved in PAT, then the same shall be appended with PAC.
- 9.10 Issuance of the PAC shall not absolve the contractor of their obligations during the warranty period.

10 LIQUIDATED DAMAGES

- 10.1 Unless the failure to complete the work is caused by force majeure or delay is not on part of NTC, the contractor shall pay to NTC as liquidated damages of the delayed part of the contract, at rate of 0.5% of the delayed part, up to a maximum of 10% of the work order value and the same will be recovered from the Contractor at the time of payment.
- 10.2 In case of force majeure the LD charges may be waived off by NTC on receipt of request from contractor with documentary evidences. If the delay is on the part of NTC, and agreed by NTC, then for that time no liquidated damages will be paid to NTC. NTC shall have discretion to impose/waive off LD Charges based on the performance of contractor.

11 NIL DISCREPANCY CERTIFICATE

- 11.1 Upon successful issuance of the Acceptance Certificate (PAC), and subsequent resolution of Any Minor / Non-service affecting discrepancies the Project Director shall issue a Nil Discrepancy Certificate (NDC) in favor of the contractor for that specific site, after being fully satisfied with the completeness of the work executed thereon.
- 11.2 Issuance of the NDC shall not absolve the contractor of their obligations during the warranty period.

12 SERVICE LEVEL AGREEMENT

- 12.1 The contractor shall be bound to provide Service Level agreement (SLA) Support services as per **SLA Agreement** during the contract period.

- 12.2 Project Director shall monitor the performance of the contractor as per the terms and conditions of this Service Level Agreement and issue SLA Acceptance Certificate in each quarter subject to satisfactory performance.
- 12.3 Project Director shall impose penalties and deduct the same from the quarterly payments against the SLA.
- 12.4 The SLA support including all components shall commence from the date of issuance of the Final Acceptance Certificate (FAC) by the Project Director, certifying successful completion of the warranty period.
- 12.5 Total duration of SLA /O&M support shall be five (05) years from commencement.
- 12.6 **Scope of SLA Support**
- 24x7 Support:** Comprehensive technical support available 24 hours a day, 7 days a week, ensuring prompt issue resolution.
 - Next Business Day (NBD) Parts Replacement:** The contractor shall replace any defective hardware components by the next business day to minimize downtime.
 - Warranty Services:** Coverage of all equipment under warranty including labor and parts, for the entire duration of the SLA Support.
 - Software/Firmware Updates:** Provision of free future software and firmware releases, including updates and upgrades recommended by the OEM during the SLA support period.
- 12.7 **Quarterly Acceptance Certificate:** The Project Director/Ultimate Consignee NTC shall issue a Quarterly Acceptance Certificate upon satisfactory performance of the SLA support services during the preceding quarter. The certificate will verify compliance with all SLA support terms and conditions.
- 12.8 **SLA Support Performance Metrics**
- Response Time:** The contractor shall respond to all support requests within four (4) hours.
 - Resolution Time:** All critical issues shall be resolved within eight (8) hours or as agreed upon.
 - Uptime Guarantee:** The contractor shall ensure a system uptime of 99.9% on a monthly basis.
- 12.9 **Penalties for SLA Support Non-Compliance:** Failure to meet SLA Support obligations, including response times, resolution times, or uptime guarantees, will result in penalties, a report for each month will be submitted with invoice of the SLA support, Penalties will be calculated as below:
- In the event that a ticket is not resolved within the agreed timelines, a penalty shall be applied to the Monthly SLA support cost as follows:
 - Minor Issues:** 2% of the Monthly SLA support cost per breach.
 - Major Issues:** 4% of the Monthly SLA support cost per breach.
 - Critical Issues:** 6% of the Monthly SLA support cost per breach.
 - The severity of the issue (Minor, Major, Critical) shall be determined by Project Director/Ultimate Consignee NTC. Penalties will be applied on a per-ticket basis and will be subject to a cumulative cap of [10] % of the Monthly SLA cost. Any disputes regarding the classification of issues shall be resolved in accordance with the dispute resolution mechanism defined in this agreement.

13 TRAININGS

- 13.1 The contractor shall arrange free of cost local training of the installed equipment to NTC /Punjab Govt officials at site for a period of 5 x working days. The training must be comprehensive and must be on equipment which shall be of such level that the NTC personal trained should be able to install, configure, commission manage, maintain and operate all the components of the system/network ordered.
- 13.2 Onsite job training shall also be arranged by bidder on equipment during commissioning of equipment at NTC sites.
- 13.3 The objective of the training program is to enable the personnel require the expertise concerning system installation, operation maintenance, troubleshooting, repair and detail concept of all equipment.
- 13.4 Complete proposal of the training courses and their duration covering Operation, Maintenance, and Diagnostic Testing, Measurements, Repairs and Management Information Reporting procedures shall be submitted.
- 13.5 All the instructors shall possess high technical ability to impart training. They shall have as high command on English language.
- 13.6 The efficiency of the training program conducted by the contractor/OEM will be under close scrutiny and it will have to be repeated by contractor without extra cost to NTC if the training given is found to be ineffective, deficient and un-satisfactory. However, NTC has to communicate its dissatisfaction (if any) during the training period for improvement and not afterwards.
- 13.7 The training material (Hard & Soft Copies), technically skilled tutor, training venue, refreshment, luncheon etc. will be the responsibility of the contractor at its own expenses.

14 TERMS OF PAYMENT

- 14.1 **CAPEX**
 - a. **60% of equipment value payment** shall be made by Project Director NTC upon successful delivery of equipment at destination which shall be proved by duly verified delivery challans by NTC's Project Director.
 - b. **35% payment** shall be made by Project Director NTC upon issuance of Provisional Acceptance Certificate (PAC) by Project Director.
 - c. **05% payment** shall be made by Project Director NTC be made upon issuance of Nil Discrepancy Certificate (NDC) by Project Director.
- 14.2 **Media connectivity /Bandwidth charges**
 - a. **Quarterly payment** will be made by shall be made by Project Director NTC after successful provision of SLA Support services for respective period which shall be proved by acceptance certificate issued by Project Director NTC.
- 14.3 **SERVICE LEVEL AGREEMENT/SLA**
 - b. **Quarterly payment** shall be made by Project Director NTC after successful provision of SLA Support services for respective period which shall be proved by acceptance certificate issued by Project Director NTC.

14.4 **Human Resource**

- c. **Monthly payment** shall be made by Project Director NTC after successful provision of HR services for respective month which shall be proved by Service acceptance certificate issued by Project Director NTC.
- 14.5 All payments shall be made by Project Director NTC.
- 14.6 The Contractor shall submit the commercial invoice & sales tax invoice in triplicate to Project Director NTC.
- 14.7 The Contractor will clearly mention NTN & GST number of both supplier & purchaser on the invoice (NTC NTN # 1218153-6, NTC GST # 07-01-9802-013-64).
- 14.8 All the payments shall be made through cross cheque in the Pak Rupees.
- 14.9 Taxes shall be deducted as per government rules at the time of payment.

15 **CONTRACTOR'S NEGLIGENCE**

- 15.1 The contractor will indemnify NTC against actual losses, subject to limitation of liability not exceeding 10% of the contract value as detailed hereinafter for loss and / or damage to property and / or persons of NTC arising from negligence errors or omissions or default and / or infidelity during period of this contract and arising out of and in the course of the performance by the contractor of its obligations under this contract. However, the said clause will be governed by prevailing laws of Islamic Republic of Pakistan.
- 15.2 The laws of Islamic Republic of Pakistan shall prevail in case of any inconsistency / anomaly.

16 **FINAL ACCEPTANCE CERTIFICATE**

- 16.1 The contractor must notify the NTC concerned officer at-least 15 days before the expiry of warranty period for the issuance of final acceptance certificate. Upon such notification from contractor, the Project Director will issue Final Acceptance Certificate, in favor of contractor subject to satisfactory completion of warranty period as per requirement of contract and submission of performance security against the first year of SLA. Alternatively, the NTC concerned officer will notify the contractor for the discrepancies that still remain un-resolved and contractor will rectify the discrepancies.
- 16.2 The FAC shall not absolve the contractor of its obligations under Service Level Agreement.

17 **DEFAULT BY CONTRACTOR**

- 17.1 If the contractor fails to provide the services, refuses or fails to comply with a valid instruction of the NTC, the NTC may give notice and stating the default.
- 17.2 If the contractor has not taken all practicable steps to remedy the default within 14 days after receipt of NTC notice, the NTC may by a second notice cancel the contract and confiscate the performance security.

18 **ARBITRATION AND APPLICABLE LAW**

- 18.1 This Agreement shall be governed under Pakistani law and the Courts at Islamabad shall have exclusive jurisdiction over any matter that may be referred to a Court under this Agreement.
- 18.2 In the event that any dispute arises between the Parties under this Agreement, one Party shall issue notice to the other Party to mutually negotiate a resolution to the

dispute. If the negotiations fail to resolve the dispute within seven (7) days of receipt of the notice, the dispute shall be referred to the Managing Director, National Telecommunication Corporation ("MD") or his nominee who shall provide a personal hearing to Contractor and render a decision thereon within a period of thirty (30) days. In the personal hearing conducted pursuant to this clause, the Contractor shall not be represented by a legal practitioner within the meaning of the Legal Practitioners and Bar Councils Act, 1973.

- 18.3 If the Contractor is aggrieved of the decision of the MD or his nominee rendered under clause (18.2) hereof, the Contractor may refer the dispute to arbitration within thirty (30) days of the date of the decision of the MD or his nominee under the Arbitration Act, 1940 or any law that the Arbitration Act, 1940 is repealed, amended, or modified by at the time of referral of the dispute to arbitration. The arbitration shall be conducted before a Sole Arbitrator to be appointed by the consent of the Parties. The seat and venue of arbitration shall be at the National Telecommunication Corporation Headquarters, Sector G-5/2, Islamabad. The arbitration and the award thereof shall be conducted in the English language.
- 18.4 The costs and fees of the Sole Arbitrator shall be shared by the Parties equally. A Party shall bear the costs and fees of its legal practitioners and other personnel that a Party engages for the arbitration unless otherwise awarded by the Sole Arbitrator.

19 FORCE MAJEURE

- 19.1 The Contractor shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.
- 19.2 If either party is temporarily rendered unable, wholly or in part by Force Majeure to perform its duties or accept performance by the other party under the Contract it is agreed that on such party, giving notice with full particulars in writing of such Force majeure to the other party within 14 (fourteen) days after the occurrence of the cause relied on, then the duties, of such party as far as they are affected by such Force Majeure shall be suspended during the continuance of any inability so caused but for no longer period and such cause shall as far as possible be removed with all reasonable speed. Neither party shall be responsible for delay caused by Force Majeure.
- 19.3 The terms "Force Majeure" as used herein shall mean Acts of God, strikes, lockouts or other industrial disturbance, act of public enemy, war, blockages, insurrections, riots, epidemics, landslides, earthquakes, fires, storms, lightning, flood, washouts, civil disturbances, explosion, Governmental Export/Import Restrictions (to be supported by a letter from the relevant Authority and verified by the Diplomatic Mission in Pakistan), Government actions/restrictions due to economic and financial hardships, change of priorities and any other cause similar to the kind herein enumerated or of equivalent effect, not within the control of either party and which by the exercise of due care and diligence either party is unable to overcome.
- 19.4 The term of this Contract shall be extended for such period of time as may be necessary to complete the work which might have been accomplished but for such suspension. If either party is permanently prevented wholly or in part by Force Majeure for period exceeding 12 (twelve) months from performing or accepting performance, the party concerned shall have the right to terminate this contract

immediately giving notice with full particulars for such Force Majeure in writing to the other party, and in such event, the other party shall be entitled to compensation for an amount to be fixed by negotiations and mutual agreement

- 19.5 If a Force Majeure situation arises, the Contractor shall promptly notify NTC in writing of such conditions and the cause thereof. Unless otherwise directed by NTC in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practicable, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

20 TERMINATION FOR INSOLVENCY

The NTC may at any time terminate the contract by giving written notice to the contractor, without any compensation to contractor. If the contractor becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to action to the NTC.

