



**GOVERNMENT OF INDIA
CENTRAL GROUND WATER BOARD
Department of Water Resources RD & GR
Ministry of Jal Shakti
Bhujal Bhawan, NH-IV, Faridabad-HR (INDIA).**

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Tender Document

Tender/Bid No: -

Dated: XX.XX.XXX

Invitation for Engaging agency for Fixed Wing - Transient Electromagnetic and Magnetic Survey in Arid Region Falling in Parts of Punjab and Himachal Pradesh States of North-Western India under PIB Project in Phase-II (Package-C)

On behalf of President of India, **The Chairman, Central Ground Water Board, Bhujal Bhawan, NH-IV, Faridabad-HR (India)** invites bids for engaging agency for Fixed Wing - Transient Electromagnetic and Magnetic Survey in Arid Region Falling in Parts of Punjab and Himachal Pradesh States of North-Western India under PIB Project in Phase-II (Package-C).

Details of Package-C

Estimated Cost of Project (in Rs including GST)	: 8,00,44,757/-
Time Period of Project	: 9 months from date of issuance of Work order
Area of Survey	: Himachal Pradesh (Parts of Kangra, Una, Hamirpur, Bilaspur, Shimla, Solan and Sirmaur Districts) @ 2.5 Km flight spacing. PUNJAB (Hoshiarpur district) @ 5 Km flight spacing
EMD Fee (in Rs)	: 16,00,900/-
Total Line Km (Flight line)	: 6,378 LKM
Total Sq Km (Area)	: 15,010 Sq. Km

The interested parties must upload their bids through the e-procurement system of the Government of India on GEM-portal (www.gem.gov.in).

The invitation to bids is subject to fulfillment of instructions and conditions mentioned in various chapters of the tender document.

This advertisement with details is also displayed on the **CGWB** website www.cgwb.gov.in subsequent corrigendum/amendments to this tender, if any, shall be posted in the GEM portal (www.gem.gov.in) and **CGWB** website.

Clarifications pertaining to the tender if any may be sought from:

The Superintendent Engineer (MMS-I), **Central Ground Water Board**, Bhujal Bhawan, NH-IV, Faridabad-HR (India)-121004,
Telephone/fax-no: 0129-247721

Email address: seop-cgwb@nic.in

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Chapter-1**Important Information**

Pre-bid meeting	:XX/XX/XXXX
Video conferencing ID	:Pre-bid meeting for Tenders of “Fixed Wing - Transient Electromagnetic and Magnetic Survey” -
Deadline for pre-bid query	:XX/XX/XXXX
Closing date for uploading the bid	:As per GeM Tender
Date of opening of technical bid	:As per GeM Tender
Date of opening of price bid	: -
Venue for pre-bid meeting and bid opening:	
Central Ground Water Board, Bhujal Bhawan, NH-IV, NIT-IV Faridabad-HR (India)-121001.	

<u>Description of work</u>
Fixed Wing - Transient Electromagnetic and Magnetic Survey in Arid Region Falling in Parts of Punjab and Himachal Pradesh States of North-Western India under PIB Project in Phase-II (Package-C)

Chapter-2**1. GENERAL INSTRUCTIONS TO BIDDERS**

- a) The interested parties must upload their bids through the e-procurement system of the Government of India on the GEM portal (www.gem.gov.in).
- b) The bid is to be uploaded under “two bid” system viz. “technical bid” and “price bid”.
- c) On the day of bid opening, only technical bid will be opened. The price bid for only the technically qualified bidders will be opened later. In case of any change in dates, timely information will be provided (on GeM portal)
- d) Authorized representative of the bidder with an authority letter may attend the bid opening.
- e) A pre-bid meeting will be conducted with the prospective bidders on a notified date; the technical and commercial aspects of the bid will be clarified.
- f) **Validity of bid:** The bid shall remain valid for 180 days. The bidder shall submit an undertaking that the bid should be valid for 180 days from the date of opening of tender. If required by CGWB, bid validity may be extended.
- g) Before formulating the tender and submitting the same to the Employer, the tenderer should read and examine all the terms, conditions, instructions etc. contained in the tender documents. Failure to provide and/ or comply with the required information, instructions incorporated in these tender documents may result in rejection of its tender.
- h) The bidder shall comprehend the scope of work, the bidding system and eligibility criteria as per tender documents in total.
- i) **Bid security/ earnest money deposit (EMD):**
 - (i) Bidders shall furnish along with its tender, earnest money amounting to Rs. 16,00,900/- (Rupees Sixteen Lakh Nine Hundred only) as mentioned in the tender document. The earnest money is required to protect the employer against the risk of the tender's unwarranted conduct.
 - (ii) EMD is to be furnished at office of the Superintendent Engineer (MMS-I), Central Ground Water Board, Bhujal Bhawan, NH-IV, Faridabad-HR (India)-121001, in person or by post, on or before the tender closing date failing which the bid would be summarily rejected. Bidders are requested to upload the scan copy of the Bid Security Document with the Technical Bid in the GeM portal as well.
 - (iii) In case bidder (registered with Central Purchase Organization, MSE for the “Fixed Wing - Transient Electromagnetic and Magnetic Survey” work) is exempted from EMD, the bid security declaration in the format annexed in Annexure-I is required to be submitted.
 - a) The earnest money shall be denominated in Indian rupees.
 - b) The earnest money shall be furnished in one of the following forms:
 - Account payee demand draft
 - Fixed deposit receipt
 - Bank guarantee
 - (iv) The demand draft, fixed deposit receipt shall be drawn on a Scheduled Commercial (i.e. Indian or Foreign Banks included in the Second Schedule of Reserve Bank of India Act, 1934 excluding Co-operative banks or Regional Rural Banks), in favor of the DDO, CGWB, Bhujal Bhawan, NH-IV, Faridabad. In case of bank guarantee, it should be irrevocable and

- operative Bank Guarantee (BG) as per the format specified under Annexure-XI of this tender document and should be issued by a Scheduled Commercial (i.e. Indian or Foreign Banks included in the Second Schedule of Reserve Bank of India Act, 1934 excluding Co-operative banks or Regional Rural Banks).
- (v) The earnest money shall be valid for a period of 60 (sixty) days beyond the validity period of the tender.
 - (vi) Unsuccessful tenderer's earnest money will be returned to them without any interest, after expiry of the tender validity period, but not later than 30 days after conclusion of the resultant contract. Successful tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.
 - (vii) Earnest money of a tenderer will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect, withdraws its tender, or fails to sign the contract within the period of validity of its tender. The successful tenderer's earnest money will be forfeited if it fails to furnish the required performance security within the specified period.
 - (viii) The validity of the Bid Security (EMD) should be suitably extended by the Bidder, if needed, beyond validity of the tender.

j) Performance Security Deposit (PSD)/Performance Guarantee (PG) –

- (i) Performance security deposit / performance guarantee for the value of 3% of the total contract amount is to be deposited by the successful bidder, on selection of the bid, within 15 (Fifteen) days of the receipt of the notification of award (issue of letter of Award: LOA). The successful bidder shall furnish to CGWB, a Performance Security in the form of a Bank Guarantee/FDR/Demand Draft(DD) of an Acceptable Bank (i.e. Scheduled bank as listed in the second schedule of the reserve bank of India act, 1934 excluding those listed under the headings of Gramin banks, urban co- operative banks and state co-operative banks) as per format annexed in annexure-II for an amount of 3% (Three percent) of the contract price in accordance with the conditions of the contract. The performance security provided by the successful bidder in the form of Bank Guarantee shall be in favour of DDO, CGWB, CHQ, Faridabad should be irrevocable and operative Bank Guarantee (BG) as per format annexed in annexure-II in these documents and should be issued by a Scheduled Commercial (i.e. Indian or Foreign Banks included in the Second Schedule of Reserve Bank of India Act, 1934 excluding Co-operative banks or Regional Rural Banks).
 - (ii) The successful bidder, irrespective of its registration status (i.e. MSE or DGS&D), is to submit Performance Security Deposit (PSD).
 - (iii) The validity of the PSD/PG should be eighteen (18) months beyond the contract period.
 - (iv) In case of non-compliance of terms and conditions of the contract and for any other unsatisfactory performance or/and failure to render contracted service during the period of contract by the bidder to whom order has been awarded, (including the non-completion of the task assigned to bidder as per different milestones within the stipulated period of the respective milestone). The performance security deposit/ performance guarantee will be forfeited.
 - (v) If the bidder is unable to complete the contract within the stipulated time, bidder has to renew the performance security deposit/ performance guarantee beyond eighteen (18) months according to the extended contract period.
 - (vi) On successful completion of the contract, performance security deposit/ performance guarantee will be returned.
 - (vii) No interest will be paid on performance security deposits/ performance guarantee.
- k) The bidder has to agree with the integrity pact and sign on the integrity pact contract as per the format provided in chapter 11 in duplicate with the signature of witnesses in full. The authorized official of the bidder who signs the bid should sign the integrity pact with the**

bidder's rubber stamp and submit the same along with the technical bid.

- l)** The bidder has to provide, along with their bids, an undertaking of acceptance of terms and conditions of the tender in a format as given in annexure-III and also a check list in a format as given in annexure-IV.
- m)** It is made clear to all the bidders that, mere opening of the financial bid cannot be treated as acceptance of the financial bid, even if it is communicated to the bidder through SMS from GEM that their financial bid is accepted. SMS from GEM should only be treated to the extent that the financial bid is considered for evaluation.
- n)** Central Ground Water Board reserves the right to accept or reject any bid or all the bids without assigning any reason.
- o)** Central Ground Water Board reserves the right to cancel the tender at any point of time before the issue of work order.
- p)** The bidder should have technically qualified personnel to carry out the above-mentioned jobs. Also, the bidder shall compulsorily provide the services of these technical personnel at all times during the contract period. Any change in the declared personnel shall be done with the prior approval from CGWB. Also, the new personnel shall be of similar qualification and experience as the one being replaced.
- q)** There should not be any change in the key personnel without prior approval from CGWB, as mentioned in the bid, during the complete contract period.
- r)** Delay of the final deliverables by the selected bidder will attract financial penalty as defined in the relevant section of this tender.
- s)** If the lead consortium partner or partner responsible for Geo-physical activities including data acquisition, processing, integration and interpretation exits the contract at any given time during the contract period, the contract will stand cancelled and the performance security deposit/ performance guarantee will be forfeited.

t) Pre-bid meeting

Attendance at the pre-bid meeting, although preferred, is not mandatory by the bidder/representative. The meeting will, however, discuss the questions submitted by emails.

The objectives of the pre-bid meeting will be to clarify the following:

- Proposed objective of the tender
- Bid submission process
- Clarification of queries from participants

The questions submitted by email, will be addressed in an addendum/corrigendum/Pre-bid Meeting Minutes to the tender documents and posted on GEM portal (www.gem.gov.in). Some of the questions may be answered informally at the pre- bid meeting but definitive and binding answers will only be provided in the addendum/Pre-bid Meeting Minutes. Any clarification sought after pre-bid meeting will not be entertained.

- u)** No post-bid clarifications on the initiative of the bidders will be entertained.
- v)** Once the pre-bid meeting/conference is over and issues are clarified, no query or objection or complaint shall be entertained in regard to this tender enquiry, terms & conditions and

scope of work. Absence in pre-bid meeting/conference shall not be considered as justification for making query or objection or complaint.

w) Memorandum of Agreement (MOA)

A Memorandum of Agreement (MOA) is to be signed soon after the receipt of the acceptance LOA (Letter of Award) from the selected bidder. Subsequently Work Orders will be issued after submission of the performance security deposit (PSD)/ performance guarantee (PG). MOA will be executed in person. A draft MOA is attached at annexure- IX for reference. All members of consortium should sign the MOA.