21 TERMINATION FOR CONVENIENCE

The NTC may send a written notice to the contractor and terminate the contract in whole or in part any time for its convenience. The notice of termination shall specify that the termination is for the NTC's convenience, the extent to which performance or work under the contract is terminated and the date upon which such termination becomes effective.

22 PROJECT DIRECTOR / ENGINEER IN CHARGE

Project Director: GM (Central) NTC Lahore
Project Managers: i) Director NTC Lahore
ii) Director NTC Multan
iii) Director NTC Rawalpindi
iv) Director (Data Networks) NTC HQs

23 ROLE OF PROJECT DIRECTOR AND PROJECT MANAGERS

Project Director (PD) would execute the work(s) as per contract. Director NTC Lahore, Director NTC Multan and Director NTC Rawalpindi being Project Managers (PMs) would execute the work(s) as per contract. The duties of PMs are to watch and supervise the works and to test and examine any material to be used or workmanship employed in connection with the works. He shall have no authority to relieve the Contractor of any of his duties or obligations under the contract except as expressly provided hereunder or elsewhere in the contract or order any work involving delay or any extra payment by the NTC and not to make any variation in the works.

The PD may from time to time delegate to his Representative in writing any of the powers and authorities vested in him and shall furnish to the Contractor a copy of all such written delegation of powers and authorities. Any written instructions or approval given by his Representative to the Contractor within the terms of such delegation (but not otherwise) shall bind the Contractor and the NTC as though it had been given by the PD, provided always as follows: -

- (a) Failure of the Representative of the Director NTC to disapprove any work or materials shall not prejudice the power of the Director NTC thereafter to

disapprove such work or material and to order the pulling down, removal or breaking up thereof.

(b) If the contractor shall be dissatisfied by reason of any decision of the Representative, he shall be entitled to refer the matter to the Director NTC in writing who shall thereupon confirm, reverse or vary such decision.

23.1 Approval, reviews and inspection of the Director NTC/his Representative /NTC of any part of the work does not relieve the contractor from his sole responsibility of execution of the remaining works or testing and commissioning of the works as per contract. However, the contractor shall be compensated if any loss/damage occurred due to the decision of Director NTC Lahore.

23.2 The Contractor shall execute, complete and maintain the works strictly in accordance with the Contract to the satisfaction of the (PMs) and shall comply with and adhere strictly to the instructions and directions of the PD /or, on any matter (whether mentioned in the Contract or not) touching or concerning the works. The Contractor shall take instructions and directions only from the (PMs) NTC.

24 DEBARMENT / BLACKLISTING OF FIRM

24.1 As per clause-19 of the PPRA rules 2004, NTC reserves the right of debarment 'or' blacklisting of a firm, association, corporation, joint venture, company, partnership or any other legal entity subject to any of the following acts: -

- a. Consistent failure to provide satisfactory performance.
- b. Contractor becomes insolvent.
- c. Existence of judicial decision against a contractor in respect of a corrupt or collusive practice.
- d. Submission of false and spurious documents, making false statements and allegations to gain undue advantage.
- e. Commission of fraud.
- f. Contractor abandons the contract and allied Service Level Agreement.
- g. Contractor without reasonable excuse fails to commence the work 'or' suspends the progress of work for 14 days.
- h. Contractor is not executing the work in accordance with the contract or is persistently or flagrantly neglecting to carry out their obligations under the contract.
- i. 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 with sales tax authorities, Pakistan Engineering council etc, giving false evidence, furnishing of false information of serious nature.

24.2 Managing Director NTC will constitute a committee comprising of three NTC officers and they will investigate the matter in connection with allegation of corrupt, fraudulent, coercive or collusive practices or illegally harassment or threat. Moreover, the committee shall also accord adequate opportunity of being heard to the contractor who is to be debarred / blacklisted. The said committee will forward its clear recommendations for the approval of Managing Director NTC.

24.3 The debarment shall be for a reasonable specified period of time, commensurate with the seriousness of the cause. However, the debarment period shall not exceed from three years. Moreover, NTC also reserves the right of permanent blacklisting of a contractor subject to severity of the corrupt or fraudulent practices.

25 REPEAT ORDER

NTC may place Repeat Order on the contractor as per PPRA Rules 2004.

26 INTEGRITY

- 26.1 The Contractor hereby declares that it has not obtained or induced the procurement of this Contract or a right, interest, privilege or other obligation or benefit under this Contract from Government of Pakistan or any administrative subdivision or agency thereof or any other owned or controlled by it (GoP) through any corrupt business practice.
- 26.2 Without limiting the generality of the foregoing the Contractor 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, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or including the procurement of this Contract or a right, interest, privilege or other obligation or benefit under this Contract in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.
- 26.3 The Contractor 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 Clause.

27 PROJECT MANAGEMENT TEAM

- a. **Dedicated POC:** The contractor shall assign dedicated personnel who will serve as the primary Point of Contact (POC) with NTC. The POC will be responsible for coordinating all project activities to ensure smooth execution and successful completion of the Project.
- b. **Project Management Methodology and Reporting:** The contractor's POC shall employ standard and recognized project management methodologies, practices, and tools to plan, monitor, and control all project phases. Regular progress reporting shall be provided to NTC to ensure timely, transparent, and effective communication throughout the Project lifecycle.
- c. **Project Documentation and Handover:** The contractor shall prepare comprehensive documentation covering all project components, including inventories of hardware and software with complete product details, part numbers, and serial numbers. All documentation will be formally handed over to NTC upon Project completion and issuance of the Provisional Acceptance Certificate (PAC)

28 DECLARATION OF BENEFICIAL OWNERS' INFORMATION

The "Declaration of Beneficial Owners' Information of Public Procurement Contract Awarded Regulations, 2022" require that the contractor shall be bound to provide beneficial ownership information as per prescribed proforma.

ANNEXURE-C: SERVICE LEVEL AGREEMENT

This Annexure sets out the service levels against which the performance of contractor shall be measured, the manner of measurement, the remedies available to NTC, and the circumstances in which service levels do not apply.

1. Service Tiers and Committed Availability

The Committed Availability applicable to a Site is determined by its Service Tier. The commitments below have been set by reference to the transmission bearer, the presence or absence of media diversity, the power arrangement and the accessibility of the Sites within each Tier.

Tier	Configuration	Sites	Committed Availability (per Site, per calendar month)	Approximate permitted downtime in a 30-day month
Tier-I	Fixed Site, 1+1 diverse media with automatic failover	16	99.50%	3 hours 36 minutes
Tier-II	Fixed Site, single terrestrial bearer (OFC or DRS)	22	99.00%	7 hours 12 minutes
Tier-III	Fixed Site, satellite bearer only	11	98.50%	10 hours 48 minutes
Tier-IV	Site served by Mobile Unit, measured against Scheduled Service Hours	63	98.00% of Scheduled Service Hours	Pro rata to rostered hours

2. Measurement of Availability

2.1 Availability shall be computed for each Site for each calendar month as follows:

$$\text{Availability (\%)} = [(\text{TMP} - \text{CUD}) \div \text{TMP}] \times 100$$

where TMP is the Total Measurement Period and CUD is the aggregate Chargeable Unavailable Duration in that Site's Measurement Period.

2.2 The Measurement Period is: (a) for Tier-I, Tier-II, Tier-III and Core, every minute in the calendar month; and (b) for Tier-IV, the aggregate of the Scheduled Service Hours rostered for that Site in the calendar month under Annexure-C.

2.3 A Site is Unavailable when it is incapable of passing traffic to the NTC core network, or when the Services at that Site are so degraded as to be unusable for their intended purpose. A Tier-I Site is Unavailable only where both bearers are simultaneously incapable of passing traffic; failure of a single bearer at a Tier-I Site with the service maintained on the surviving bearer is a Severity-2 Fault and does not count as Unavailability.

2.4 Unavailability commences at the earlier of (a) detection by the NMS and (b) the time at which the Fault is logged by NTC with the Contractor's helpdesk (NOC), and ends

when service is restored and such restoration is confirmed by the NMS or accepted by the reporting person.

2.5 Any single interruption of less than five (05) consecutive minutes shall be disregarded. Availability shall be expressed to two decimal places, with no rounding in favor of either Party beyond the second decimal place.

2.6 The NMS records shall be the primary evidence of Availability. the Contractor shall retain the underlying records for the Contract period and for two (02) years thereafter, and shall make them available to NTC on request.

3. Critical Service Window

3.1 The Critical Service Window in respect of a Site is the notified market day or days and trading hours of that Site as notified by NTC to the Contractor, being the period during which financial transactions are conducted.

3.2 The Contractor shall not undertake Scheduled Maintenance at a Site during a Critical Service Window.

3.3 Where more than fifty per cent (50%) of the Chargeable Unavailable Duration at a Site in a calendar month occurred within a Critical Service Window, the Service Credit otherwise payable in respect of that Site for that month shall be increased by fifty per cent (50%), subject always to the Per-Site cap in Clause 6.3.

4. Fault Severity Classification

Severity	Definition	Illustration
Severity-1 (Critical)	Total loss of the Services at a Site; failure of the Core; failure of the Secure Transaction Network; failure of a Mobile Unit to establish service during Scheduled Service Hours	Site down; bank link down; satellite terminal failure; Mobile Unit breakdown en route
Severity-2 (Major)	Loss of a redundant bearer with the Services maintained; degradation of capacity by 50% or more; loss of more than half of the Wi-Fi coverage at a Site; loss of monitoring visibility	Primary OFC cut at a Tier-I Site with traffic on the secondary; sustained packet loss above the committed threshold
Severity-3 (Minor)	Failure of a single access point; non-service-affecting alarms; cosmetic, documentation or configuration matters	One of five access points down; enclosure lock defective; battery cell alarm with autonomy retained

5. Response and Restoration Targets

Time runs from the logging of the Fault or its detection by the NMS, whichever is earlier, and runs continuously including outside Business Days and Business Hours.

Severity	Acknowledgement	On-site or remote response	Restoration - Tier-I & Tier-II	Restoration - Tier-III & Tier-IV	Restoration Core
Severity-1	30 minutes	2 hours	8 hours	24 hours	4 hours
Severity-2	1 hour	4 hours	24 hours	48 hours	8 hours

Severity-3	4 hours	Next Business Day	72 hours	96 hours	24 hours
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5.1 Where a Mobile Unit fails, breaks down or is otherwise unable to provide the Services at a rostered Site, the Contractor shall deploy a reserve Mobile Unit from its own reserve fleet, or shall otherwise restore the Services, within six (06) hours of the failure. Where service is not restored before the close of the Scheduled Service Hours for that Site on that day, the whole of those Scheduled Service Hours shall be treated as Chargeable Unavailable Duration under Clause 2, the day shall be recorded as a Missed Deployment in the Monthly Service Level Report to be submitted by the Contractor to NTC, and the Service Credit at Clause 6.1 of this Annexure shall apply accordingly.

5.2 Where restoration requires the replacement of a failed component, the Contractor shall effect replacement from the critical spares pool. Faulty equipment shall be replaced rather than repaired in situ wherever replacement is the faster route to restoration.

5.3 Where a Fault is caused by a cut to hired transmission media or to third-party optical fibre, the Contractor shall pursue restoration with the media provider and shall, where technically feasible, divert the affected traffic to an alternative bearer pending permanent restoration.

6. Service Credits

6.1 Where the Availability achieved at a Site in a calendar month is less than the Committed Availability for that Site, NTC shall be entitled to a Service Credit calculated as a percentage of the Monthly Recurring Charge for that Site for that month, as follows ("CA" denotes Committed Availability and "pp" denotes percentage points):

Availability achieved at the Site in the month	Service Credit as a percentage of that Site's MRC
Equal to or greater than CA	Nil
Less than CA but not less than (CA – 1.00 pp)	5%
Less than (CA – 1.00 pp) but not less than (CA – 2.50 pp)	10%
Less than (CA – 2.50 pp) but not less than (CA – 5.00 pp)	20%
Less than (CA – 5.00 pp) but not less than (CA – 10.00 pp)	40%
Less than (CA – 10.00 pp)	75%
No service at the Site at any time during the month	100%

6.2 Core failure. Where the Core fails to achieve 99.90% Availability in a calendar month, NTC shall be entitled to a Service Credit equal to five per cent (5%) of the aggregate Monthly Recurring Charges for all Sites for that month for each full 0.10 percentage point of shortfall, subject to a maximum of twenty per cent (20%) of such aggregate Charges.