The MOA will contain all the terms and conditions of the contract as described in the e-tender and will include the following points:

- Termination on the grounds of force majeure.
- Termination on the grounds of poor performance by the bidder.
- Provisions for arbitration and compensation.
- Liquidated damage in case of non-performance causing delay in achieving the set target.

x) Conflict of interest clause:

Conflicting activity: the bidder or any of his consortium members should not be in any way directly or indirectly affiliated to any other bidder participating in this contract for “Fixed Wing - Transient Electromagnetic and Magnetic Survey in Arid Region Falling in Parts of Punjab and Himachal Pradesh States of North-Western India under PIB Project” floated by CGWB.

Conflicting relationship: the bidder or his consortium members (including his/its experts) should not have been involved directly or indirectly in preparing the DPR for this project i.e. “Fixed Wing - Transient Electromagnetic and Magnetic Survey in Arid Region Falling in Parts of Punjab and Himachal Pradesh States of North-Western India under PIB Project”.

y) Termination of contract:

This contract may be terminated by CGWB as per provisions set up below:

The CGWB may terminate this contract in case of the occurrence of any of the events specified in paragraphs (a) to (g) of this clause. In such an occurrence the CGWB shall give at least thirty (30) calendar days written notice of termination to the bidder in case of the events referred to in (a) to (d); at least sixty (60) calendar days written notice in case of the event referred to in (e); and at least thirty (30) calendar days written notice in case of the event referred to in (f):

- a) If the bidder fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to the effect that CGWB may, by written notice of suspension to the bidder, suspend all payments to the bidder hereunder, if the bidder fails to perform any of its obligations under this contract, including the carrying out of the services, provided that such notice of suspension:
 - (i) Shall specify the nature of the failure, and
 - (ii) Shall request the bidder to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the bidder of such notice of suspension.
- b) If the bidder becomes (or, if the bidder 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;
- c) If the bidder fails to comply with any final decision reached as a result of arbitration proceedings pursuant to the effect that any dispute between the parties arising under or related to this contract that cannot be settled amicably may be referred to by either party to

- the adjudication/arbitration in accordance with the clause 4 of chapter 2 (arbitration clause).
- d) If, as the result of force majeure, the bidder is unable to perform a material portion of the services for a period of not less than sixty (60) calendar days;
 - e) If the CGWB, in its sole discretion and for any reason whatsoever, decides to terminate this contract;
 - f) If the bidder fails to confirm availability of key experts as required.
 - g) Non submission of PSD/PG at the time of signing of Contract Agreement.
 - h) If the bidder fails to complete the milestone within the stipulated timeline as described in relevant section of this tender.
 - i) Furthermore, if the CGWB determines that the bidder has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the contract, then the CGWB may, after giving fourteen (14) calendar days written notice to the bidder, terminate the bidder's employment under the contract.

z) Force majeure:

- A. For the purposes of this contract, "force majeure" means an event which is beyond the reasonable control of a party, is not foreseeable, is unavoidable, and makes a party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible under the circumstances, and subject to those requirements, includes, but is not limited to war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action confiscation or any other action like lockdown, international travel restrictions imposed by government due to pandemic situation.

B. Force majeure shall not include

- (i) any event which is caused by the negligence or intentional action of a party or such party's experts, sub-bidders or agents or employees, nor
- (ii) any event which a diligent party could reasonably have been expected to both take into account at the time of the conclusion of this contract, and avoid or overcome in the carrying out of its obligations hereunder.
- C. Force majeure shall not include insufficiency of funds or failure to make any payment required hereunder.
- D. The failure of a party to fulfill any of its obligations hereunder 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 has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this contract.
- E. A party affected by an event of force majeure shall continue to perform its obligations under the contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of force majeure.
- F. A party affected by an event of force majeure shall notify the other party of such event as soon as possible, and in any case not later than fourteen (14) calendar days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible
- G. Any period within which a party 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.
- H. If the case of disagreement between the parties as to the existence or extent of force majeure, the matter shall be settled according to:
 - (i) The parties shall seek to resolve any dispute amicably by mutual consultation.
 - j) If either party objects to any action or inaction of the other party, the objecting party may file a written notice of dispute to the other party providing in detail the basis of the dispute. The party receiving the notice of dispute will consider it and respond in writing within fourteen (14) Days after receipt. If that party fails to respond within fourteen (14) days, or

- the dispute cannot be amicably settled within fourteen (14) days following the response of that party, clause 4 of chapter 2 (arbitration clause) shall apply.
- k) Any dispute between the parties arising under or related to this contract that cannot be settled amicably may be referred to by either party to the adjudication/arbitration in accordance with the clause 4 of chapter 2 (arbitration clause).
- aa) If the selected bidder fails to initiate/leaves without completing the contractual obligations unilaterally, he will be barred from participating in any subsequent retendering process for that particular area for a period of three years.
- bb) The selected bidder can also be debarred for reasons like supply of sub-standard material, non-supply of material, abandonment of works, sub-standard quality of work etc., as per the prevailing Government of India guidelines.
- cc) Any kind of canvassing in regard to the offered services after submitting the bids will be treated as grounds for disqualification.
- dd) Conditional tender i.e. tender submitted incorporating bidder's own imposed condition(s) will be summarily rejected.
- ee) Extra or additional price will not be considered.
- ff) Any charges levied by GeM portal will be borne by the bidder.

2. General Conditions

- a) For participation in the bidding process and submitting bids, the bidder should be:-
 A partnership firm registered under the registered partnership act 1932
 or
 A limited liability partnership under the limited liability partnership act of India, 2008
 or
 A company registered in India under Indian companies act 1956 or 2013
 or
 A consortium comprising of a maximum of Four companies or a joint venture company.
 There should be formal agreement identifying the lead partner.
- b) The bidder should submit a notarized power of attorney on a stamp paper of INR 100/- authorizing the signatory of the bid and to commit the bidder, along with the submission of bid.
- c) A bidder that is under a declaration of ineligibility by any other government authority or court of law in India at the date of submission of the bid or during evaluation of bids shall be disqualified.
- d) No current government employee shall be deployed by the selected bidder without the prior written approval by the appropriate authority.

e) Fraud and Corruption

- A. CGWB requires that the bidders observe the highest standard of ethics during their procurement and execution of such contracts. In such pursuance of this policy,
- B. ***Defined, for the purposes of this provision, the terms set forth as follows:***
- i. "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution;

And

- ii. “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the borrower, and includes collusive practices among bidders (prior to or after bid submission) designed to establish bid prices at artificial, non- competitive levels and to deprive the borrower of the benefits of free and open competition).

C. Will reject a bid for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract;

And

D. Will declare a firm ineligible, either indefinitely or for a stated period of time for awarding any contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, any contract.

3. Dispute Resolution Board

If any dispute arises between the employer and the contractor in connection with, or arising out of, the contract or the execution of the works, whether during the execution of the works or after their completion and whether before or after the repudiation or other termination of the contract, including any disagreement by either party with any action, inaction, opinion, instruction, determination, certificate or valuation of the engineer, the matter in dispute shall, in the first place, be referred to the dispute resolution board here in after called “the board.”

The Dispute resolution board shall consist of following members:

- The Concerned Member, CGWB under whose jurisdiction the work is being executed,
- The FAO, CGWB,
- The Regional Director, CGWB of the concerned region/s,
- The Superintending Engineer, CGWB under the concerned member.

The board at its discretion may co-opt any other officer if in its opinion it may help in resolving the dispute. Either party may refer a dispute to the board. The board shall give a decision in writing within 30 days of reference of dispute.

Either party may refer a written decision of the board. If neither party refers the disputes to arbitration within 30 days, the board’s decision will be final and binding.

Employer at its discretion may change any of the member of the board.

4. Arbitration

- Any dispute in respect of which the recommendation, if any, of the dispute resolution board has not become final and binding shall be finally settled in accordance with the provisions of the arbitration and conciliation act, 1996 or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force. The arbitrator shall have full power to open up, review and revise any decision, and any recommendation of the conciliator related to the dispute.
- A sole arbitrator shall be appointed by the appointing authority i.e. the Chairman, CGWB from the list of arbitrators mutually decided by CGWB and the Contractor within 45 days of receipt of request from either party. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with same reference from the stage at which it was left by his predecessor.
- It is a term of this contract that the arbitrator shall adjudicate only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim

referred to him and in all cases the arbitrator shall give reasons for the award. If any fees is payable to the arbitrator, these shall be paid equally by both the parties.

- It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counterstatement of claims. The venue of the arbitration shall be such place in India as may be fixed by the arbitrator in his sole discretion.

5. MSE Consideration

- The MSE benefits will be considered for any bidder only if the firm is registered as MSE for the work of “**Air borne Geophysical Survey**”.
- The benefits of the Public Procurement Policy for MSEs Order, 2012 cannot be taken by Joint Venture.
- The benefits of the Public Procurement Policy for MSEs Order, 2012 cannot be taken by Consortium with Foreign Company.

Note:- For proof of registration, Bidders must furnish photocopy of their registration certificate along with their offer bid. Apart from this, it is mandatory that the bidder has to claim in GeM portal that their company is MSE Registered Firm for the work of “**Air borne Geophysical Survey**”.

6. Timeline for completion of project:

- The preparation for conducting fixed wing and selecting airstrip in the area may be completed within 1 month of the award of the work.
- The raw / processed digital data, reports etc. are to be submitted on daily/weekly basis. The final report should be submitted as specified in the tender terms and conditions.
- Data collection, data interpretation, and submission of raw and processed airborne datasets, reports in soft & hard copies as prescribed in the tender document shall be completed within project timeline.

7. Liquidity Damages (Penalty):

1. If the bidder is not carrying out the work as per the memorandum of agreement (MOA) guidelines, the delays in delivery of the final deliverables from the date of completion of the Project as per Work order/ contract agreement (of the complete project) will attract Liquidity Damages (financial penalty) at the rate of 1% of the contract amount per month. The total penalty will be capped at 10% of the total contract amount.
2. In case of any deficiency/delay/unsatisfactory/non-performance by the bidder, the appropriate action will be taken by CGWB, against the delinquent bidder as per prevailing Govt. of India rules/guidelines on procurement.
3. In case of non achievement of milestone, the amount equivalent to 10% of the running bill amount passed for payment by the Regional Director, NWR, Chandigarh will be withheld. The withheld amount will be released in case the contractor achieves the subsequent milestone.

8. Public Procurement (Preference To Make In India)

A. Definitions: for the purposes of this tender:

- ‘Local Content’ means the amount of value added in India which shall, unless otherwise prescribed by the nodal ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.
- ‘Class-I Local supplier’ means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under this order.
- ‘Class-II Local Supplier’ means a supplier or service provider, whose goods, services or works offered for procurement has local content more than 20% but less than 50%, as defined under this order.
- ‘Non - Local supplier’ means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%, as defined under this order.
- ‘L1’ means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.
- ‘Margin of purchase preference’ means the maximum extent to which the price quoted by a ‘class-I local supplier; may be above the L1 for the purpose of purchase preference.
- ‘Nodal ministry’ means the ministry or department identified pursuant to this order in respect of a particular item of goods or services or works.
- ‘Procuring entity’ means a ministry or department or attached or subordinate office of, or autonomous body controlled by, the government of India and includes government companies as defined in the companies act.

B. Eligibility of ‘Class-I Local Supplier’/ ‘Class-II Local Supplier’/ ‘Non-Local Suppliers’ for this tender:

- In procurement of all goods, services or works in respect of which the nodal ministry / department has communicated that there is sufficient local capacity and local competition, ‘class-I local supplier’ / ‘class-II local supplier’, as defined shall be eligible to bid irrespective of purchase value.

C. Purchase Preference:

Subject to the provisions of this order and to any specific instructions issued by the nodal ministry or in pursuance of this order, purchase preference shall be given to ‘class-I local supplier’ in procurements undertaken by procuring entities in the manner specified here under.

In the procurements of goods or works, which are covered by Para 2(b) above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the ‘class-I local supplier’ shall get purchase preference over ‘class-II local supplier’ as well as ‘non-local supplier’, as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is ‘class-I local

- supplier', the contract will be awarded to L1.
- ii. If L1 is not 'class-I local supplier', the lowest bidder among the 'class-I local supplier', will be invited to match the L1 price subject to class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'class-I local supplier' subject to matching the L1 price as the project is not in divisible nature.
- iii. In case such lowest eligible 'class-I local supplier' fails to match the L1 price, the 'class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.
- iv. "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entities.

D. Margin of purchase preference: the margin of purchase preference shall be 20%.

E. Verification of local content:

- a) The 'class-I local supplier'/'class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
- b) False declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
- c) A supplier who has been debarred by any procuring entity for violation of this order shall not be eligible for preference under this order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities.
- d) The bidder has to furnish/submit the following documents with their technical bid:
 - i. Declaration of local content by local supplier i.e. Class-I or class-II supplier shall be submitted as per the format enclosed in annexure-VIII (A).
 - ii. Details of local content for class-I or class-II supplier shall be submitted with the technical bid.

Chapter-3**Eligibility criteria**

The bidders who fulfill the following criteria shall be treated as eligible for this tender.

Bidder should keep the following points in mind in the context of eligibility criteria:

1. The Airborne survey provider; should have successfully executed at least a total of 1915 line-km of Airborne TDEM Geophysical Surveys (i.e. approximately 30% of the quantity required to be executed in the project), in last five years ending last day of month previous to the one in which tenders are invited.
Note:- Bidder have to furnish an undertaking that they will be fully responsible for the execution of all the components of the tender by deploying the latest TDEM system with requisite NIA
2. The Airborne Survey provider should have sufficient number of professionals (see form tech-4), equipment who can undertake the data acquisition for this project.
3. It is expected that the as per Pre-qualifying criteria, bidder has sufficient knowledge of the hydrogeology, topography, forest cover and other restricted areas in survey area of Indian sub-continent, the agencies/organizations working in this field, the existing rules, regulations and legal aspects of the Government of India pertaining to the execution of this project.
4. The Minimum Average annual financial turnover during the last three years, ending 31st March of the previous financial year should be at Rs. 2.4 Crores (~30% of the estimated cost.) (Balance Sheet duly audited and certified by Chartered Accountant required to be submitted)
5. If a bidder is a single company or a consortium/JV of companies with one company as the lead company, the credentials of all the consortium/JV members will be considered for evaluating the technical bids. There should be a legally binding agreement between the consortium partners, mentioning the roles and responsibilities of each member and sole responsibility of the lead company for the timely and successful execution of the project. Original consortium agreement should be submitted along with the technical bid. In the case of a joint venture company, credential of all the members will be considered for evaluation. It also specified that each partner should meet at least 25% (and the lead partner at least 50%) out of the qualifying limit in case financial turnover. In case of a Consortium/JV, all members of the Consortium/JV shall sign the contract and shall be jointly and severally liable for the entire assignment.
6. The bidder should have a representative/ partner/ employee in India who is always accessible to CGWB.
7. Secrecy clause: the bidder selected for the project should execute a non- disclosure agreement (NDA) before starting of the project. No raw or processed data should leave/transmitted outside India or handed over to any other person/agency except to designated CGWB personnel. The format for the confidentiality document will be provided at the time of signing of agreement.
8. The bidder shall ensure that the bid security declaration/ EMD is in order and has been submitted with the technical bid as per format provided in this tender. Bids without the bid security declaration/EMD shall summarily be rejected and shall not be considered for further opening and evaluation of the proposals.
9. The bidder must ensure that all the relevant documents as asked in the tender have been attached including the technical and finance forms, declaration of non-blacklisting, certificate of incorporation/registration (companies act or partnership pact), PAN No., GST-registration (GSTIN), Work Experience certificates, Audited Balance Sheets, Annual Turnover, Income Tax and others as asked in tender.
10. For the ease of bidders, a preliminary checklist for the documents to be enclosed along with the bid is attached as Annexure-IV in the tender.

11. If any of the documents is found missing in the submitted bid, clarification may be sought from the bidders. However, in case of non-receipt of response to clarifications in due time, the bid will be rejected without any further evaluation. However, in case any missing documents make the bid non- responsive, then CGWB shall have the right to reject the bid without any further evaluation.

Chapter-4**Pre-Qualifying Criteria**

Sl. No.	Basic requirement	Specific requirement	Documents required
1	Survey capability	At least a total of 1915 line-km of Airborne TDEM Geophysical Surveys in last five years ending last day of month previous to the one in which tenders are invited.	Copies of work order along with work completion certificate of client or copies of client certificate(s) stating completion of the project(s).
2	Technical capability	If the bidder is a consortium, then the owner of the survey technology and provider of the technical manpower must be the lead partner or at the very least, take full responsibility for all aspects of the geophysical component of the contract.	Consortium Agreement, Proof of Ownership of technology, Undertaking of full responsibility of all aspects of the Geo-physical component
3.1	JV / Consortium Participation	The bidder can be a single company or a Joint Venture company under Indian Companies Act. It could also be a consortium of companies, with one company as the lead partner. There could be a maximum of 4 members in a consortium. The credentials of only the consortium members will be considered for evaluating the technical bids.	Registration Paper of all entities
3.2		In case of JV or Consortium, there should be a legally binding agreement between the JV / consortium partners, mentioning the roles and responsibilities of each member and sole responsibility of the lead company for timely and successful execution of the project. Certified copy of JV / consortium agreement should be submitted along with the technical bid.	JV / consortium agreement clearly mentioning roles and responsibilities of each partner and list of promoters and Directors of the each of member companies
4	Expert's experience	The team should have at least 2 Geophysicists and 1 Geologist, with 10 years or more experience in aero-geophysical TEM and Magnetic data interpretation, processing and modeling, including substantial assignments during the last five years ending last day of month previous to the one in which tenders are invited And demonstrated familiarity with the proposed TDEM system.	CVs of experts and team members in prescribed format certified by authorized signatory. Proof of assignment & familiarity with aero-geophysical TEM & Magnetic data processing & interpretation and the proposed TDEM system.

5.1	Bidder's turnover	The bidder should have a minimum average annual turnover of INR 2.4 crore over the last three financial year sending 31st March 2025. Turnover of members of joint ventures/consortium will also be considered.	Copy of audited Financial statement/ Balance sheets and Calculation Sheet of average turnover of last three financial years duly signed by CA.
5.2		The bidder should not have incurred any loss in more than two years during the last five years ending 31st March 2024	Audited Profit / Loss statement
6	Solvency Certificate	Solvency Certificate of a nationalized bank/scheduled bank of India with a minimum amount equal to 40% of the estimated total contract amount. The solvency certificate should not be older than one year on last date of receipt of tender. Solvency certificate of Promoter Company issued by a foreign bank will also be considered.	Solvency Certificate as per format given in Annexure-VI
7	Blacklisting	A self-certified letter by the authorized signatory of the bidder that the bidder has not been blacklisted or disqualified for participating at such tender by any central/state government (central /state government and public sector) and any court of law or under a declaration of ineligibility for corrupt or fraudulent practices as on date of bid submission must be submitted on original letter head of the bidder with signature and stamp in the format attached at annexure-X	A self-certified letter by an authorized signatory in the format attached at Annexure-X
8	Authorized representative from bidder	A power of attorney /board resolution with due authorization In the name of the person signing the tender bid.	Original power of attorney/ board resolution copy
9	Bid Security Declaration /(EMD Fee)	EMD Fee as per annexure-XI or Bid security declaration should be as per annexure-I.	Submission of original document along with scan copy in the Bid Document
10	Copy of ITRs	The bidder must have filed income tax returns for the preceding three assessment years, i.e. 2021-22, 2022-23 & 2023-24.	Copy of ITRs shall be attached with certified financial statement
11	GST Registration	Valid GST registration certificate	GST registration certificate
12	Conflict of Interest	The party or parties participating in this tender as joint venture partners shall not be allowed to participate in the same tender as separate bidder or as a partner of another joint venture.	Signed Declaration
13	MSE Consideration	MSE benefits will be considered for any Bidder only if the bidder is registered as MSE for the work of “Airborne Geophysical Survey” .	Valid MSE certificate specifically for the work of “Airborne Geophysical Survey”

		<ul style="list-style-type: none"> • The benefits of the Public Procurement Policy for MSEs Order, 2012 cannot be taken by Joint Venture. • The benefits of the Public Procurement Policy for MSEs Order, 2012 cannot be taken by Consortium with Foreign Company. 	
14	Subcontracting	Subcontracting for key responsibilities like Airborne-geophysical survey work involving data acquisition, processing, interpretation and integration and report writing will not be accepted for this tender and any bidder engaging in subcontracting will be disqualified	Declaration by the bidder
16	Confidentiality	The Airborne Survey Provider selected for the project should execute a confidentiality document for the project. The format for the confidentiality document will be provided at the time of signing of agreement	Declaration by the bidder
17	Capacity of the equipment	The contractor shall provide the survey equipment having NIA at least 86,000 or above for performing the awarded work.	Declaration by the bidder

Chapter -5**Special Condition of Contract**

1. In case the actual executed quantity of work performed at the time of completion of work, is lesser than targeted quantity of work as per Work order, due to force majeure like occurrence of water body, army establishment or any other reason which is mutually accepted by the Contractor and CGWB, the payment will be made as per actual measurement and no penalty shall be deducted from the payment of work actually performed.
2. In case, contractor refuses to perform the quantity of work in totality as per Work order without any genuine reason and not accepted by the CGWB, the penalty @ 10% shall be imposed to the payment on actual quantity of work performed.
3. At the time of awarding of contract and during the execution of work, the Employer reserves the right to increase or decrease, the quantities of works maximum up to 20% without any change in the unit price and other terms and conditions quoted by the tenderer.
4. The Contractor has to conduct trainings as per following schedule:

Sl. No.	Training	No. of personnel	Days	Remarks
1	Field survey (on ground)	16	07	
2	Theoretical, data processing and interpretation (in RGI, Raipur)	16	07	The location is tentative which may changed. CGWB, has the right to change the location during execution.

5. In case the bidder fails to provide the equipment whose NIA is equal to or more than 86,000, CGWB has right to cancel the contract agreement and forfeit the Performance Bank guarantee without any notice.

Liquidated Damage:

1. If the bidder is not carrying out the work as per the memorandum of agreement (MOA) guidelines, the delays in delivery of the final deliverables from the date of completion of the Project as per Work order/ contract agreement (of the complete project) will attract Liquidity Damages (financial penalty) at the rate of 1% of the contract amount per month. The total penalty will be capped at 10% of the total contract amount.
2. In case of any deficiency/delay/unsatisfactory/non-performance by the bidder, the appropriate action will be taken by CGWB, against the delinquent bidder as per prevailing Govt. of India rules/guidelines on procurement.

Timelines and milestones

Fixed Wing Geophysical Survey -Package-C

Duration: 9 months from the award of contract/Signing of MoA.

- The preparation for conducting fixed wing and selecting airstrip in the area may be completed within 1 month of the award of the work.
- The raw / processed digital data, reports etc. are to be submitted on daily/weekly basis. The final report should be submitted as specified in the tender terms and conditions.
- Data collection, data interpretation, and submission of reports in soft & hard copies prescribed in the tender document shall be completed within project timeline.