6.3 Caps. The Service Credit in respect of any single Site in any month shall not exceed one hundred per cent (100%) of that Site's Monthly Recurring Charge. The aggregate of all Service Credits in any month shall not exceed twenty-five per cent (25%) of the total invoice value for that month. The aggregate of all Service Credits in any contract year shall not exceed ten per cent (10%) of the total Charges payable for that contract year.

6.4 Service Credits shall be computed by the Contractor and shown as a deduction on its monthly invoice for the following month, and shall be verifiable against the Site-wise Availability statement furnished by the Contractor with that invoice. Where the Contractor fails to apply a Service Credit that is properly due, NTC may deduct it from the next invoice, or from any other payment due to the Contractor, upon written notice.

6.5 Service Credits are the sole financial remedy for failure to achieve a service level, save where such failure constitutes a material breach entitling NTC to terminate under Clause 16 (Default by Contractor) of the Contract Conditions.

7. Chronic Failure

7.1 Where a Site fails to achieve its Committed Availability in three (03) consecutive calendar months, the Contractor shall within fifteen (15) days furnish a written root-cause analysis and a remedial action plan, and shall implement the same at its own cost.

7.2 Where such failure continues for six (06) consecutive calendar months, NTC may, without prejudice to accrued Service Credits, either (a) terminate the Contract in respect of that Site alone by written notice, without any liability to the Contractor, or (b) require the Contractor to upgrade the bearer at that Site to a higher Service Tier at the Contractor's cost, with no increase in the Monthly Recurring Charge.

7.3 Where more than twenty-five per cent (25%) of the Sites fail to achieve their Committed Availability in three (03) consecutive calendar months, the same shall constitute a default by the Contractor and the provisions of Clause 16 (Default by Contractor) of the Contract Conditions shall apply.

8. Exclusions

8.1 The following periods shall be excluded from the Total Measurement Period, and shall not give rise to any Service Credit:

- (a) Any period of Force Majeure under Clause 18 (Force Majeure) of the Contract Conditions, including a notified outbreak of animal disease resulting in closure of the Site;
- (b) Scheduled Maintenance carried out in accordance with Clause 8.2 of this Annexure;
- (c) Any period during which access to a Site is denied, restricted or rendered unsafe, for reasons not attributable to the Contractor;

- (d) any outage caused by the act, omission, negligence or default of NTC or of its officers, employees, contractors (other than the Contractor and its sub-contractors), licensees or invitees, including damage to Project Infrastructure or cabling caused by their works;
- (e) any outage arising from failure of a grid electricity supply which NTC has undertaken to arrange under the Contract, save to the extent the designed power backup autonomy specified in this RFT ought to have carried the load;
- (f) Any fault in end-user equipment, point-of-sale terminals, applications, servers, cabling or software not supplied or maintained by the Contractor, or in any network element managed by NTC;
- (g) Theft of, or malicious damage to, Project Infrastructure, save where attributable to a failure by the Contractor to deploy the security measures specified in this RFT;
- (h) Any suspension of the Services directed in writing by NTC, otherwise than by reason of the default of the Contractor;
- (i) Any period during which the Contractor is unable to monitor a Site because NTC has disabled, blocked or interfered with the management path;
- (j) Any interruption of less than five (05) consecutive minutes; and
- (k) in the case of a submarine cable cut affecting international transit capacity, the period reasonably required for restoration by the relevant cable consortium, provided that the Contractor has diverted the affected capacity to an alternative cable system so far as technically and commercially practicable;
- (l) any period during which the restoration of the Services is delayed pending the approval, or the release of funds, by NTC in respect of a Replacement Notice served by the Contractor
under the Contract, or pending the funding by NTC of a repair to, or of fuel for, a Mobile Unit where such funding is NTC's responsibility under the Contract;
- (m) any period during which a post in the establishment specified in this RFT is vacant, or during which any of the Deployed Personnel is absent, withdrawn, on strike or unpaid, otherwise than by reason of the default of the Contractor;
- (n) any period of delay in restoration attributable to the absence of insurance cover in consequence of an election made by NTC under the Contract; and
- (o) any period during which an item of Project Infrastructure declared end-of-support by its manufacturer has not been refreshed by reason of NTC not having funded the refresh recommended in writing by the Contractor.

8.2 Scheduled Maintenance. The Contractor may carry out Scheduled Maintenance provided that: (a) not less than seventy-two (72) hours' prior written notice is given to NTC; (b) the works are carried out outside any Critical Service Window and, so

far as practicable, between 00:00 and 05:00 hours; (c) the aggregate duration does not exceed eight (08) hours per Site per calendar month; and (d) emergency maintenance necessary to preserve the integrity or security of the network may be carried out on shorter notice, with notice given as soon as practicable, and shall be treated as Scheduled Maintenance provided it does not exceed four (04) hours per Site per calendar month.



TECHNICAL SPECIFICATIONS OF Wi-Fi 7 WIRELESS ACCESS POINT

S.No	Requirement	Specification from Attachment	Requirement	Compliance by the bidder		
				FC	PC	NC
1	Wi-Fi Standard	Wi-Fi 7 (802.11be)	Mandatory			
2	Bands	2.4 GHz / 5 GHz / 6 GHz	Mandatory			
3	Max Rating	BE10680	Mandatory			
4	2.4 GHz Throughput	591 Mbps	Mandatory			
5	5 GHz Throughput	4324 Mbps	Mandatory			
6	6 GHz	320 MHz channel support	Mandatory			
7	Technologies	320 MHz, 4K QAM, Multi-Link Operation, OFDMA	Mandatory			
8	Coverage	Approx. 3000 sq ft per node	Mandatory			
9	Mesh	Wired and wireless backhaul	Mandatory			
10	CPU	1.5 GHz quad-core	Mandatory			
11	Memory	2 GB DDR4	Mandatory			
12	Storage	8 GB eMMC	Mandatory			
13	WAN	1 × 2.5 Gbps Ethernet	Mandatory			
14	LAN	4 × 1 Gbps Ethernet	Mandatory			
15	Firmware	OpenWrt-based with LuCI	Mandatory			
16	Networking	Stateful firewall, QoS/SQM, IPTV multicast, Tailscale	Mandatory			
17	VoIP	SIP, RTP/RTCP, Voice VLAN, QoS, STUN/TURN/ICE, optional SRTP	Mandatory			
18	Security	WPA3, auto firmware updates, guest isolation	Mandatory			
19	Power / Form Factor	Desktop mesh node, passive cooling, standard AC adapter	Mandatory			
Evaluation Criteria		The bidder has to comply with all mandatory clauses for quality qualification. FC= Full Compliance , PC=Partial Compliance, NC= Non Compliance				

TECHNICAL SPECIFICATIONS OF NEXT GENERATION FIREWALL

S.No	Requirement	Specification	Requirement	Requirement		
				FC	PC	NC
1	Performance Parameters					
1.1	Firewall IPv4/IPv6 Throughput (1518/512/64-byte, UDP)	30 Gbps or higher	Mandatory			
1.2	IPS Throughput	08 Gbps or Higher	Mandatory			
1.3	New Sessions/Second	350K or Higher	Mandatory			
1.4	IPSec VPN Throughput (AES-256+SHA256)	30 Gbps or higher	Mandatory			
1.5	SLB Layer 4 & Layer 7		Mandatory			
1.6	FW+SA+IPS+Antivirus Throughput	06 Gbps	Mandatory			
1.7	Firewall Latency (not more than)	5 μ s	Mandatory			
1.8	Concurrent Sessions (TCP)	10 Million	Mandatory			
1.9	Concurrent SSL VPN User session including License (perpetual)	500 or Higher	Mandatory			
1.1	SSL VPN throughput	2.5 Gbps or Higher	Mandatory			
1.11	Maximum IPSec VPN Tunnels (Client to GW)	1000 or higher	Mandatory			
1.12	Firewall Policies	8,000 or Higher	Mandatory			
1.13	Virtual Domains (Default / Maximum)	10	Mandatory			
1.14	VLANs (Maximum)	4096	Mandatory			
1.15	VLANIF Interfaces (Maximum)	4096	Mandatory			
1.16	Onboard storage for logging, Analytics and Analysis	450 GB or Higher	Mandatory			
1.17	High Availability Supported	Active-Active, Active-Passive, Clustering	Mandatory			
2	Interfaces Support					
2.1	Minimum 1GE Interfaces SFP SX	04 x 1GE SFP	Mandatory			

S.No	Requirement	Specification	Requirement	Requirement		
				FC	PC	NC
2.2	Minimum 10GE Interfaces Optical SFP SR	08 x 10GE SFP+	Mandatory			
2.3	Minimum 1GE Interface RJ45	04 x 1GE RJ45	Mandatory			
2.4	Auxiliary Port	2x GE RJ45 MGMT	Mandatory			
2.5	USB Ports	Bidder should Specify	Mandatory			
3	General					
3.1	OEM Brand should be part of "Niche Player or above" category of Gartner Magic quadrant for Network Firewalls		Mandatory			
3.2	OEM total no. of security products, along with number of app control and IPS signatures		Mandatory			
3.3	OEM global footprint total no. of security customers.		Mandatory			
3.4	Interoperability	With all Major Vendor Equipment	Mandatory			
4	Features					
4.1	Anti-Spyware protection against: adwares, backdoors, bot-nets, browser-hijacks, data-theft, keyloggers, net-worms and spywares		Mandatory			
4.2	Anti-Virus support for the following applications: http, https, ftp, smb, smtp, imap, and pop3		Mandatory			
4.3	Application Control: Should support identification and control of applications regardless of port, protocol, or encryption.		Mandatory			
4.4	URL Filtering: Should support category and reputation-based URL filtering for HTTP and HTTPS traffic.		Mandatory			
4.5	DNS Filtering: Should support DNS-based filtering for blocking malicious or unauthorized domains, using reputation or category-based detection.		Mandatory			

S.No	Requirement	Specification	Requirement	Requirement		
				FC	PC	NC
4.6	Firewall Features	Network Attack Detection	Mandatory			
4.7		DoS and DDoS Protection	Mandatory			
4.8		TCP Reassembly for Fragmented Packet Protection	Mandatory			
4.9		Brute Force Attack Mitigation	Mandatory			
4.1		Zone-Based IP spoofing	Mandatory			
4.11		Malformed Packet Protection	Mandatory			
4.12	User Authentication and Access Control	Third Party User Authentication	Mandatory			
4.13		RADIUS Accounting	Mandatory			
4.14		WEB Based Authentication	Mandatory			
4.15		802.1x Authentication	Mandatory			
4.16	Routing Protocols	BGP, ISIS, OSPF, RIP V-1/2	Mandatory			
4.17	Multicast Protocol Support	IGMP V-1/2/3	Mandatory			
4.18		PIM (DM/SM /SSM)	Mandatory			
4.19	IPv6	Dual Stack IPv4/v6 Firewall and VPN	Mandatory			
4.2		IPv4 to / from Ipv6 Translations and Encapsulation	Mandatory			
4.21	Encapsulation	PPP, MLPPP, Fram Relay, HDLC	Mandatory			
4.22	Network Address Translation (NAT)	Network Address Translation (NAT)	Mandatory			
4.23		Port Address Translation (PAT)	Mandatory			
4.24		Policy Based NAT /PAT	Mandatory			
4.25		Mapped IP	Mandatory			
4.26		Virtual IP	Mandatory			

S.No	Requirement	Specification	Requirement	Requirement		
				FC	PC	NC
4.27	IP Address Assignment	MIP / VIP Grouping	Mandatory			
4.28		Static	Mandatory			
4.29		DHCP, PPPoE Client	Mandatory			
4.3		Internal DHCP Server	Mandatory			
4.31		DHCP Relay	Mandatory			
4.32	QoS	Guaranteed Bandwidth	Mandatory			
4.33		Maximum Bandwidth	Mandatory			
4.34		Ingress Traffic Policing	Mandatory			
4.35		Priority-Bandwidth Utilization	Mandatory			
5	Management and Control					
5.1	SNMP	SNMP V1/v2/v3 with support for traps	Mandatory			
5.2	Login through	SSH, Telnet, CLI	Mandatory			
5.3	Web interface	Web-Based HTTP/HTTPS	Mandatory			
5.4	Out of Band Management	Rs-232, DB-9 Console Port	Mandatory			
5.5	Port Mirroring	Traffic on one port can be mirrored to another	Mandatory			
6	Power					
6.1	Dual AC Power Supply	50 HZ; 220 VAC	Mandatory			
6.2	Redundant Fans	Bidder should specify	Mandatory			
Evaluation Criteria		The bidder has to comply with all mandatory clauses for quality qualification. FC= Full Compliance, PC= Partial Compliance, NC= Non Compliance				

SITE SURVEY CERTIFICATE

It is certified that the bidder M/s -----
has carried out Site survey of NTC Punjab Cattle Market Site(s) at -----
----- on date -----
against NTC Published "Procurement Notice No. P125500 - Provision of Media
connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at
Punjab Cattle Market Sites on Turnkey Basis."