TERMS OF PAYMENT AND MAINTENANCE OF ACCOUNTS

1. It is envisaged to complete the projects in 9 months from the date of issuance of Work Order to the bidder.
2. Payment in phases is not applicable through GeM as on date. Hence, if required at the time of release of payment, the same may be done manually through PFMS by the Regional Director/ HOO, NWR, Chandigarh and payment will be released after verification and certification of bills from all concerned Regional Directors/ HOOs for work executed in their jurisdiction.
3. The Payment shall be released by the Regional Director/ HOO, NWR, Chandigarh and payment will be released after verification and certification of bills from all concerned Regional Directors/ HOOs for work executed in their jurisdiction. All the bills in the duplicate along with all relevant documents will be submitted by the contractor for arranging release of the payment.
4. The payment to the contractor will be made at each milestone for completed work as per given milestone on the basis of verification done by CGWB. On completion of each milestone the contractor shall submit the bill along with all requisite documents in prescribed format provided in the tender document. The bill submitted by the contractor shall be supported by verified works executed.
5. In case of non achievement of milestone, the amount equivalent to 10% of the running bill amount passed for payment by the Regional Director, NWR, Chandigarh will be withheld.
6. In case the contractor does not achieve a particular milestone mentioned the percentage/ amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of extension of time. Withholding of this amount on failure to achieve a milestone, shall be without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in the milestone(s), mentioned against each milestone missed subsequently also shall be withheld. No interest, whatsoever, shall be payable on such withheld amount.

Package-C: Fixed Wing- TEM & Magnetic

S. No.	State	Area (Sq. Km)	Flight Line (LKM)
1	Himachal Pradesh (Parts of Kangra, Una, Hamirpur, Bilaspur, Shimla, Solan and Sirmaur Districts) @ 2.5 Km flight spacing.	11,610	5,486
2	PUNJAB (Hoshiarpur district) @ 5 Km flight spacing	3,400	893
	Total	15,010	6,378

S. No.	Components	Quantity	Rate (Rs)	Cost (Rs.)
1.	Field reconnaissance, data compilation, conceptual/inception report, Human Resources (Sq. Km)	15,010		
2.	Fixed-wing Geophysical Survey-TEM & Magnetic (LKM)	6,378		
	Total			
	GST 18%			
	Total			

SCHEDULE OF PAYMENT: TERMS OF PAYMENT AND MAINTENANCE OF ACCOUNTS

It is envisaged to complete the projects in 09 months from the date of issuance of Work Order with the implementing agency. The payments to the implementing agency will be released in phases and would be linked to the milestone.

The funds for the project shall be released in phases by CGWB as per time schedule, verification of progress of work and achievement of the following milestones:

Milestone	Time since (award of work) (in days)	Progress of work achieved.	Payment (%) (as percentage of total project cost excluding GST)	Amount to be withheld in case of non-achievement of milestone
1.	60 days	Submission of Inception Report and reconnaissance survey Report	10% of the Contract cost excluding GST	10% running amount passed for payment by the Regional Director/ HOO, NWR, Chandigarh of the Bill.
2.	105 days	Completion of 3,000 line km of fixed wing survey (Certificate of completion is to be submitted with the bill duly certified and verified by the concerned Regional Director/ HOO)	20% of the Contract cost excluding GST	
3.	150 days	Completion of fixed wing survey as per targets and data quality control report Submission of raw dataset generated in the fixed wing survey. (Certificate of completion of fixed wing survey as per targets, receipt of raw dataset is to be submitted with the bill duly certified and verified by the concerned Regional Director/ HOO)	20% of the Contract cost excluding GST	
4.	210 days	Submission of draft final report - <ul style="list-style-type: none"> Pin pointed sites for artificial recharge along with inferred lithology up to depth of 300 m in Alluvial area and 200 m in hard rock area for each recommended site. Paleo channel map of the study area and its linkages with the aquifer system 3D Geophysical model of the area in reproducible vector format Geophysical Thematic maps at horizontal and vertical planes. Aquifer Geometry in 2D and 3D in reproducible vector formats depicting de-saturated/saturated and fresh/saline zones. Submission of the entire raw and processed dataset, workspaces generated in the study. Hands on training of CGWB scientists. (Certificate of completion of above envisaged activities and hand on training as per SCC clause 4 of Chapter 5 is to be submitted with the bill duly certified and verified by the concerned Regional Director/ HOO)	20% of the Contract cost excluding GST	
5.	270 days	Acceptance of final report (completion certificate mentioning the date of completion and submission for final report is to be submitted with the bill duly certified and verified by the concerned Regional Director/ HOO)	30% of the Contract cost excluding GST	

N.B.-

1. The payment will be made as per the milestone above through offline mode without GeM Portal.
2. The Payment will be subjected to and limited to actual quantity of work executed.

Advance payment can be made against Bank Guarantee subjected to the following conditions:

- i. Advance payment will be considered only on receipt of a written request and on acceptance of terms and conditions regarding payment of advance under sign and seal of authorized signatory of the Vendor.
- ii. Advance payment shall be paid only after submission of BG issued by a Scheduled Commercial Bank registered in India(i.e. Indian or Foreign Banks included in the Second Schedule of Reserve Bank of India Act, 1934 excluding Co-operative banks or Regional Rural Banks) equal to the value of advance.
- iii. BG should be valid till 60 days after the project end date. Advance payment will be adjusted against the milestone achievement, BG will be returned after adjustment of Advance amount and successful completion work till Milestone-4 as prescribed in the above table.
- iv. Advance payment will be against the first milestone (M-1) and it will be adjusted against the bill of milestone-1. GST amount pertaining to the Milestone-1 will be reimbursed after submission of the document as listed in the subsequent clause.
- v. If the work is not initiated after getting advance, vendor has to pay interest on the amount taken as advance with simple rate of interest of 10% per Annual:-

Milestone for which advance is requested	Milestone initiation point when vendor may request for advance payment	Period for which no interest will be charged	Interest to be charged for the period	Reasons for which penal interest may be exempted
Milestone-1	Receipt of NoC from DGCA for deployment of Helicopters subsequent to the signing of MoA.	7 Months from the date of Signing of MoA	Period beyond 7 month from the date of Signing of MoA	<ol style="list-style-type: none"> i. Force Majeure ii. Delay in obtaining permissions from authorities iii. Adverse Weather conditions iv. Monsoon Break *The vendor must provide sufficient proof that despite putting serious efforts, delay could not be avoided

GST Reimbursement

The actual Tax GST amount against the milestone payments as applicable shall be reimbursed to the contractor only after producing the following proof of tax amount paid to Government:-

- (i) A copy of GSTR-1,
- (ii) A copy of GSTR- 3B,
- (iii) CA certificate indicating details of invoices against which the payment under GSTR-3B has been made and any other relevant document.

Chapter -6**Scope of Work (Technical Specification and BOQ of Phase - II ‘Package-C’ Fixed Wing - Transient Electromagnetic and Magnetic Survey in Arid Region Falling in Parts of Punjab and Himachal Pradesh States of North-Western India under PIB Project.****Introduction**

Arid areas in north-western India spread over parts of the States of Rajasthan, Gujarat, Punjab, Haryana, and Himachal Pradesh covering nearly 12% of the total geographical area of the country and are home to more than 8 crore people. With annual rainfall in the range of 100 to 400 mm, this area faces an acute shortage of water throughout the year and is highly dependent on groundwater resources. Parts of the area, especially falling in Punjab & Haryana States are known as India's bread basket. A large proportion of the groundwater draft is being utilized for irrigation purposes. The areas of north-western parts of the country are severely impacted by declining water levels and water quality issues along with heavy dependence of various stakeholder sectors on groundwater. There are 430 Over-exploited, 45 Critical & 77 Semi-Critical assessment units in the area covering Punjab, Haryana, Rajasthan, and Gujarat States. Further, inland salinity in groundwater aquifers & contamination of Nitrate, Fluoride & Heavy metals is common in groundwater.

In light of the aforementioned critical groundwater challenges in the area, a need to learn more about the nature and characteristics of aquifers on a larger scale, both in terms of breadth and depth, was felt. A high-resolution Airborne Transient Electromagnetic (ATEM) survey is a state-of-the-art modern technology that can get more authentic information about sub-surface aquifers without undertaking too many drilling activities. In this connection, it is proposed to take up high-resolution aquifer mapping for understanding aquifer disposition and its nature in a large area at a finer scale for further planning and management to augment the groundwater resources. The ultimate aim of the proposed activity of the project is to map different aquifers, identify groundwater potential zones / fractures, saline/fresh groundwater interface in aquifers, and locate the potential sites for groundwater withdrawal, recharge and conservation. The findings of the fixed wing geophysical survey in the proposed areas will be used to meet the broader objectives of aquifer mapping, rejuvenation, and management of groundwater resources in the arid areas under the National Aquifer Mapping and Management (NAQUIM 2.0) Program, being implemented by the CGWB.

An integrated hydrogeological and geophysical study consisting of fixed wing airborne geophysics (electromagnetic and magnetics), existing ground hydro-geophysics data (Electrical Resistivity Tomography, VES, Transient Electromagnetics), Geophysical logs, Lithologs, Water Level, GW and Quality etc. will be planned to integrate under this component of the proposed project for better results.

Package-C of the Phase-II Fixed wing survey will be carried out in Hoshiarpur district of Punjab State, and in parts of Kangra, Una, Hamirpur, Bilaspur, Shimla, Solan and Sirmaur Districts of Himachal Pradesh State. This area is an overlapping area of the **Package-A under the Phase-II** Heliborne survey for comparing the outputs through both systems to guide future decisions on the comparative advantage of the two methods in terms of cost, time, efficiency and quality of the outputs. The survey area map and component details of Fixed-wing survey are given below.

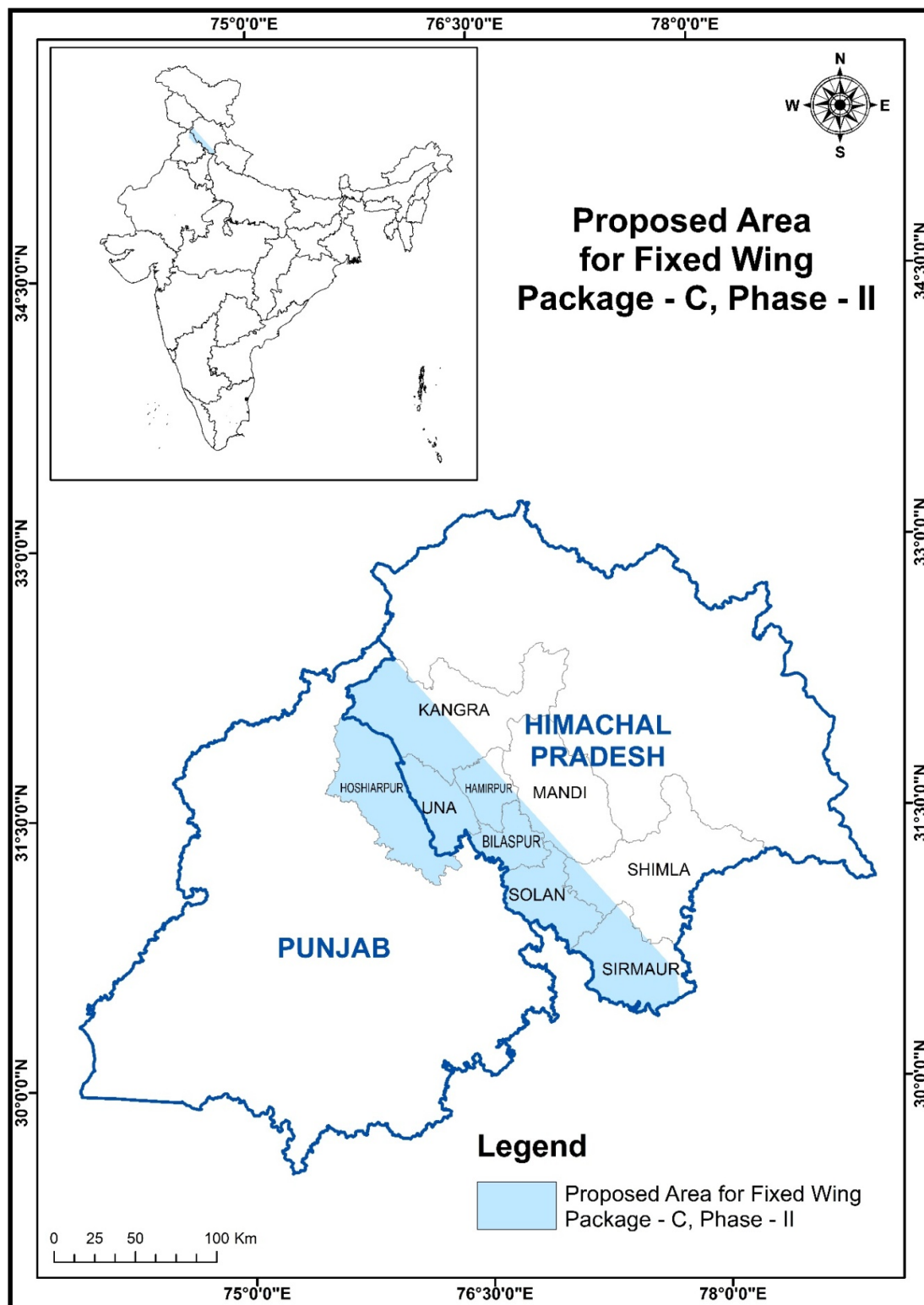


Figure 1: Map showing area proposed under Package-C of Phase-II Fixed wing Geophysical Survey in parts of Punjab and Himachal Pradesh States.

A brief description of the geophysical methodologies that will be taken up as part of the project is provided below

Fixed-wing Transient Electromagnetic and Magnetic Methods

With the increasing demand for aquifer mapping over large areas, fast-track single/dual-moment Transient Electromagnetic and Magnetic investigations are proposed to be carried out in a continuous manner in the project area to acquire a large volume of data with constant line and close spacing. The objective of this survey is to delineate the disposition of aquifers in three dimensions. Since in the present program, a precision aquifer mapping is to be completed in a time-bound manner, it is therefore necessary that the area is covered by a fast-track geophysical technique like fixed-wing Transient Electromagnetics. With this aim, it is proposed to carry out the fixed-wing time domain electromagnetic and magnetic to obtain precise data with better measurement density.

In the Fixed-wing TEM method, data are collected by transmitting an electromagnetic signal from a system attached to fixed wing aircraft. The signal induces eddy currents in the ground which are detected by receiver coils towed below and behind the aircraft. The amplitude and rate of decay of these secondary fields are measured at the receiver and analyzed in terms of the variation of electrical resistivity w.r.t depth, in a manner analogous to that of electrical resistivity sounding. This technique can detect variations in the resistivity of the sub-surface to deep depths, depending upon the moment (NIA) of the acquisition system, geological and hydrogeological stratigraphy. The AEM geophysical survey then requires processing of data in laboratory for interpretation and to detect particular sub-surface targets which are based on a perceived resistivity contrast such as the location of fresh or saline aquifers for groundwater resources.

Scope of the Work

The high-resolution aquifer mapping using Fixed-wing Transient Electromagnetic Method (FW-TEM) and Magnetic surveys in different hydrogeological setups will be carried out to get depth-wise variation in resistivity to delineate the aquifer zones in different hydrogeological formations. Major outputs/deliverables on implementation of this component of the project are enumerated as under:

- 3-D Geophysical model, Geophysical Thematic maps at horizontal and vertical planes showing aquifer disposition.
- Aquifer Geometry of principal aquifers with knowledge of de-saturated and saturated aquifers.
- Demarcation of Aquifer system with relatively fresh and saline zones.
- Spatial distribution of paleo-channel network if any and its linkage with aquifer system.

- Best suitable sites for groundwater withdrawal and water conservation through artificial or managed aquifer recharge.
- Provide additional information such as pollution affected, demarcation of recharge-worthy areas etc. for the development of an aquifer management plan under NAQUIM 2.0.

Methodology

The fixed wing TEM and magnetic survey will be carried out in overlapping area of about 15,000 sq. km, which will also be covered under Package-A of the Phase-II study area in parts of Punjab and Himachal Pradesh States. The flight line spacing will be 2.5 km in Himachal Pradesh and 5 km in Punjab State which is same as Package-A of the Phase-II heliborne survey for comparative study which is one of the objectives of this study. The Fixed wing survey is the main component which will be used for regional scale rapid coverage in almost continuous mode in this study. The hydrogeological, geophysical, hydro-chemical data (Electrical Resistivity Tomography, VES, Transient Electromagnetics, lithologs, Water Level, GW Quality etc.) will be provided for the survey area for integration and preparation of conceptual/ inception report. The data of ground geophysics surveys that will be acquired during / under heliborne survey in Package-A under Phase-II will also be shared for updating the existing database/knowledge base.

The drilling / Managed Aquifer Recharge locations/ lithology identified based on Fixed wing survey will be used for correlation / comparison with heliborne survey results / existing hydrogeological data in this overlapping survey area.

The approach for conducting the Fixed-wing TEM survey in the project area is outlined in the following para

a) Approach for conducting Fixed-wing Transient Electromagnetic (FW-TEM) and Magnetic Surveys:

For conducting FW-TEM and Magnetic surveys, the following approach has to be followed:

- The contractor will collect and confirm the area details to conduct the FW-TEM and Magnetic surveys at a pre-defined altitude and flight line spacing.
- The contractor must inform well in advance to CGWB authority regarding the work plan in detail.
- The contractor should have a qualified team of geophysicists & geologists to perform the geophysical data acquisition, processing, and interpretation.
- The contractor should have a reputed company make Fixed wing-TEM and Magnetic equipment with a facility to store and transfer the data.
- The contractor should provide generated data along with GPS location through email at the end of the day to CGWB.

(b) Operational Guidelines

The survey height for fixed wing aircraft should not be more than 125 m above ground terrain, applied using a preplanned drape surface. In rough terrain, some innovations may be required to optimize the flying height (e.g. choice of aircraft, 1D drape). For acquisition the bidder has to obtain necessary approval from the Directorate General of Civil Aviation (DGCA).

Potential bidders should familiarize themselves with processes of import of aircraft, equipment and survey crews for foreign operators as well as the permissions needed for flight operations, as they are fully responsible for submitting all required documentation and obtaining the necessary permits and authorizations.

Custom duties and other clearances etc. will be applicable as per Government of India rules and regulations. As per DGCA guidelines, a foreign aircraft intending to fly in India needs prior approval and has to be put in the Non Schedule Operating Permit (NSOP) of an Indian air operator.

Health and Safety

The health and safety of all staff involved in the airborne survey must be given utmost priority. The bidders must undertake to provide a safe and secure working environment for all staff and visitors including appropriate public liability insurance cover in place. The bidders are required to present their safety record for the last five years, enumerating any incidents with a brief explanation. This will be considered during the technical evaluation.

The Risk Assessment, Health and Safety Plan and Emergency Response and Search and Rescue Plans need not be submitted in the technical proposal.

The bidder shall:

- follow the standards for low-level airborne survey laid down by the International Airborne Geophysics Safety Association (IAGSA) and any specific requirements of the Directorate General of Civil Aviation (DGCA)
- the bidder needs to provide a Risk Assessment, Health and Safety Plan (to the IAGSA standard) and associated Emergency Response and Search and Rescue procedures prior to the commencement of survey.
- undertake to accept modifications to the flight plan required by the CGWB in response to requests from organizations or members of the public concerned for the safety of their property (notably animals).

Aircraft and Equipment

The bidder must provide a complete description for each system (i.e. aircraft and geophysical instruments) proposed. If alternative systems are proposed, they must be described in full details. The minimum requirements are described below:

Airborne Survey Aircraft

The bidder is required to provide a minimum of one survey aircraft for survey and another for backup that should be deployed throughout the data acquisition period so as to complete the assigned target within the schedule time. The details of aircraft, equipment and personnel must be provided in the technical bid.

The bidder must demonstrate that the proposed aircraft are suitable for the geophysical survey area. The geophysical instrumentation between platforms should be consistent. The analysis must

include, but need not be limited to, the following design, operational, service, and production factors:

- a) modifications applied to a particular aircraft specifically for geophysical surveying;
- b) weight and effect on aircraft handling of the geophysical instrumentation;
- c) capabilities of the aircraft for draping the specific survey area;
- d) ferry distance;
- e) capability of the aircraft to maintain minimum height differential at traverse line control line intersections;
- f) aircraft speed;
- g) hours “on-survey”;
- h) on-board personnel;
- i) limiting weather conditions;
- j) payload limitations;
- k) aircraft range;
- l) fuel requirements;
- m) on-site and off-site service requirements, including routine maintenance intervals;
- n) availability of aircraft parts or redundancy of an additional aircraft in the event the prime fleet is disabled;
- o) terrain;
- p) available airports and fuel supplies;
- q) estimated anticipated daily production rate, based on actual survey records;
- r) presence of a licensed aircraft maintenance engineer at the survey site during the production survey.

The bidder must provide details of ownership of the aircraft, its lease arrangements (if any) and any subcontracts regarding the operation and maintenance of the aircraft, as well as its registration in its country of origin. After award of contract, the bidder can change/replace any declared resources (similar/equivalent or higher version) provided in the technical bid with prior approval from the competent authority of CGWB. The NSOP operator using for getting permissions, etc. by bidder has to be clearly mentioned in the technical bid document.

The aircraft to be used for the survey must meet the following requirements:

- a) The aircraft shall be duly certified in accordance with all applicable legislation with respect to aircraft operation in India, the rules and regulations promulgated thereto and any other documents and procedures established by the Government of India, prior to commencement of the survey.
- b) The aircraft shall be outfitted with an Emergency Locator Transmitter (ELT) capable of broadcasting on 406 MHz and 121.5MHz.
- c) The aircraft used for providing the deliverables shall be of a type that is suitably equipped to provide the survey flying services and equipment and shall have the required Supplementary Type Certificate(s) (STC) approvals for all such equipment.
- d) The bidder must provide evidence of adequate insurance covering all aircraft, equipment and survey operations prior to mobilization to India.
- e) Aircraft with single pilot operation may not be permitted by the DGCA. Furthermore, an additional seat may be required to accommodate a security officer /data operator.
- f) The bidder must clearly indicate in the technical bid document whether the survey aircrafts are single pilot or dual pilot.

Air Operator Qualifications

The bidder must demonstrate that it is suitably qualified to operate the aircraft proposed for the survey in India. The proposed pilots-in-command, pilots, co-pilots and Aircraft Maintenance Engineers (AME) must be qualified to operate these aircraft with requisite experience on low-level flying operations and airborne geophysical survey operations. The bidder must provide appropriate documentation in its proposal to demonstrate these capabilities.

During the course of the survey, substitute aircraft, pilots and/or AMEs may be required. They must meet the same qualifications.

Airborne Survey Instrumentation

The airborne survey must:

1. be carried out with state-of-the-art, proven technology;
2. use a system that has worked, and will work, in a production environment;
3. have a backup plan that includes backup equipment capacity, if either equipment or aircraft fail for any reason.