Signature and Stamp:

Project Director NTC Lahore
NTC RHQs, 06-Race Course Road, Lahore.
Telephone Number: 042 99201235, 0300 5004969
www.ntc.net.pk

ANNEX-A2.1 – CUSTOM COMMUNICATION BODY

Detailed Technical Specifications & Scope of Supply for Mobile Satellite Communication Vehicle

S. No.	Component / Area	Detailed Specification / Requirement	Qty / Unit	Compliance	Remarks
1	Custom communication body / cabin	Purpose-built fabricated communication cabin/body mounted securely on the nominated vehicle chassis. Final dimensions and weight distribution shall be compatible with the selected vehicle and approved layout.	1 Set	Bidder to confirm	Complete turnkey body
2	Structural frame	Heavy-duty welded steel structural frame/sub-frame with suitable cross members, mounting points, corrosion protection and vibration-resistant vehicle mounting arrangement.	1 Set	Bidder to confirm	Designed for mobile operation
3	External body panels	Insulated sandwich-panel or equivalent lightweight, durable construction suitable for outdoor/mobile use, with weatherproof joints and corrosion-resistant external finish.	1 Set	Bidder to confirm	Material subject to approved design
4	Thermal insulation	Adequate thermal insulation for walls and roof to reduce heat ingress and protect communication/electronic equipment during field deployment.	1 Set	Bidder to confirm	Suitable for Pakistan climate
5	Internal lining & finish	Internal washable, durable lining/finish with neat concealed cabling routes and service access where required.	1 Set	Bidder to confirm	Professional equipment-room finish
6	Flooring	Heavy-duty, anti-slip and easy-to-clean flooring suitable for equipment, operators and field deployment.	1 Set	Bidder to confirm	Water-resistant preferred
7	Access door	Robust external access door with locking arrangement, weather seals, internal safety release and suitable steps/handhold arrangement.	1 Set	Bidder to confirm	As per approved vehicle layout
8	Windows / observation openings	Where required by the approved design, provision of sealed and secure windows/observation openings with suitable protection and weather sealing.	As required	Bidder to confirm	Can be omitted where operationally required
9	Equipment mounting provisions	Dedicated reinforced mounting provisions for satellite modem, router, switch, power distribution, UPS/battery system and other communication equipment.	1 Set	Bidder to confirm	Coordinated with Annex-A2 BOQ
10	18U rack interface	Structural provisions for installation of the specified 18U equipment rack, including floor/wall anchoring and vibration-resistant mounting.	1 Set	Bidder to confirm	Rack itself covered under Item 5
11	Generator compartment	Dedicated ventilated generator compartment/installation area with safe mounting, service access, acoustic/thermal treatment as appropriate, and separation from communication equipment.	1 Set	Bidder to confirm	Generator covered under Item 6
12	Generator exhaust & ventilation	Safe exhaust routing to discharge hot gases outside the vehicle body, with adequate fresh-air intake and hot-air extraction/ventilation to prevent heat accumulation.	1 Set	Bidder to confirm	Critical safety requirement
13	Fuel system provision	Secure fuel tank/fuel connection arrangement, fuel lines, isolation and access provisions appropriate to the selected generator installation.	1 Set	Bidder to confirm	Final arrangement per generator manufacturer
14	Electrical distribution	Provision for internal electrical wiring, distribution board, protective devices, earthing/bonding, cable management and labeled circuits for communication and auxiliary loads.	1 Set	Bidder to confirm	Detailed electrical BOQ under Item 10
15	Lighting	Internal LED lighting and suitable external/service lighting with switching arrangements.	1 Set	Bidder to confirm	Low-power LED
16	Operator workspace	Provision for operator/technician working area, equipment access, basic work surface and safe movement around the installed equipment.	1 Set	Bidder to confirm	Final layout subject to approval
17	Cable entry & gland system	Weatherproof cable entry points and glands for antenna, RF, power, LAN and other external connections, with suitable sealing and strain relief.	1 Set	Bidder to confirm	Separate RF/data/power routing preferred
18	Antenna mounting interface	Reinforced roof structure and mounting interface for the specified 1.2 m Ku-band antenna system, including load distribution and cable routing.	1 Set	Bidder to confirm	Antenna itself covered under Item 2
19	Safety & fire protection provisions	Suitable fire extinguisher mounting point, emergency access, warning labels and basic safety provisions for electrical and generator equipment.	1 Set	Bidder to confirm	Equipment to comply with applicable standards
20	Earthing / bonding	Vehicle body, equipment rack and electrical system to have appropriate protective earthing/bonding provisions compatible with the power system.	1 Set	Bidder to confirm	Coordinate with Item 10
21	Corrosion & paint protection	All exposed steelwork to receive suitable anti-corrosion treatment and durable automotive/industrial coating suitable for outdoor operation.	1 Set	Bidder to confirm	Professional finish
22	Vehicle integration	Complete mechanical integration with the nominated vehicle including weight distribution, suspension/loading considerations, clearances, serviceability and roadworthiness requirements.	1 Set	Bidder to confirm	Final design subject to vehicle inspection
23	Weatherproofing	Complete body to be rainproof, dust-resistant and sealed against normal field operating conditions, including doors, roof penetrations and cable entries.	1 Set	Bidder to confirm	Field deployment requirement
24	Documentation	Provide final body drawings/layout, equipment mounting drawings, electrical schematic, cable schedule and basic maintenance documentation after installation.	1 Lot	Bidder to confirm	As-built documentation required
25	Testing & handover	Mechanical inspection, electrical safety checks, generator ventilation/exhaust verification, equipment mounting inspection and final handover as part of integrated commissioning.	1 Lot	Bidder to confirm	Coordinate with Item 12

DESIGN / EXECUTION NOTES

- The Custom Communication Body shall be designed around the nominated vehicle/chassis and the complete equipment listed in Annex-A2.
- Final dimensions, body weight, axle loading, center of gravity and mounting details shall be verified before fabrication.
- The bidder shall submit a proposed GA/layout drawing for approval before fabrication.
- Generator exhaust, ventilation and heat management shall be designed so that hot exhaust air/gases cannot enter the communication cabin or equipment area.
- All RF, data and power cable routes shall be protected, labeled and mechanically secured for mobile operation.
- The body shall be suitable for repeated field deployment and road movement under normal operating conditions.
- Any solar-system provision, if required, shall be incorporated without compromising antenna clearance, roof loading or equipment access.

ANNEX-A2.2 – SOLAR POWER SYSTEM

Technical Specification – Mobile Satellite Communication Vehicle Solar Solution

S. No.	Equipment / Component	Technical Specification	Qty	Minimum Requirement	Remarks
1	Solar PV Array	Approx. 1.5 kWp total installed PV capacity using lightweight/high-efficiency modules suitable for vehicle roof mounting. Nominal configuration may be 5 × 300 W or equivalent total capacity.	1 Set	≥1.5 kWp	Final module dimensions/layout subject to approved vehicle roof design.
2	PV Module Type	High-efficiency lightweight modules; flexible/lightweight construction may be used where required to suit mobile vehicle roof loading and curvature.	As required	Vehicle suitable	Modules shall be weather-resistant and suitable for outdoor operation.
3	Hybrid Inverter	Hybrid inverter with integrated MPPT solar charge control, AC input/output and battery charging capability, suitable for the communication load.	1 No.	1.5 kVA	Compatible with LiFePO ₄ battery and generator/AC source.
4	Battery Storage	LiFePO ₄ battery bank, nominal 51.2 V, 100 Ah, with integrated BMS and suitable protection.	1 Bank	≈5.12 kWh nominal	Battery enclosure and mounting to be secure for mobile operation.
5	Battery Management System	Integrated BMS providing cell balancing, over-charge, over-discharge, over-current, short-circuit and temperature protection.	1 Set	Required	BMS communication with inverter preferred.
6	PV Mounting Structure	Lightweight corrosion-resistant mounting arrangement securely fixed to the vehicle body/roof structural frame, with aerodynamic and vibration-resistant provisions.	1 Set	Required	No mounting solely on sandwich panel skin.
7	DC Protection	PV-side DC isolator, suitable DC fuse/MCB/SPD and protected DC distribution as required by the inverter and PV design.	1 Set	Required	Ratings to match final PV string design.
8	AC Protection	AC input/output MCB/RCD/SPD and distribution protection suitable for the inverter and vehicle electrical system.	1 Set	Required	Coordinate with main vehicle DB.
9	Cabling & Connectors	UV-resistant solar DC cable, appropriately rated AC cable, MC4/equivalent PV connectors, glands, lugs, ferrules and cable management.	1 Lot	Complete	All external cable routes mechanically protected.
10	Earthing / Bonding	Protective earthing/bonding of PV mounting structure, inverter, battery enclosure and vehicle body as applicable.	1 Lot	Required	Integrated with vehicle electrical earthing system.
11	Monitoring	Inverter/battery monitoring through local display and/or communication interface showing PV generation, battery state, load and operating status.	1 Set	Required	Remote monitoring preferred where supported.
12	Ventilation / Thermal Management	Adequate ventilation and thermal management for inverter and battery installation; equipment shall be protected from direct heat and water ingress.	1 Set	Required	Final arrangement based on equipment manufacturer requirements.
13	System Integration	Integration with the vehicle AC electrical system and generator/UPS arrangement, including safe changeover/charging logic where supported by the selected inverter.	1 Lot	Required	Prevent unsafe back-feed or parallel operation.
14	Testing & Commissioning	PV polarity/continuity checks, insulation/protection checks, inverter setup, battery commissioning, charging test and load test.	1 Lot	Required	Provide commissioning record.
15	Documentation	Provide single-line diagram, PV layout, cable schedule, protection schedule, equipment datasheets and basic operating/maintenance instructions.	1 Lot	Required	As-built documentation required.

DESIGN BASIS / IMPORTANT NOTES

- The solar system is intended to reduce generator operating hours and provide renewable charging/backup for the mobile communication vehicle.
- The target configuration is approximately 1.5 kWp PV, 1.5 kVA hybrid inverter and 51.2 V / 100 Ah LiFePO₄ storage.
- Final PV module quantity may vary while maintaining approximately 1.5 kWp total capacity, subject to actual module availability, roof area and vehicle loading.
- Final battery/inverter sizing shall be verified against the approved communication equipment load schedule before procurement.
- Solar equipment shall be securely mounted for road vibration and mobile deployment and shall not interfere with the 1.2 m Ku-band antenna, generator exhaust, access or maintenance areas.
- The solar system shall operate in coordination with the vehicle generator/UPS system without unsafe back-feed or unintended parallel operation.