The bidder must provide a table summarizing the instrumentation, including type, manufacturer, model, sampling rate, sensitivity and noise envelope, as applicable. Preferred sampling rates are at least 10 samples/second (10 Hz) for magnetic data, GPS data and ancillary data, and 1 sample/second (1 Hz) for base magnetic & GPS data.

Navigation Equipment, Altimeters and GPS Base Station

The bidder must describe the navigation equipment, including:

1. data acquisition along a pre-planned flight path;
2. adherence to the flight height requirements;
3. acquisition of in-flight GPS positioning data, including redundancy with respect to GPS satellite access;
4. acquisition of GPS base station data or real-time satellite communication for differential GPS corrections, including sampling, location, monitoring and real-time transmission to aircraft;
5. acquisition of flight path video (or alternative – see below);
6. the technical bid should state how the GPS data are acquired and corrected. The TS-QC (Technical supervision & Quality Control) team will verify the GPS data (including time) for small shifts, gaps, incorrect sampling, etc.;
7. radar and/or laser altimeters; and
8. accuracy of final X, Y and Z co-ordinates.

The minimum GPS system requirements are that it must be able to record to 0.00001 degree, and that it use a dual-frequency 12-channel system. All GPS parameters must be recorded, to allow for post-flight differential correction.

A vertically-mounted, continuous-recording video camera, with wide angle lens to maximize ground coverage at survey altitude, must be operating at all times while the aircraft is surveying. Clearly visible time stamp updates (seconds after midnight, with tenths of seconds) are to be displayed on the video imaging along with real time GPS positional information. The combined navigation system (electronic and video imaging) must be capable of providing the required accuracy over the entire survey area. Video recording must be set to SP mode. Poor quality of the

video (e.g. due to hazy conditions) will not be a consideration for refights. However, significant loss of video signal will not be accepted.

The bidder may propose an alternative to a flight path video system, such as provision of the flight path with high-resolution imagery. The bidder must state the accuracy and resolution of its solution and availability of cloud-free imagery. The imagery may be panchromatic, at a resolution of 10 m or better, and near cloud-free.

Data Acquisition Instrumentation

The bidder must describe their proposed data acquisition instrumentation, including:

1. recording and archiving of all digital data, including sampling rates;
2. synchronization of all geophysical data with navigation data and base station data;
3. real-time monitoring of data acquisition; and
4. display of data in stacked profile form (in-flight and/or post-flight).

Magnetometer and Compensation Instrumentation

The bidder must describe its proposed instrumentation to acquire magnetic data, including:

1. magnetometer type;
2. sensor locations and horizontal gradiometer configuration;
3. magnetometer sensitivity (0.001 nT or better), absolute accuracy (+/- 10 nT or better), ambient range (20,000 to 100,000 nT or better), noise envelope (0.10 nT or better), heading effect (2.0 nT or better), FOM should be 1.0 nT or better for the tail sensor and 1.5 nT or better for wingtip sensors;
4. measurement of aircraft/magnetometer attitude; and
5. compensation system for aircraft magnetic response and heading effects.

Base Station Magnetometer

The bidder must describe its proposed instrumentation to record and monitor diurnal magnetic data, including type, sensitivity, accuracy, noise levels, sampling, location and monitoring. The ground station(s) must be calibrated and operated continuously throughout the survey operation. It shall be set up at the base of operations or within the survey area, at a magnetically noise-free location, away from moving steel objects, vehicles and DC electrical power lines, which could interfere with the recording of the magnetic field diurnal variation. For each new installation of the ground station, simultaneous records from the airborne and ground station magnetometers will be acquired, while the aircraft is motionless on the ground and in the vicinity of the ground station. These records must be annotated and submitted to the QC Geophysicist. There shall be no gaps in the recording of base station data during actual survey flying.

GPS clock time must be used to record the time of the ground magnetometer readings for all the base stations. The time readings of the base station(s) must be synchronized with the time reading on board the aircraft. The QC Geophysicist must approve the ground monitoring magnetometer(s) and its location(s).

Personnel

The bidder should provide a list of personnel including name, project position, level of education, years of relevant experience and years employed by the bidder. The self signed curricular vitae of all declared personnel in the bid should be provided in the technical bid. The requested CVs will be utilized in the technical evaluation and for selection process. The following personnel and backups should be listed (additional positions may be added by the bidder):

- Project Manager
- Operations Manager
- Pilot in Charge
- Pilots
- AMEs
- Instrument Operators, if applicable. If not applicable, the bidder should state the responsibilities of the pilots and ground personnel with respect to instrument operation prior to, during and after each flight.
- Field Processors
- Data Compilation Manager
- Data Processors
- Interpretation Manager
- Interpreters
- Safety officer of the bidder, together with the person responsible for HSE in the field.

During the course of the survey, substitute personnel not listed in the proposal may be required. If so, the bidder must submit their qualifications to CGWB prior to commencing work on the project.

Technical Specifications**Fixed Wing-TEM:** Major systems, accessories and specifications

The technical specifications listed below are typical of those for regional TEM/magnetic surveys.

Line Spacing

The traverse line spacing is 2.5 km in Himachal Pradesh and 5 km in Punjab State. The traverse line direction is specified for each survey area.

The control line spacing is 20 Km, oriented perpendicular to the traverse lines. The survey line specifications are as follows:

- The bidder will pre-plan the flight path to ensure 100% coverage of the block. The control lines will need to provide sufficient coverage for proper leveling of the magnetic data. The flight path will need to incorporate gaps for restricted areas and abide by the conditions along national boundaries.
- The maximum deviation from the survey line location will be 50 m over a distance of 2,000 m (barring any obstructions).
- The deviation in flight lines should not be more than 100 m.
- The bidder will make every effort to complete traverse and control lines in one segment.
- The control lines must be flown in one stretch.
- Where traverse lines are flown in segments or portions are re-flown, there will need to be overlap across two control line intersections. Overlaps must later be trimmed after leveling so as not to interfere with gridding.
- Overlaps between control line segments must be a minimum of 1,000 m, and adjusted prior to leveling the traverse lines.

Re-flights and Turns

- All re-flights of traverse line segments must intersect at least two control lines.
- All turns at the end of traverse lines or control lines must take place beyond the survey boundaries.

CGWB will not pay for data acquired outside the defined boundaries, but will accept such data if it meets all QA/QC requirements.

Flying Height

The flying height is set at not more than 125 m above ground terrain. The height specifications will be:

- altitude tolerance limited to ± 15 m except in areas of severe topography
- altitude tolerance limited to ± 10 m at flight line/control line intersections except in areas of severe topography.

The bidder should specify whether it will fly to a pre-planned drape surface. If not, the pilot will follow the terrain directly based on the radar/laser altimeter. Regardless of which flying method is chosen, the bidder will prepare a pre-planned drape surface that will show where these tolerances may be exceeded due to topographic relief. If the bidder employs terrain-following survey mode, it will be subjected to the same altitude tolerances as applied for a pre-planned drape surface. The determination of the drape surface can be prepared utilizing the 1 arc-second (~ 30 m) resolution SRTM DEM, or the gap-filled 3 arc-second (~ 90 m) resolution SRTM DEM where gaps occur in the 1 arc-second model.

Air Speed

The aircraft air speed tolerance will be limited to ± 10 m/sec, except in areas of severe topography. A typical acceptable range is 60 m/sec to 80 m/sec for fixed wing aircraft, although this is somewhat aircraft dependent. The bidder will state the aircraft speed, which will form part of the evaluation process. A higher aircraft speed can be mitigated by denser sampling of the data. The bidder should specify the sampling rates for the magnetic data (10 Hz).

Drape Surface

The bidders will prepare drape surface for each survey block during the tendering process and will refine them once contracted, during pre-survey planning. The drape surface incorporates the digital elevation model of the survey block and surrounding area, and the climb/descent characteristics of the specified aircraft, to determine the safe height for the aircraft. Over flat and moderate terrain, the drape surface will closely adhere to the specified flying height. Over rougher terrain and isolated topographic features (e.g. steep valleys, ridges and hills), the drape surface will deviate to higher altitudes, mainly across the slopes. The drape models provided in the responses to the global tender will assist in selecting bidders with the aircraft that are most suitable to acquire data over the Blocks with rougher terrain.

If the pilots follow the pre-planned drape surface, then the height deviation specifications of will apply to the drape surface. If the pilot follows the terrain directly, then the height deviation specifications will apply to the terrain itself.

The drape surface is usually constructed in 2D, accounting for traverse and control lines intersecting at the same height. In rougher terrain, this approach can result in large terrain clearances of hundreds or even thousands of meters in the vicinity of mountain slopes and steep escarpments. The drape model shows pyramid shapes, especially over mountains, to account for the

intersection of the traverse and control lines over slopes and peaks. This will result in significant attenuation of magnetic responses, especially from near-surface sources. In such cases, it may be more prudent to employ a 1D drape model over such terrain and forgo the requirement that traverse and control line intersect at the same height. This will make leveling of the magnetic data more challenging, but will improve the coverage and resolution of the geophysical data. A hybrid model incorporating 1D and 2D surfaces can be employed where a block incorporates both rough and smooth terrain. For isolated topographic features, it may be simpler to shift the position of a few control lines to avoid the steep terrain.

Magnetic Specifications

The magnetic noise specifications will be:

- in-flight noise envelope, calculated using a non-normalized 4th difference, shall not exceed 0.1 nT
- heading error shall not exceed 2.0 nT
- base station noise envelope, calculated using a non-normalized 4th difference, shall not exceed 0.1 nT

The magnetic diurnal specifications will be:

- survey operations will be suspended during magnetic storms.
- a maximum tolerance of 3.0 nT peak-to-peak deviation from a long chord equivalent to a period of one minute. If diurnal conditions impede survey production significantly, alternatives may be considered.
- in order to limit ULF waves (micro pulsations) an additional maximum tolerance of 0.5 nT (peak to peak) deviation from a long chord equivalent to a period of 15 seconds.
- the bidder must have physically positioned one or more base magnetometers so as to facilitate accurate monitoring and correction of diurnal variations. The base station should be located away from man-made interference, proximal to or within the survey block. It will be preferable that two base stations are employed for redundancy, so that no production is lost.

Magnetometer Tests and Calibrations

Checking and calibration of the aircraft magnetometer system must be carried out at intervals and in locations agreed with the CGWB TS-QC team and bidder. Tests will be undertaken especially after any major change to the acquisition system and/or the aircraft.

(a) Heading Effects (Clover Leaf Test)

The magnetic heading effect must be determined by flying a clover leaf pattern oriented in the same directions as the flight lines and tie lines and in opposite directions and at a fixed altitude. Clover leaf test is performed over an easily recognized point on the ground. The aircraft flies in the main direction forward and backward and 90 degrees from main flight direction forward and backward

over the point. At least two passes in each direction must be flown over a recognizable feature on the ground in order to obtain sufficient statistical information to estimate the heading error. The result from the Clover leaf test together with the Figure of Merit (FOM) is used to remove aircraft influence on magnetic data. Heading error will be determined at least twice for each aircraft, at the beginning and end of the flying season and after any modification or additions to the aircraft or the equipment installed in it have been made. The accepted magnetic heading effect will be less than 2.0 nT as determined by the clover leaf test.

(b) Manoeuvre (FOM) Noise

Also at the survey commencement, a test flight will be flown at high altitude (e.g., 10,000 ft. above mean sea level) over a magnetically quiet area for several minutes (e.g., 3 - 5 minutes) in each of the 4 survey line headings in turn while the survey aircraft performs pitch, roll and yaw maneuvers. Figure of merit (FOM) is defined as the sum of 12 aircraft anomalies when the aircraft is doing ± 10 degrees roll, ± 5 degrees pitch and ± 5 degrees yaw in the main flight direction forward and backward and 90 degrees from main flight direction forward and backward. The FOM should be 1.0 nT or better for the tail sensor after compensation for aircraft influence is done. An FOM of 1.5 nT is acceptable for wingtip sensors in a horizontal gradiometer configuration.