MOBILE VEHICLE SITES

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	solution
1	D.G Khan	Cattle Market Pull Qamber	Taunsa	Taunsa	Near pull qambar tonsa shreef indus road	31.634469	71.124838	Mobile vehicle
2	D.G Khan	Cattle Market Chowk Azam	Layyah	Layyah	MM road near sofia hotel	32.254118	72.319285	Mobile vehicle
3	D.G Khan	Cattle Market Kot Chutta	DG Khan	Kot Chutta	Basti malana near rescue 1122 main indus highway	32.129468	71.484581	Mobile vehicle
4	D.G Khan	Cattle Market Kotla Naseer	Rajan Pur	Rajanpur	Near mehfooz mustafa cotton factory kot mithan road	31.495103	71.237815	Mobile vehicle
5	D.G Khan	Cattle Market Fatehpur	Layyah	Karor	2km from MM road fateh pur	32.521776	71.556678	Mobile vehicle
6	D.G Khan	Cattle Market Ali Pur	Muzaffargarh	Alipur	Near chandar bhaan nala	31.804182	72.537033	Mobile vehicle
7	D.G Khan	Cattle Market Rohjan	Rajan Pur	Rojhan	Near moazzam petrol pump main indus highway	32.838656	71.339687	Mobile vehicle
8	D.G Khan	Cattle Market Shah Jamal	Muzaffargarh	Muzafargarh	Main mehar pur road	32.729326	71.846095	Mobile vehicle
9	Sahiwal	Cattle Market Hotta Warseen	Pakpattan	Pakpattan	Chak Hota, Tehsil & Distt. Pakpattan	30.211183	73.196582	Mobile vehicle
10	Gujranwala	Cattle Market Mandi Bahaudin	Mandi Bahaudin	Mandi Bahauddin	Khutiala Sheikhan, Sargodha Road, M.B. Din	32.454588	73.40137	Mobile vehicle
11	Sargodha	Cattle Market Sillanwali	Sargodha	Silanwali	140 Chak Baypass Chinnot Road Sillanwali.	31.804182	72.537033	Mobile vehicle
12	Rawalpindi	Cattle Market Talagang	Talagang	Talagang	Minawali Road Talagang Bypass, District Talagang	32.94131	72.403875	Mobile vehicle
13	Multan	Cattle Market Dunyapur	Lodhran	Dunyapur	Near Bus Stande Dunyapur	29.811398	71.753535	Mobile vehicle
14	D.G Khan	Cattle Market Rohilanwali	Muzaffargarh	Muzafargarh	Near bhatti chowk rohilla wali by pass road	32.341504	71.891781	Mobile vehicle

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	solution
15	Bahawal-pur	Cattle Market Fort Abbas	Bahawalnagar	Fort Abbas	Mouza 268/HR, Tehsil Fort-Abbas, District Bahawalnagar.	29.26846158	72.92133759	Mobile vehicle
16	D.G Khan	Cattle Market Nari Jatt Wala	Taunsa	Taunsa	Moazam bhambhan indus highway near tonsa shreef	32.415911	71.694218	Mobile vehicle
17	D.G Khan	Cattle Market Kot Addu	Kot Addu	Kot Adu	Chowk lal meer chowk near tonsa by pass	31.772111	71.107804	Mobile vehicle
18	Sahiwal	Cattle Market Ahmedabad	Okara	Depalpur	Sodhiwal, Heera Singh, Tehsil Depalpur, Distt. Okara	30.657235	74.041267	Mobile vehicle
19	Sargodha	Cattle Market Chandni Chowk	Bhakkar	Kalor Kot	Rakkh Ghulama Kallurkot road Chandni Chowk	32.129468	71.484581	Mobile vehicle
20	D.G Khan	Cattle Market Layyah	Layyah	Layyah	Chak no 117A krur road	32.197505	71.819145	Mobile vehicle
21	Rawal-pindi	Cattle Market Gali Jagir	Attock	Fateh Jang	Gali Jagir Main Pindi Gheb Road Tehsil Fateh Jang, District Attock	33.435716	72.626846	Mobile vehicle
22	D.G Khan	Cattle Market D.G Khan City	DG Khan	DG Khan	Near danish school tounsa by pass	32.279672	71.370606	Mobile vehicle
23	Sargodha	Cattle Market Saray Muhajir	Bhakkar	Bhakkar	1 KM from main Saraye Muhajar Chowk road Sarai Mohajir.	31.495103	71.237815	Mobile vehicle
24	Rawal-pindi	Cattle Market Dina	Jhelum	Dina	Main GT Road Quaid e Azam Town Near Dina Stop, District Jhelum	33.033789	73.58677	Mobile vehicle
25	Multan	Cattle Market Jamlera	Vehari	Vehari	Near Adda Jamlera Chak No 35/KB	30.079998	72.908581	Mobile Vehicle
26	D.G Khan	Cattle Market Chowk Munda	Kot Addu	Chowk Sarwar Shaeed	MM road 3Km before chowk munda	32.88292	71.55451	Mobile vehicle
27	Bahawal-pur	Cattle Market Khanbela	Rahim Yar Khan	Liaqat Pur	Mouza Bahar Khaki, Main KLP Road, Tehsil Liaqat Pur, District Rahim Yar Khan.	28.98679446	70.76649366	Mobile vehicle

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	solution
28	Bahawal-pur	Cattle Market Uch sharif	Bahawalpur	Ahmad Pur	Mouza Qadir Abad, Near Shell Petrol Pump, Lalloo Wali Mori, Alipur Road, Town Committee Uch Sharief, Tehsil Ahmad Pur East, District Bahawalpur.	29.23000448	71.04409216	Mobile vehicle
29	D.G Khan	Cattle Market Chowk Qureshi	Muzaffargarh	Muzafargarh	Near chowk qureshi by pass dg khan road	30.076928	70.98796	Mobile vehicle
30	D.G Khan	Cattle Market Bangla Hidayat	Rajan Pur	Rojhan	On indus highway bangla hadayat chowk	28.846454	70.108078	Mobile vehicle
31	Faisalabad	Cattle Market Jaranwala	Faisalabad	Jaranwala	Chak No 240 GB Syed Wala Road Jaranwala	31.304342	73.432951	Mobile vehicle
32	Bahawal-pur	Cattle Market Hasilpur	Bahawalpur	Hasil Pur	Chak No.66/F, Link Road Opposite Tehsil Kehtchery, Tehsil Hasil Pur, District Bahawalpur.	29.68065021	72.50715441	Mobile vehicle
33	Bahawal-pur	Cattle Market Haroonabad	Bahawalnagar	HaroonAbad	Mustateel/Muraba No. 41, Chak No. 20/3R, opposite to Al Samad Rice Mill Gulshan Colony, Main Road Haroon Abad to Bahawalnagar, Tehsil Haroon Abad, District Bahawal Nagar.	29.64497828	73.1563333	Mobile vehicle
34	Gujran-wala	Cattle Market Zafarwal	Narowal	Zafarwal	Uggowal, Narowal Road, Zafarwal	32.298771	74.895244	Mobile vehicle
35	Bahawal-pur	Cattle Market Trinda Muhammad Panah	Rahim Yar Khan	Liaqat Pur	Mouza Dandan oot, Near Total Petrol Pump KLP Road Near Akbar Chowk, Tranda M. Panah, Tehsil Liaqat Pur, District Rahim Yar Khan	29.09670156	70.9154722	Mobile vehicle
36	Multan	Cattle Market Jalalpur Pir Wala	Multan	Jalalpur	Jalapur Pir wala by pass	29.514862	71.241701	Mobile vehicle
37	Bahawal-pur	Cattle Market Chistian	Bahawalnagar	Chistian	175 Moor (Allaf), Near Defense Line, Tehsil Chistian, District Bahawal Nagar.	29.53444431	72.84664944	Mobile vehicle

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	solution
38	Faisalabad	Cattle Market Nalka Adda	Chiniot	Bhowana	Jhang Road Adda Nalka Adda Bhowana Chiniot	31.520877	72.574149	Mobile vehicle
39	Rawal-pindi	Cattle Market Jand	Attock	Jand	Near Civil Hospital CPEC Link Road, Chapri, Tehsil Jand, District Attock	33.45298	72.037589	Mobile vehicle
40	Lahore	Cattle Market Safdarabad	Sheikhupura	Safdarabad	Chak No. 78RB, Tehsil Safdarabad District Sheikhupura	31.706681	73.571178	Mobile vehicle
41	Faisalabad	Cattle Market Aminpur Bangla	Chiniot	Bhowana	Bhowana Road Amin Pur Bangla	31.495662	72.849568	Mobile vehicle
42	Multan	Cattle Market Tibba Sultanpur	Vehari	Burewala	Sakna ward ni 1, Tibba Sultan Pur	29.985365	71.897426	Mobile vehicle
43	Faisalabad	Cattle Market Kot Bahadur	Jhang	Jhang	18 Hazari Road, Adda Kot Bahadur Shah	30.981697	71.956858	Mobile vehicle
44	Bahawal-pur	Cattle Market Khanpur	Rahim Yar Khan	Khan pur	Mouza Hakra Near Mapco Grid station opposite to Abdullah oil Mill, Tehsil Kanpur District Rahim Yar Khan,	28.62207	70.62005	Mobile vehicle
45	Rawal-pindi	Cattle Market Pindi Gheb	Attock	Pindi Gheb	Main Pindigheb Road Near Bus Stop Pindigheb, Tehsil Pindigheb, District Attock	33.25195	72.27756	Mobile vehicle
46	Sargodha	Cattle Market Kamar Mishani	Mianwali	Esa Khel	Allah Khel Mor Kamar Mishani	32.838656	71.339687	Mobile vehicle
47	Lahore	Cattle Market Pattoki	Kasur	Pattoki	General Bus Stand, Tehsil Pattoki, District Kasur	31.01513877	73.84610972	Mobile vehicle
48	D.G Khan	Cattle Market Karor	Layyah	Karor	Chak 85 rajan shah nehr krar	31.2272122	70.9851871	Mobile vehicle
49	Sahiwal	Cattle Market Boonga Hayat	Pakpattan	Pakpattan	Moza Nanak Pur, Adda Bonga Hayat, Tehsil & Distt. Pakpattan	30.486491	73.510725	Mobile vehicle
50	D.G Khan	Cattle Market Choti Zaren	DG Khan	Kot Chutta	Near choti by pass airport road	29.853559	70.492502	Mobile vehicle
51	Faisalabad	Cattle Market Adda Ballo	Jhang	18 Hazari	Adda Bullo, Khoshab Road, Jhang	31.729497	72.148619	Mobile vehicle

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	solution
52	Rawal-pindi	Cattle Market Dhudial	Chakwal	Dudhiyal	Main Chakwal Pindi Road, Dhudial Bypass Near Dhudial Police Station, District Chakwal	33.054301	72.963444	Mobile vehicle
53	D.G Khan	Cattle Market Jatoi	Muzaffargarh	Jatoi	Near wapda grid station permit road	29.498133	70.863187	Mobile vehicle
54	Bahawal-pur	Cattle Market Minchina-bad	Bahawalnagar	Minchinabad	Moza ganishpura mundi sadiq ganj road tehsil minchinaabad district bahawalnagar	30.1449585	73.590281	Mobile vehicle
55	Sargodha	Cattle Market Adhi Sargal	Khushab	Noor Pur Thal	Quidabad Noorpur Thal Road Adhi Sargal	32.197505	71.819145	Mobile vehicle
56	D.G Khan	Cattle Market Nari Farm	DG Khan	Kot Chutta	Darkhwast jamal khan near basti punnu khan	29.654156	70.438914	Mobile vehicle
57	Sahiwal	Cattle Market Malgada Chowk	Okara	Okara	Chak No. 36/4-L, Tehsil & Distt. Okara	30.603104	73.332975	Mobile vehicle
58	Sahiwal	Cattle Market Pakpattan	Pakpattan	Pakpattan	Govt. Land, Jamal Chowk, Chak No. 19/SP Urban, Tehsil & Distt. Pakpattan	30.389209	73.342016	Mobile vehicle
59	Rawal-pindi	Cattle Market Kallar Syedan	Rawalpindi	Kallar Syedan	Mouza LoniSalhal, Near Mangal Bypass, Tehsil Kallar Syedaan District Rawalpindi	33.43225	73.36688	Mobile vehicle
60	D.G Khan	Cattle Market Dajal	Rajan Pur	Jampur	3km lundi saidan road	29.56239	70.344802	Mobile vehicle
61	Bahawal-pur	Cattle Market Khairpur	Bahawalpur	Khair Pur Tame Wali	Mustateel / Muraba No. 328/2, Sharaf Shah, Askari Road Basti Chak 24, Tehsil Khair Pur Tame Wali, District Bahawalpur.	29.57507329	72.2123099	Mobile vehicle
62	Sahiwal	Cattle Market Haveli Lakha	Okara	Depalpur	Gehal Singh, Tehsil Depalpur, Distt. Okara	30.441908	73.705029	Mobile vehicle
63	Sargodha	Cattle Market Mianwali	Mianwali	Mianwali	Near Galbaliya Wala Phatak Mounza Shabaz Khel Pakka Mianwali	32.437358	71.670074	Mobile vehicle