The FOM will be determined for each aircraft at the beginning, end of the flying operation and after any modifications to the aircraft or the equipment installed in it has been changed. Results to be included in the progress reports.

(c) Lag Tests

The bidder will perform lag tests to ascertain the time difference between the magnetometer readings and the operation of the positioning devices. Test flights should be flown in two directions at survey altitude across distinct anomalies to be identified by the bidder and TS-QC team of CGWB.

Lag tests will be carried out before commencement of survey production and after any major survey equipment alteration or replacement has been carried out. The results of the tests must be submitted to the TS-QC team of CGWB before commencement of survey operations.

(d) Altimeter Calibration

Checks of the radar altimeter calibration must be undertaken before commencement of survey acquisition and after any modifications to the radar altimeter system. Results must be submitted to the TS-QC team of CGWB. Calibration is determined by comparing the radar altitude with GPS during flights at altitudes of 100 m, 200 m, 300 m, 400 m and 500 m above the base air strip or some other suitable location with known elevation and flat terrain.

Ongoing Calibration and Testing

A range of daily calibrations and tests are required. These include:

- 1) time synchronization of all recording instrumentation
- 2) suitable instrumentation warm-up period prior to takeoff
- 3) daily TEM & magnetic system resolution test
- 4) daily test line flight (8 Km minimum, pre-approved by the TS-QC team of CGWB), prior to the first flight and after the last flight, to verify system sensitivity.

Major Changes to Instrumentation

If major changes to any instrumentation occur during the survey, or a backup system is used, then all relevant pre-survey calibrations must be repeated per the criteria above. If there are major changes to the magnetometer system, re-calibration of the aircraft magnetometer system at the calibration range is not required, provided the bidder re-flies one or more survey lines, totaling 50 Km and demonstrates repeatability of the magnetic data to the satisfaction of the TS-QC team of CGWB.

Airborne Systems Comparison

All aircrafts deployed in a survey block must acquire data over one or more survey lines, totaling 50 Km. This data must be compared to ensure that all channels are similar. If there are any major changes to a system, the comparison line(s) must be repeated. If any discrepancies between systems are apparent, they must be explained and rectified.

The bidder must review how the above-mentioned calibration and testing procedures will be incorporated in the correction and processing of the data. The bidder must describe how it will assess its instrumentation for day-to-day consistency in measuring geological responses and maintaining appropriate noise levels. The bidder must also describe any other calibration and testing procedures it plans to undertake.

Deliverables

It is mandatory that no raw, compiled, processed and interpreted data, products and deliverables leave India. Consequently, the bidder must be prepared to undertake all work within the country, either at the operational bases and/or establish a processing and interpretation centre at the CGWB CHQ premises in Faridabad. The CGWB TS-QC team will have secure access to the network and server with data storage. The bidder will be responsible for arranging its own hardware and

software necessary for data compilation, internal QC, processing, modeling and, interpretation, printing and map plotting.

During the data acquisition period, the bidder will be required to provide the following to the TS-QC team for review and approval:

- Survey plan and health, safety & environmental (HSE) plan, in advance,
- Access to the crew and aircraft at the operational bases,
- Off-site and on-site calibration and test results,
- Field data (raw and field-processed) for quality control purposes.

During the data compilation, processing and interpretation phases, the TS-QC team will continue to review the products prepared by the bidders until all final deliverables meet the specifications.

The following is a summary of the deliverables from the fixed wing geophysical surveys:

Pre-survey Plans and Calibrations

Prior to commencement of data acquisition, the bidder will be required to provide the following for each survey block:

- 1) Survey plan, to include pre-planned flight path, drapage surface with analysis of areas that may exceed the nominal survey height, operational bases, anticipated base station locations, details of field and data compilation personnel.
- 2) HSE plan to include risk analysis of the survey block, HSE procedures, personnel assigned to HSE and emergency response plan.
- 3) Pre-survey calibration and test results from the Indian (or foreign) magnetic and TEM calibration sites, and any undertake non-site.

Field Data

During data acquisition, the bidder will be required to provide the following on a regular basis (e.g. weekly):

- 1) Magnetic field database after GPS correction and internal QC.
- 2) TEM field database after GPS correction and internal QC.
- 3) Daily and other test data, as well as any new calibrations.
- 4) Progress report.

The databases may be provided incrementally, but a new “clean” database may be required from time-to-time to account for missing or repeated data. The GPS navigation systems will all be real-time differentially corrected, offering a real-time horizontal accuracy of sub 1 meter.

The bidder must state its methodology for correcting the GPS data, and whether it requires a GPS base station. If so, it must state in its technical bid how the base station data are employed in the differential GPS process.

Authorization to demobilize from a survey block will not be given until the acquired data, including reflights, are fully approved by the TS-QC team.

The TS-QC team shall carry-out the QA/QC process in the field and/or in CHQ on a daily basis and shall not unreasonably hold or delay the approval of the data beyond 7 days after the receipt of the data by TS-QC team. The TS-QC has to approve all data. There will not be any deemed acceptance.

Compiled Data

1. Magnetic database – raw and corrected navigation data; raw, corrected and processed magnetic data.
2. Magnetic grids to include:
 - IGRF corrected total magnetic field with gradient enhancement
 - Measured horizontal (lateral & longitudinal) gradients
 - Digital elevation model computed from the survey height data.
 - SRTM grid (High resolution, greater than or equal to 30m)
 - The DEM will be computed from the radar/laser altimeter and the GPS height data, with geoid correction applied. Light filtering of the altimeter data is permitted. The TS-QC team will verify this DEM against the SRTMDEM.
3. Data compilation report to include details of data acquisition parameters, equipment, personnel, daily logs, calibration & test results and compilation procedures.

Processed Data

The bidder may have additional processed grids that it deems useful for the interpretation.

1. Magnetic grids to include:
 - Total Magnetic Intensity (TMI) (Gradient enhanced)
 - Pole-reduced magnetic field (to account for low magnetic latitudes)/Equator reduced magnetic field
 - Regional and Residual grids
 - First and second vertical derivatives of the pole-reduced magnetic field
 - Tilt derivative of the pole-reduced magnetic field
 - Analytic signal amplitude of the IGRF-corrected total magnetic field
 - Depth to the magnetic sources (SPI/ Basement depth)

- Radially Averaged Power Spectrum and matched filtered maps (Shallow, Intermediate and or Deeper Layer Map)
2. Results of any customized processing applicable to the survey block, that may result in grids, databases and/or vector layers (e.g. location of faults/dykes/paleo-channel targets).
 3. Processing report to include the methodologies employed a flow chart of the entire processing sequence from correction of raw data to final products including all parameters and a summary of deliverables.

Digital Maps

- CGWB need all maps in 1:50 K and one State scale map in suitable scale i.e. 1:500 K or 1:400 K.
- Maps of the survey block at 1:50,000, divided according to the Indian topographic map sheet layout (0°15' x 0°15'). These maps should be windowed from the entire block grid and color scale bar should be accordingly provided.

Flight path map of entire survey area in appropriate scale (1:250,000 or 1:500,000)

The 1:50,000 and 1:250,000 or 1:500,000 map include:

- Total Magnetic Intensity (TMI) – (Gradient enhanced shaded Relief Image with contours and flight path)
- Reduced to Pole / Reduce to Equator (colour, contours and flight path at shaded image)
- First and Second vertical derivative of the Reduced to Pole field (shaded image)
- Tilt Derivative of Reduced to Pole (shaded image)
- Analytic signal amplitude of the IGRF-corrected total magnetic field (shaded image)
- Depth to the magnetic Source (SPI or Basement)

All the geophysical and interpreted maps should be submitted in xyz, geotiff, shp and PDF formats (toposheet-wise) and hard copies of the each map to be printed on high quality glossy paper.

Integration with Other Hydrogeological Data in CGWB

Prior to the interpretation phase of a survey area, compilation of other available hydrogeological data will be required encompassing freely available public-domain data (e.g. DEM, Landsat, ASTER) and data provided by CGWB (e.g. geology, water level, geochemistry, aquifer disposition, VES, ERT, G-TEM, lithologs etc.) These products and the acquired geophysical depth wise mean resistivity grids/images will be integrated into a common GIS platform.

Interpretation

The interpretation may be done in heliborne TEM data interpretation software and will incorporate several elements, including:

- 3-D Geophysical model, Geophysical Thematic maps at horizontal and vertical planes showing aquifer disposition.
- Aquifer Geometry of principal aquifers with knowledge of de-saturated and saturated aquifers.
- Demarcation of Aquifer system with relatively fresh and saline zones.
- Spatial distribution of paleo-channel network if any and its linkage with aquifer system.
- Best suitable sites for groundwater withdrawal and water conservation through artificial or managed aquifer recharge.
- Provide additional information such as pollution affected, demarcation of recharge-worthy areas etc. for the development of an aquifer management plan under NAQUIM 2.0
- Comparative study between Heliborne survey and Fixed-wing survey results.
- aquifer disposition, structural interpretation prepared from the magnetic and TEM data.
- Delineation of weathered / fractured zones and areas of high groundwater potential.
- Contacts between the main lithological units (according to the magnetic susceptibility contrasts). The contacts will be separated as well-defined, gradual or covered.
- Surface lithology as defined by the TEM and magnetic data.
- Lithologic units that are buried, identified from the magnetic data.
- Zones of alteration (e.g. magnetite depletion, high resistivity contrast).
- Foliation and shear zones, defined by form line mapping of the magnetic data.
- Dip and Strike of geological contacts, when evident or when they have a noticeable geophysical response.
- Folds (anticlines/synclines), where apparent.
- Faults and their lateral and/or vertical displacement where apparent. Faults will be separated as regional and local fault systems.
- Location of rift systems and sedimentary basins.
- Lithological interpretation and internal zonation of the different identified units, based on both magnetic and resistivity data.
- Depth to the causative sources of the prominent magnetic lineament observed in the survey block.
- Inversion modelling of the magnetic data at selected anomalous zones being 2D/3D to prepare geological cross sections. (Minimum of 10 profiles).

- Shape files of all the identified groundwater potential, MAR target locations individually as well combined is to be submitted.

The final interpretation will be built in GIS and delivered together with the integrated hydrogeological data. From the GIS workspace, interpretation maps will be prepared using the same layout as the geophysical maps.

A comprehensive interpretation report will be prepared for each survey block, to incorporate:

- Compilation and integration of all available data (exploration, geophysical, chemical, hydro-meteorological etc.)
- Methodology of interpretation
- Description of the interpretation and processing results
- Identification of high GW potential and over-exploited areas with proper management plan for each area and recommendations for follow-up
- Data Compilation Report (see above)
- Processing report (see above)
- List of deliverables.

In addition to digital copies, all reports have to be submitted in ten hard copies (viz data compilation, data processing and data interpretation reports) and one copy of each interpreted maps are required.

The bidder should submit two numbers of soft copies of all the Raw Data, Processed Data, workspace, Grids, Reports, Maps and all final deliverables in Solid State Drive to CGWB, CHQ, Faridabad.

CGWB will provide all the available historical hydrogeological data to assist in the interpretation, including published hydrogeological, geophysical, chemical data and related reports. The data and maps will be provided by CGWB in available formats.