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	solution
64	Bahawal-pur	Cattle Market Liaqatpur	Rahim Yar Khan	Liaqat Pur	Near City Wapda Grid Station Abasia Road, Tehsil Liaqat Pur, District Rahim Yar Khan.	28.9595833	70.944593	Mobile vehicle
65	Sargodha	Cattle Market Ban Hafiz Jee	Mianwali	Mianwali	Cattle Market Bin Hafiz Jee	32.729333	71.846577	Mobile vehicle
66	Gujran-wala	Cattle Market Eiemnabad	Gujranwala	Gujranwala	Adjacent Gurdawara Rohari Sab, Emenabad, Gujranwala	32.044576	74.249349	Mobile vehicle
67	Multan	Cattle Market Machiwal	Vehari	Burewala	Machiwal Cattle Mandi, Burewala Road Vehari	30.095671	72.496225	Mobile vehicle
68	Sahiwal	Cattle Market Marla Chowk	Pakpattan	Arifwala	Chowk Marla, Moza Jamu Bodla, Tehsil Arifwala & Distt. Pakpattan	30.122395	73.066546	Mobile vehicle
69	Sargodha	Cattle Market Darya Khan	Bhakkar	Darya Khan	Surani Dagar Near Darya Khan Sugar Mill Darya Khan	31.771332	71.107286	Mobile vehicle
70	Sargodha	Cattle Market Esa Khel	Mianwali	Esa Khel	Sports Complex Stadium Mouza Esa Khel	32.693395	71.269457	Mobile vehicle
71	Sargodha	Cattle Market Piplaan	Mianwali	Piplan	Daal Factory ground Near Grid Station Gol Chowk Liaqatabad Piplan	32.280221	71.370877	Mobile vehicle
72	Faisalabad	Cattle Market Chund Bharwana	Jhang	Jhang	Adda Chund Bharwana Jhang Sargodha By Pass Jhang	31.416546	72.266795	Mobile vehicle
73	Faisalabad	Cattle Market Tandlianwala	Faisalabad	Tandlianwala	Mohala Shamas Pura Near Boys Degree College Tandlianwala	31.032831	73.144703	Mobile vehicle
74	Lahore	Cattle Market Nankana	Nankana Sahib	Nankana	Thatha Eesa, Bucheki Road, Tehsil & District Nankana Sahib	31.3845292	73.67951978	Mobile vehicle
75	Multan	Cattle Market Gaggo	Vehari	Burewala	Chak No 225 EB, Burewala	30.220558	72.845263	Mobile vehicle

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	solution
76	Bahawal-pur	Cattle Market Baghobahar	Rahim Yar Khan	Khan pur	Chak No. 31/P Bagh O Bahar Gala Godown-33, Tehsil Khan-pur, District Rahim Yar Khan	28.5033322	70.60097854	Mobile vehicle
77	Sargodha	Cattle Market Daud Khel	Mianwali	Esa Khel	Near Madrisa Darul ul Aloom Daud Khel Adha Kala Bagh Mianwali Road	32.883167	71.554455	Mobile vehicle
78	Faisalabad	Cattle Market Samundri	Faisalabad	Samundri	Chak No 465 GB Near Fruit Market Samundri	31.087422	72.97021	Mobile vehicle
79	Gujran-wala	Cattle Market Ali Pur Chatha	Gujranwala	Ali Pur Chatha	Queenchi Stop, Varpal Chatha, Gujranwala, Ali Pur Road, Ali-pur Chatha	32.27251	73.80639	Mobile vehicle
80	Rawal-pindi	Cattle Market Pichnand	Talagang	Lawa	Pitchand, Dhoke Sokhi Tehsil Lawa District Talagang	32.89693	71.994579	Mobile vehicle
81	Bahawal-pur	Cattle Market Kot Samaba	Rahim Yar Khan	Liaqat Pur	Mouza Hayat Lar, Jhatka Moor, Tehsil Liaqat Pur, District Rahim Yar Khan	28.7744616	70.82120074	Mobile vehicle
82	Multan	Cattle Market Vehari Stadium	Vehari	Vehari	Multan Road Vehari	30.043207	72.343132	Mobile vehicle
83	Sargodha	Cattle Market Qaidabad	Khushab	Quaidabad	Mianwali Lahore road near Ahmdabad Phatak Quaidabad	32.343752	71.890689	Mobile vehicle
84	Sahiwal	Cattle Market Okara City	Okara	Okara	Govt. Land, Chak No. 5/4-L, Tehsil & Distt. Okara	30.789227	73.450654	Mobile vehicle

OFC CONNECTIVITY SITES

Sr #	Division	Cattle Market Name	District	Tehsil	A End	B End	Address	Latitude	Longitude	Solution
1	Lahore	Model Cattle Market Shahpur Kanjran Lahore	Lahore	Lahore	NTC 06-Racecourse Road Lahore	Model Cattle Market Shahpur Kanjran Lahore	18 Km, Multan Road, Lahore	31.4486608	74.1950267	Hired OFC Media & Satellite
2	Multan	Model Cattle Market Jungle Jaswant Garh	Multan	Multan	NTC 06-Racecourse Road Lahore	Model Cattle Market Jungle Jaswant Garh	Billi Wala Jaswant Garh, Multan	30.102055	71.485955	Hired OFC Media & DRS
3	Bahawalpur	Cattle Market Sheikhwahin	Rahim Yar Khan	Rahim Yar Khan	NTC 06-Racecourse Road Lahore	Cattle Market Sheikhwahin	Mouza Dera Shamsh, Main KLP Road, Near Iqbal Abad Interchange Tehsil & District Rahim Yar Khan.	28.56380474	70.2852222	Hired OFC Media & Satellite
4	Lahore	Model Cattle Market Sheikhpura	Sheikhpura	Sheikhpura	NTC 06-Racecourse Road Lahore	Model Cattle Market Sheikhpura	Macheekay tehsil and district sheikhpura	31.72155832	73.92488928	Hired OFC Media & DRS
5	Sargodha	Cattle Market Bhalwal	Sargodha	Bhalwal	NTC 06-Racecourse Road Lahore	Cattle Market Bhalwal	Near Salam Interchange Bhalwal	32.324067	73.025653	Hired OFC Media & DRS
6	Sargodha	Cattle Market Bhakkar	Bhakkar	Bhakkar	NTC 06-Racecourse Road Lahore	Cattle Market Bhakkar	Khansar Road Near District Jail Bhakkar City.	31.634469	71.124838	Hired OFC Media & DRS
7	Sahiwal	Model Cattle Market Chichawatni	Sahiwal	Chichawatni	NTC 06-Racecourse Road Lahore	Model Cattle Market Chichawatni	Govt. Land, Chak No. 40/12-L,	30.522914	72.681096	Hired OFC Media & Satellite

Sr #	Division	Cattle Market Name	District	Tehsil	A End	B End	Address	Latitude	Longitude	Solution
							Tehsil Chichawatni & Distt. Sahiwal			
8	Sahiwal	Model Cattle Market Arifwala	Pakpattan	Arifwala	NTC 06-Racecourse Road Lahore	Model Cattle Market Arifwala	Govt. Land, Chak No. 61/EB, Qabula Road, Tehsil Arifwala, Distt. Pakpattan	30.286632	73.075743	NTC & Hired (OFC)
9	Bahawalpur	Cattle Market Sadiqabad	Rahim Yar Khan	Sadiq Abad	NTC 06-Racecourse Road Lahore	Cattle Market Sadiqabad	Chak No. 06/NP, Near Al Maroof Sheik Wahan Hotel, opposite Data steel mill, KLP Road Tehsil Sadiq Abad, District Rahim Yar Khan	28.36872133	70.16599366	Hired OFC Media & Satellite
10	Sargodha	Cattle Market Wan Bachran	Mianwali	Mianwali	NTC 06-Racecourse Road Lahore	Cattle Market Wan Bachran	Mouza Muzafarpur Sargodha Mianwali Road Mianwali	32.415911	71.694218	Hired OFC Media & Satellite
11	Sahiwal	Cattle Market Sahiwal City	Sahiwal	Sahiwal	NTC 06-Racecourse Road Lahore	Cattle Market Sahiwal City	Chak No. 99/9-L, Near Pakpattan Bypass, Tehsil & Distt. Sahiwal	30.619209	73.119523	Hired OFC Media & DRS

SATELLITE BANDWIDTH SITES

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	Recom- mended solu- tion
1	Lahore	Model Cattle Market Shahpur Kanjran Lahore	Lahore	Lahore	18 Km, Multan Road, Lahore	31.4486608	74.1950267	Hired OFC Media & Satellite
2	Faisalabad	Model Cattle Market Jhang City	Jhang	Jhang	Model Cattle Market Jhang city, Manak Morr near Toba Gojra Bypass Jhang City	31.214721	72.358168	DRS & Satellite
3	Multan	Cattle Market Luddan	Vehari	Vehari	Sakna Tot Hakim Ali, district Vehari	29.892815	72.532437	Satellite
4	Bahawalpur	Cattle Market Sheikhwahin	Rahim Yar Khan	Rahim Yar Khan	Mouza Dera Shamsh, Main KLP Road, Near Iqbal Abad Interchange Tehsil & District Rahim Yar Khan.	28.56380474	70.2852222	Hired OFC Media & Satellite
5	Sargodha	Cattle Market Khushab	Khushab	Khushab	Karpalkay Village Mangoor Road Khushab	32.254118	72.319285	DRS & Satellite
6	Faisalabad	Cattle Market Chiniot	Chiniot	Chiniot	6th KM Jhang Road , near toll plaza , Chiniot	31.693456	72.94596	DRS & Satellite
7	Bahawalpur	Cattle Market Chak Madrissa	Bahawal-nagar	Chistian	Mustateel/Muraba No. 3.4 & 9, Chak No.7, Gijyani, Tehsil Chistian, District Bahawalnagar.	29.8566802	72.97430413	Satellite
8	Sahiwal	Cattle Market Kameer	Sahiwal	Sahiwal	Chak No. 120/9-L, Tehsil & Distt. Sahiwal	30.441262	73.040206	DRS & Satellite
9	Rawalpindi	Model Cattle Market Gondal	Attock	Attock	Main Peshawar Road Gondal Stop Near Kamra Air Base, District Attok	33.889725	72.350128	Satellite
10	Faisalabad	Model Cattle Market Niamoana	Faisala-bad	Faisala-bad	Chak No 235 RB Niamoana Near Roshan Wala By Pass Samundri Road, Faisalabad	31.339748	73.081317	DRS & Satellite

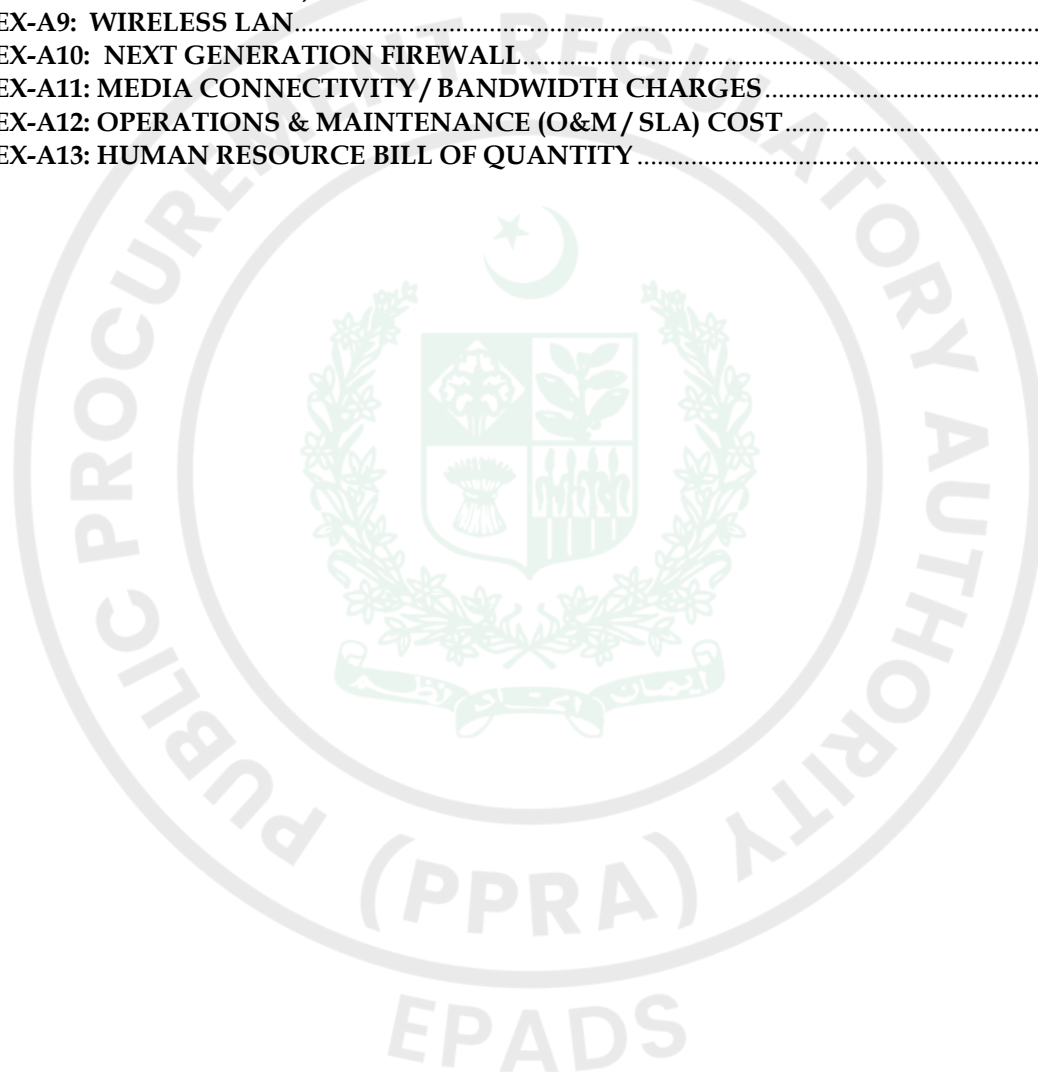
Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	Recommended solution
11	Bahawalpur	Cattle Market Zahirpeer	Rahim Yar Khan	Khan pur	Mouza Hasil Pur, Chachran Road Near CPEC Inter-change to Haji Pur Road, Tehsil Khan Pur District Rahim Yar Khan	28.84811003	70.50527244	Satellite
12	Sahiwal	Model Cattle Market Chichawatni	Sahiwal	Chichawatni	Govt. Land, Chak No. 40/12-L, Tehsil Chichawatni & Distt. Sahiwal	30.522914	72.681096	Hired OFC Media & Satellite
13	Sahiwal	Cattle Market Iqbal Nagar	Sahiwal	Chichawatni	Chak No. 11/14-L, Tehsil Chichawatni & Distt. Sahiwal	30.466617	72.46097	Satellite
14	Faisalabad	Cattle Market Mamu Kanjan	Faisalabad	Samundri	Kanjwani Road Near Boys Degree College Mamun Kanjan	30.818334	72.810654	Satellite
15	Bahawalpur	Cattle Market Sadiqabad	Rahim Yar Khan	Sadiq Abad	Chak No. 06/NP, Near Al Maroof Sheik Wahan Hotel, opposite Data steel mill, KLP Road Tehsil Sadiq Abad, District Rahim Yar Khan	28.36872133	70.16599366	Hired OFC Media & Satellite
16	Sargodha	Cattle Market Wan Bachran	Mianwali	Mianwali	Mouza Muzaffarpur Sargodha Mianwali Road Mianwali	32.415911	71.694218	Hired OFC Media & Satellite
17	Gujranwala	Cattle Market Hafizabad	Hafizabad	Hafizabad	Thatha Garah, Pindi Bhatian Road, Hafizabad	32.059108	73.489396	Satellite
18	Rawalpindi	Cattle Market Domel	Attock	Jand	Main Kohat Road Pind Sulatani Stop Village Domel Tehsil Jand, District Attock	33.527195	72.189527	Satellite
19	Bahawalpur	Cattle Market Yazman	Bahawalpur	Yazman	Chak No.51/DB, opposite Darbar Khawaja Ghulam Rasool, Colony Number 2030-31, Tehsil Yazman, District Bahawalpur.	29.19227167	71.72185574	Satellite

Sr #	Division	Cattle Market Name	District	Tehsil	Address	Latitude	Longitude	Recom- mended solu- tion
20	Rawalpindi	Cattle Market Chakwal	Chakwal	Chakwal	Main Chakwal Pindi Road Chak Norang Stop, District Chakwal	32.993322	72.914082	Satellite
21	D.G Khan	Model Cattle Market Mu- hammad Pur	Rajan Pur	Jampur	Near al makka cotton factory indus highway road	29.45834	70.5041	Satellite



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ANNEX-A: BILL OF QUANTITY

S. No	ANNEX No	Description	Total amount in PKR inclusive of Taxes
CAPEX			
1	ANNEX-A1	Satellite Solution – Satellite Communication For Data Connectivity	
2	ANNEX-A2	Mobile Vehicle Solution – Mobile Vehicle Platform For Data Connectivity	
3	ANNEX-A3	OFC Solution – Provision Of Data Connectivity Through OFC	
4	ANNEX-A4	Facility Components – Prefabricated Living Pod (Structural Skid Frame, Envelope, Sanitary Fit-Out & Internal Electrical)	
5	ANNEX-A5	Network & Security Equipment	
6	ANNEX-A6	Power/Electrical Components – Off-Grid Solar Power System (PV, Battery Storage, Inverter/ESS) & External Electrical Works	
7	ANNEX-A7	Civil, Building & Structured Cabling Works (Site Preparation, & Wi-Fi Site Deployment)	
8	ANNEX-A8	Installation, Testing And Commissioning Services	
9	ANNEX-9	Wireless LAN	
10	ANNEX-10	Next Generation Firewall	
OPEX			
12	ANNEX-A11	Media Connectivity /Bandwidth Charges	
13	ANNEX-A12	Sla Cost- Service Level Agreement	
14	ANNEX-A13	HR Cost- Human Resource Bill Of Quantity	
15	Grand Total Amount in Pak Rupees inclusive of Taxes		

Note: Grand Total inclusive of Tax quoted in above table must match the total bid price quoted in EPADS. Any inconsistency shall lead to disqualification.

ANNEX-A1: SATELLITE COMMUNICATION SITES FOR DATA CONNECTIVITY

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
I	Hardware for Satellite Bandwidth					
1	VSAT Satellite Hardware	1.2m Ku-band dish, 6W BUC, LNB, and Satellite Modem	21			
Total amount in Pak Rupees with Taxes						
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.						

ANNEX-A2: MOBILE VEHICLE PLATFORM FOR DATA CONNECTIVITY

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
1	Mobile Satellite Communication Vehicle Platform (Hyundai's Porter H-100s shall be provided by NTC)	Custom Communication Body - Refer to Annex-A2.1 for detailed specifications and scope.	19			
2		1.2m Ku-Band Antenna & Mount	19			
3		Ku-Band BUC, LNB & Feed Assembly	19			
4		Satellite Modem (iDirect)	19			
5		18U Equipment Rack & PDU	19			
6		10KVA Generator	19			
7		3KVA Online UPS with 100AH LiFePo4 Batteries	19			
8		Router	19			
9		Switch & Networking	19			
10		Electrical, Cabling, DB, Protection	19			
11		Stabilizers & Mounting System	19			

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
12		Installation, Integration, Testing and commissioning	19			
13		1.5 kWp Solar PV System + 1.5 kVA Hybrid Inverter + 100Ah LiFePO ₄ Battery Backup; complete with mounting, protection and cabling. Refer to Annex-A3.1 for technical details.	19			
Total amount in Pak Rupees Inclusive of Taxes						
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.						

Annex-A2.1: Detailed Custom Communication Body specification is provided in the Annex-A2.1 worksheet.

Annex-A2.2: Detailed technical specifications for S. No. 13 Solar Power System are provided in worksheet: Annex-A2.2.

ANNEX-A3: OFC SOLUTION SITES BILL OF QUANTITY

S. No	Description	Specifications & Scope	QTY	Unit Rate without Tax (PKR)	Unit Rate with Tax (PKR)	Total amount Inclusive of Tax
1	OFC Based Connectivity	Hardware for OFC bandwidth installation & commissioning charges	12			
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.						

ANNEX-A4: FACILITY COMPONENTS

Prefabricated Living Pod (Structural Skid Frame, Envelope, Sanitary Fit-Out & Internal Electrical)

S#	Description	QTY	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Prefabricated Living Pod - Structural, Envelope, Sanitary & Internal Electrical Fit-Out (per pod, 112 Nos.)						
1	Prefabricated Living Pod - Self-supporting welded mild-steel skid frame; transportable and relocatable	18	No.			
2	Structural skid frame - Engineered for dead/imposed/transport/lifting/wind loads	18	No.			
3	Corrosion protection - Documented coating system and dry-film thickness	18	Lot			
4	Composite wall panels - EPS min. 15 kg/m ³ ; min. 0.40 mm pre-painted galvanized steel skins	1	m ²			
5	Composite roof panels - Weather-shedding profile, internal finished skin, sealed penetrations	1	m ²			
6	Panel accessories - Complete weather-tight envelope	18	Lot			
7	Roof drainage - Positive drainage gradient; no ponding	18	Lot			

S#	Description	QTY	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
8	Floor assembly - Minimum 1.5 mm vinyl; bonded joints and moisture-resistant skirting	1500	m ²			
9	External door - Weather seals, corrosion-resistant hardware and lockset	18	No.			
10	Window - Min. 5 mm glazing, ventilation section, insect screen, lock and security grille	18	No.			
11	Sanitary compartment - WC, wash basin/tap, bib cock, trapped floor drain, waterproofing, anti-slip finish	18	No.			
12	Internal electrical installation - Flame-retardant copper conductors	18	Lot			
13	LED lights - living area - Minimum two internal LED lights	36	No.			
14	Bracket fan point - Complete point	18	No.			
15	General-purpose sockets - Minimum two	36	No.			
16	Distribution board - Complete enclosure and circuit identification	18	No.			



Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis



S#	Description	QTY	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
17	External power inlet – With protective earthing and equipotential bonding	18	No.			
18	Electrical testing – Test certificate for each pod	18	No.			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.						

ANNEX-A5: NETWORK AND SECURITY COMPONENTS

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Satellite Connectivity – Ku-Band VSAT Solution						
1	Ku-Band VSAT Satellite Antenna – outdoor antenna system, complete with reflector, feed assembly, OMT/polarizer, feed support, heavy-duty mount and installation accessories; antenna size to be finalized through link budget.	40	Set			
2	Ku-Band DVB-S2X Satellite Modem / Remote Terminal – IP satellite modem supporting DVB-S2X / X.509 client certificates . Waveform, adaptive coding and modulation (ACM), high-efficiency IP transmission, Ethernet interface, QoS, traffic shaping, remote provisioning and centralized hub management.	40	No.			
3	Ku-Band BUC/SSPA – outdoor transmit amplifier sized according to the engineered link budget, including RF cabling, weatherproof RF connections and protection. Can support up to 2Mbps return path	40	No.			
4	Ku-Band LNB / LNA – low-noise receive chain suitable for the selected Ku-Band satellite and hub frequency plan.	40	No.			
5	Ku-Band RF Feed / OMT / Polarizer Assembly – complete transmit/receive RF interface with required waveguide and accessories.	40	Set			
6	Outdoor RF Coax / Waveguide Cabling – low-loss Ku-Band interconnection, connectors, grounding and weatherproofing accessories.	40	Set			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
7	Antenna Mounting & Foundation – galvanized/engineered pedestal, anchor bolts, foundation and mechanical installation accessories.	40	Set			
8	Satellite router / Secure Satellite Communications Gateway – integrated site satellite communications box providing satellite modem/interface, secure IP networking, encryption interface, LAN/WAN connectivity, remote provisioning and centralized management integration.	40	No.			
9	X.509 client certificates/ AES-256 Bit Encryption – hardware/software-based encryption capability for secure site-to-hub communications, supporting encrypted traffic across the NTC closed satellite network.	40	Site			
10	Dedicated Satellite Hub – dedicated central hub infrastructure for the 112-site network, including hub modem platform, RF interface, network gateway and centralized service control. To be install at NTC HQ	1	Lot			
11	DVB-S2X Satellite Communications – primary satellite communications transport using DVB-S2X technology with AES-256 / X.509 client certificates. for efficient IP connectivity between all remote sites and the dedicated central hub, with centralized bandwidth/QoS management and support for network scaling up to approximately 0.5 Gbps.	1	Lot			
12	Central Hub Management & Full Network Control – centralized configuration, provisioning, bandwidth allocation, QoS, monitoring, alarms, diagnostics, user/site management and performance reporting.	1	Lot			
13	Satellite Network Scalability – engineered architecture capable of supporting aggregate network capacity up to approximately 0.5 Gbps (500 Mbps), subject to satellite bandwidth, link budget and hub capacity.	1	Lot			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
14	Satellite Network Security & Closed-Network Integration - secure integration of all remote sites into the NTC private/closed network with no requirement for public Internet access for the protected service path.	1	Lot			
15	Lightning Protection, Grounding & Surge Protection - complete RF/equipment grounding, lightning arrestors and surge protection for each remote satellite installation.	40	Set			
16	Satellite Installation, Alignment & Commissioning - antenna assembly, satellite acquisition, polarization, RF commissioning, modem provisioning, encrypted tunnel activation and end-to-end acceptance testing.	40	Site			
Secure Network Equipment						
17	Edge Router / Server (AES 256 Bit secure WAN/LAN routing, encryption, QoS and NTC closed-network integration	40	No.			
18	Managed Gigabit Ethernet switch with 08 x POE+ Ports	40	No.			
19	Network cabinet / rack	40	No.			
20	Patch panel	40	No.			
21	Cat-6 UTP cabling	40	Site			
22	Cat-6 patch cords	40	Set			
23	Network termination and cable-management accessories	40	Lot			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

ANNEX-A6: POWER/ELECTRICAL COMPONENTS

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Off-Grid Solar Power System (per site, Nos.)						
1	Solar PV Module – 3kW Mono PV array	28	Site			
2	Solar PV Mounting Structure – GI/MS structure suitable for site	28	Site			
3	Sigen Energy Controller / Inverter – Sigenenergy SigenStor, 3.6 kW, single phase	28	Site			
4	LiFePO4 Battery – Approx. 6 kWh	28	Site			
5	Sigen Energy Gateway / Backup Interface – Compatible with SigenStor	28	Site			
6	DC Isolator – DC-rated isolator	28	Site			
7	DC SPD – DC surge protection device	28	Site			
8	AC SPD – AC surge protection device	28	Site			
9	MCB / RCBO Protection – As required for critical load DB	28	Site			
10	Critical Load Distribution Board – Dedicated DB	28	Site			
11	Earthing / Grounding – Complete system earthing	28	Site			

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
12	Remote Monitoring - mySigen / remote monitoring	28	Site			
13	Cabling & Termination - PV / AC / equipment cabling as quoted	28	Site			
14	Installation & Commissioning - Complete turnkey installation	28	Site			
External Electrical Feeder, Earthing & Site Lighting						
15	External electrical feeder - Sized for demand, voltage drop, fault level and installation conditions	6,000	r.ft			
16	Cable trench - Including sand bedding and reinstatement	6,000	r.ft			
17	Sand bedding - Complete	28	m ³			
18	Cable protective cover - Complete	6,000	r.ft			
19	Warning tape - Continuous above cable	6,000	r.ft			
20	External main board - MCCB/RCCB and surge protection	28	No.			
21	Earthing system - Earth electrodes, conductors, clamps and connections	28	Set			
22	External LED security lights - Minimum four per location	120	No.			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

ANNEX-A7: CIVIL AND CABLES COMPONENTS

Civil, Building, Structured Cabling Works

S#	Description	Qty	A/U	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Site Preparation & Pod Platform (Civil)						
1	Site reconnaissance & setting out - For each site	28	Lot			
2	Pod platform excavation - Final dimensions per approved design	1	m ³			
3	Compacted formation - Engineered bearing condition	3500	m ²			
4	Crushed aggregate sub-base - Under complete platform	100	m ³			
5	Damp-proof membrane - Complete coverage	3500	m ²			
6	Reinforced concrete slab - Approx. 12 ft × 10 ft; final reinforcement/thickness by design	45	m ³			
7	Edge formwork - Complete	400	m			
8	Pod anchoring - Compatible with skid frame	28	Set			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

ANNEX-A8: INSTALLATION, TESTING AND COMMISSIONING SERVICES

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
Transportation, Installation, Testing, Commissioning & Handover (Pod)						
1	Transportation - Includes loading/unloading logistics	Trip	28			
2	Lifting/offloading - Safe offloading and positioning	Lot	28			
3	Pod positioning & levelling - Complete installation	No.	28			
4	Utility connection & commissioning - Complete integrated commissioning	Lot	28			
5	Factory Acceptance Test - Documented inspection and test dossier	No.	28			
6	Site Acceptance Test - Documented acceptance test	No.	28			
7	Training & handover - O&M manuals and operating instructions	Lot	28			
8	As-built documentation - Location-wise dossier	Lot	28			

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
9	Quality dossier / asset ID – Material certificates, photos, NCRs, rectification and commissioning records	No.	28			
10	Warranty support – Structural, envelope, sanitary, electrical, doors/windows, coatings and workmanship	Lot	28			
Installation & Commissioning (Network/Connectivity)						
11	VSAT installation and satellite antenna alignment	Site	28			
12	Satellite modem installation and configuration	Site	28			
13	Edge Router provisioning and configuration	Site	28			
14	LAN/VLAN configuration	Site	28			
16	Secure NTC closed network / integration	Site	28			
17	Solar, UPS and power-system installation	Site	28			
18	Earthing and lightning-protection installation/testing	Site	28			



Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis



S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
19	End-to-end system integration and testing	Site	28			
20	Site Acceptance Test and commissioning documentation	Site	28			
NTC Central Network Infrastructure						
21	Central satellite hub / teleport interface	Lot	1			
22	NTC core network integration	Lot	1			
23	Central VSN concentrator	Lot	1			
24	Network Management System (NMS)	Lot	1			
25	Central management server/platform	No.	1			
26	Central backup connectivity / resilience	Lot	1			
Operations & Maintenance						
27	NOC monitoring and network management	Year	1			
28	Preventive maintenance for all sites	Year	1			
29	Corrective maintenance and field support	Year	1			



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S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
30	Technical support and helpdesk	Year	1			
31	Critical spare equipment pool	Lot	1			
32	As-built documentation and network records	Lot	1			
33	NTC/field staff operational training	Lot	1			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.						

ANNEX-A9: WIRELESS LAN

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
1	WiFi 7 Wireless Access Points as per Technical Specifications at Annex-B1	No	460			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit alongwith the bid. Total Amount should match the amount entered in system.						

ANNEX-A10: NEXT GENERATION FIREWALL

S#	Description	A/U	Qty	Unit Cost in PKR without Tax	Unit Cost in PKR with Tax	Total amount in PKR with Tax
1	Firewall Type 1 Appliance	No	2			
2	Perpetual Licenses	No	2			
3	Year-1 Support	Job	2			
4	Year-2 to Year-4 Support	Job	6			
5	HA Configuration	Job	1			
6	Installation / Configuration / Commissioning	Job	1			
7	Training	Job	1			
8	Documentation	Lot	1			
Total amount in Pak Rupees inclusive of Taxes						
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.						



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ANNEX-A11: MEDIA CONNECTIVITY/ BANDWIDTH CHARGES

S#	Category	Description	A/U	Qty	Monthly amount without Tax	Monthly amount with Tax	Total amount with Tax
1	Satellite Bandwidth	36 MHz standard Ku Band Satellite Bandwidth as per Table-1 sites to be provided by lawful service provider in Pakistan	LOT	1			
2		Bandwidth management and QoS	LOT	1			
3		Satellite Bandwidth scalable up to 80 MHz standard Ku-Band as per Table-1 sites	LOT	1			
4	Optical Fiber Cable Bandwidth	Provision of 50 Mbps CIR Data (For Intranet) Connectivity through OFC inclusive of relevant Hardware installation & commissioning charges	Per Site	11			
Total amount in Pak Rupees per month inclusive of Taxes							
Total amount in Pak Rupees for 60 months inclusive of Taxes							
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.							



Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis



ANNEX-A12: OPERATIONS & MAINTENANCE (O&M/ SLA) COST

S#	Category	Description	Qty	Unit Monthly SLA Charges per Site without Tax	Unit Monthly SLA Charges per Site with Tax	Total Monthly SLA Charges per Site with Tax
1	O&M SLA	Service through Service Level Agreement (SLA) for O&M commencing from PAC issuance date.	51			
Total amount in Pak Rupees per month inclusive of Taxes						
Total amount in Pak Rupees for 60 months inclusive of Taxes						
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.						



Provision of Media connectivity through Satellite, Microwave and Optical Fiber for Wi-Fi Connectivity at Punjab Cattle Market Sites on Turnkey Basis



ANNEX-A13: HUMAN RESOURCE BILL OF QUANTITY

Sr.	Human Resource Designation	UOM	QTY	Basic Pay	Other Benefits	Unit Price per Month without Services Charges	Bidder's Services Charges per Personnel/month excl. Tax	Tax @ 15%	Unit Price per Month with Services Charges incl. Tax	Total Price per Month with Services Charges incl. Tax
A. Category -I										
Other Benefits: EOBI @ 5% of Min Wage +Social Security or Insurance @ 6% of Basic Pay +PKR 250/- (Group Life Insurance);										
1	Drivers	Personnel	25	60,000	PKR 4,653/-	64,653				
2	Security Guards	Personnel	80	50,000		54,653				
3	Telecom Technician	Personnel	9	70,000		74,653				
4	Engineering Supervisor	Personnel	3	80,000		84,653				
5	Engineer	Personnel	3	100,000		104,653				
Total amount in Pak Rupees per month inclusive of Taxes										
Total amount in Pak Rupees for 60 months inclusive of Taxes										
Note:										
a) NTC reserve the right to increase/decrease the number of resources throughout the duration of contract.										
b) NTC reserve the right to increase or decrease the salaries of Personnel and other benefits in Column (c), however, the contractor's margin shall remain the same.										
Note: The bidder shall fill the rates above and submit along with the bid. Total Amount should match the amount entered in system.										