Deliverable Specifications

During the survey planning and mobilization period, the bidder and TS-QC CGWB team will prepare additional specifications for the deliverables. These will include:

- Names, descriptions and units for the channels in the field and compiled databases
- Geophysical and interpretation map templates.
- Layers and associated attributes to be incorporated in the ArcGIS interpretation.

Final databases will be supplied in Aarhus WB compatible and ASCII XYZ etc. formats. Final grids will be supplied in Aarhus WB, ASCII GXF etc. formats. Final geophysical maps will be supplied in Aarhus WB, geotiff, jpg and PDF formats. Final vector layers will be supplied in DXF and SHP formats. Final interpretation maps will be supplied as ArcGIS projects for each survey block, incorporating geophysical and other geoscience data layers. Individual interpretation maps will be supplied in MXD and PDF formats. Final reports will be supplied in Word and PDF formats.

As some survey blocks straddle UTM zones, the bidder with the approval of CGWB will supply the proper coordinate system applicable to each deliverable.

All the soft copies of calibration files, raw data, processed database, workspace, grids, reports, maps and ArcGIS database should be submitted to CGWB in Solid State Drives (SSDs) (2TB or more) for each State.

Quality Control

It is the responsibility of the TS-QC team to inspect, and the responsibility of the bidder to **execute**, with respect to QA/QC of the airborne geophysical data. The function of TS-QC team does not replace that of the bidder's internal QA/QC process.

All work is to be performed to the satisfaction and subject to the acceptance of the bidder's TS-QC team and CGWB. Delegated QC geophysicists/CGWB team will make periodic trips to the survey site to monitor field operations, to observe whether operations are being carried out in accordance with the contract specifications. Most of the QA/QC function will be carried out in Faridabad, where the TS-QC team will be stationed in the same CGWB complex as the processors and interpreters employed by the bidder. This will facilitate interaction between these groups, as well as with the CGWB personnel.

The TS-QC team and CGWB personnel will be available for consultation on technical problems that may arise during the course of the field work and have the authority to approve, in writing, changes to the Technical Specifications that will not affect the general scope of the work to be performed.

Notwithstanding the foregoing provisions, the bidder shall be solely responsible for the quality of the work. Its project manager must ensure that adequate quality control procedures are in place and are being strictly followed, so as to ensure such quality of work. He or she must in turn sign off each report and each product submitted for inspection, thereby certifying that the work was carried out in accordance with the Technical Specifications laid by CGWB.

The bidder will re-survey, free of charges, lines or segments of lines for which the required digital data are missing or are not in accordance with the Technical Specifications. Isolated errors or spikes and short, non-sequential gaps consisting of a few points which can be corrected by interpolation

are acceptable. Should the bidder reject data prior to inspection by the CGWB TS-QC team it should enumerate the reason(s) why in its progress reports. After each inspection of the calibration and test data, field data, compiled data and deliverables, the bidder will submit a report to CGWB and with a detailed review and checklist. All concerns, issues and designated reflights will be enumerated, and where applicable, the bidder may be required to respond in writing with proposed remedies.

Additionally, the bidder's TS-QC team will host periodic workshops for the CGWB officers stationed at the Faridabad processing centre, to review progress on the various survey stages and discuss any operational issues that crop up.

In addition to quality control, the TS-QC team will have other responsibilities, to include:

- Overall management of the Aerogeophysical programme in representation of CGWB.
- Provide documentation of calibration facilities for the magnetic and TEM test range before the start of survey.
- Coordination of and between the bidders/CGWB.
- Provide access and maintenance of the network and server with secure data storage, and provide high-speed internet access, at the data processing centre in Faridabad.
- Liaison with the CGWB management and technical staff.
- Periodic high-level meetings involving management of both CGWB and the bidders may be required should any serious issues arise.

Training to CGWB Personnel

The training of CGWB personnel will form an integral part of the program. The emphasis will be on hands-on training and experience rather than formal classes. The bidder will be responsible for the following training:

1. Field personnel – survey operations, instrument operations, field compilation and QC
2. Processing personnel – compilation and processing of the data (Aarhus WB software)
3. Interpretation personnel – loading and processing of the data and interpretation, modeling/inversion (various packages)
4. The training will be entirely “on the job” rather than formal to the geophysicists of CGWB. The training will take place at the operational bases and at the processing/interpretation center in Faridabad. The field costs for CGWB personnel will be borne by CGWB.

Role of CGWB

CGWB will be responsible for:

- 1) Liaison with all Indian Agencies and other stakeholders concerned with the aero geophysical surveys, providing assistance to the bidders and the Indian facilitator in their dealings with said agencies.
- 2) Providing inputs on the hydrogeological, geophysical and geological set-up of the blocks through interaction during data interpretation and integration exercises.
- 3) Archiving and distribution of all deliverables from the aerogeophysical surveys.

Confidentiality

Security of Field Data

It is a requirement of the Government of India that all airborne data is recognized as highly confidential and sensitive and must be kept secure at all times and across all areas of operation. It is a mandatory requirement that no raw, compiled, processed and interpreted data, products or deliverables leaves India. Consequently, the bidder and its TS-QC team must be prepared to undertake all work within the country, either at the operational bases and/or at a centralized location and sign a confidentiality agreement with the CGWB before initiating work to that effect. Failure to do so or non-compliance will result in the contract being cancelled and appropriate sanctions imposed. All field data collected during the survey is regarded as the property of the Government of India represented by the CGWB and must be handed over in its entirety. Copies made for security back up must remain under the safe custody of CHQ, CGWB, Faridabad. It is to be ensured by the bidder that Internet connectivity and data sharing apps available for the cloud computing technology is not being used for transmission of survey data, processed data as well as data involved for interpretation.

Delivery to CGWB

Procedures will be agreed to and implemented for the daily or weekly delivery of survey data to the project coordination unit at the CGWB, CHQ. Such data shall be delivered in a secure digital format fully compatible with the software and archiving protocols in place at the CHQ operations room. While it is recognized that the data is ultimately the property of the Government of India, the selected suppliers will have their own protocols in place for the transmission and delivery of the digital data to the processing facility in Faridabad and the integrity of that workflow will be respected.

The working relationship with both the bidders' management and the CGWB management will be vital to the successful, secure, delivery of the airborne data from the field operating centers to the CGWB office in Faridabad.

CGWB and the bidders' TS-QC team will co-ordinate on secure methods for transmission of data to Faridabad and maintaining security within the processing centre. It is anticipated that CGWB and/or MoD will deploy security officers to the field, who will participate in the review and secure transmission of the data.

Archiving at CGWB

It is an absolute requirement that the raw and processed data is archived securely at CGWB and thus there has to be appropriate hardware and physical space at the processing/interpretation centre in Faridabad capable of handling, uploading, archiving and transmitting large data files. It will be the sole responsibility of bidders to ensure adequate and appropriate infrastructure for transmission of the survey data, and its processing and interpretation, in the space provided by CGWB at its office premises at Faridabad. In addition all data will need to be backed-up both on site and externally in order to comply with international best practice as well as Indian national security requirements.

Security of Interim and Final Deliverables

The deliverables will be prepared at the processing centre established in Faridabad and similar security procedures as those for the field data will be employed.

1	Fixed Wing - Single/Dual/Multi-Moment TEM System	
1.1	General	The Fixed Wing single/multi/dual-moment TEM system (also referred to as 'The System' at some place in the following text) should have a complete set including a transmitter capable of transmitting pulses in single/dual/multi-moment mode, with receiver to measure ground response.
1.2	Transmitter and Receiver	<p>To achieve a high degree of lateral resolution, it is desirable to have a transmitter coil area should not be more than 450 m² to ensure minimal lateral averaging of resistivity.</p> <p>The system should be able to transmit single/multi/dual-moment/multi-pulse EM signal with the transmitter not above 125 m above ground surface and towable EM Receiver at a level not more than 75 m above ground surface and capable of collecting data above any terrain. The receiver should have minimum ~35 programmable gates or a greater number of gates.</p> <p>The orientation and geometry of the transmitter/receiver coils to be recorded accurately during the data acquisition using suitable DGPS and inclinometers, to account for the errors due to orientation and change in transmitter/receiver loop geometry in the final processing. If the external generator is used as a power source, it should be placed at a sufficient distance from EM transmitter and no noise</p>

		<p>should affect the receiver signal.</p> <p>The system should be capable of data collection at survey speeds in the range of 215 to 250 km/h (60 to 70 m/s) ensuring that the geometry of the transmitter loop remains horizontal (within ± 10 m) for various geophysical applications to acquire high-resolution and cost-effective data optimally. The deviations of the transmitter loop from the horizontal plane should be measured precisely ($\leq 1^\circ$) for processing/modeling corrections.</p> <p>The single/dual/multi-moment system must have a suitable dipole moment to decipher the shallow information of around 5 m bgl and up to the depth of 500 m or more. The minimum peak dipole moment should be more than 86,000 NIA.</p>
1.3	Accessories	The system must be complete in all respects including the essential accessories for high-resolution multi-moment TEM data collection, and quality check. The major accessories are listed.
1.4	Radar Altimeters	Digital, Class 1 Laser, complying with the regulations with respect to the safe use of laser equipment, Resolution: ~ 20 cm. The range of the reflectors should be around 1 to 125 m or higher.
1.5	Differential GPS and Navigation	<ul style="list-style-type: none"> • 2 no.'s or more, including 1 rover and 1 base station with high accuracy — horizontal positioning (better than ± 1 meter). • In addition, they should supply a navigational support system with suitable software that facilitates the creation of blocks, and survey lines and provides on-board navigational aid to the pilot. The required position accuracy is around ± 2 m. • Preferably real-time differential corrections may be obtained from either a GPS reference station or from a satellite system or any other way practiced internationally for such operation.
1.6	Data and Format	<ul style="list-style-type: none"> • The system should provide TEM data in a format ready for inversion in the processing software platform 'Aarhus Workbench' for layered inversion and also in other formats if required. • System description, settings files, importing data, system parameters, etc required for data processing should be provided. • Supporting software(s) for preparing flight lines, data download, formatting or format conversion, etc. should be provided by the supplier without any additional charge.
1.7	Calibration	The geophysical system should be calibrated at any established test site and supportive documents to this effect should be provided.
1.8	Data Quality, Control, Security & processing	<p>Data QA/QC needs to be done at the field site/ base camp under secure conditions by CGWB officials/scientists. In this regard necessary software, commissioning, and QA/QC need to be provided by the contractor.</p> <ul style="list-style-type: none"> • All the acquired data is confidential and is absolute property of CGWB, Govt. of India. It needs to be handed over to CGWB in secure condition. Afterward, the collected data, if any, should be deleted from the system/devices of the field personnel provided by the supplier to ensure that no data is transmitted elsewhere.

		<ul style="list-style-type: none"> To achieve better field data QA&QC the Fixed Wing TEM system must be able to facilitate 1D inversion of the collected data within 24-48 hours of flight completion.
1.9	Other system	The system should also include a high-resolution airborne magnetometer and a ground magnetometer to record diurnal variations. The specifications are provided below.
2	Magnetometer	
2.1	Airborne magnetometer	
2.1.1	Number	1
2.1.2	Error envelope	Not exceeding ± 0.2 nT for more than 10% of any flight line.
2.1.3	Sensitivity	Typically 0.002 nT at a 0.1 second sample rate.
2.1.4	Operating range	$\sim 20,000$ to $100,000$ nT
2.1.5	Heading error	< 2 nT
2.1.6	Absolute accuracy	Better than 3 nT throughout the range.
2.1.7	Operating temperature	-5°C to $+50^{\circ}\text{C}$
2.1.8	Synchronization	The counter is to be synchronized with the TEM system. The system should record magnetic data only during the TEM off time.
2.2	Ground-based magnetometer	
2.2.1	Numbers	1
2.2.2	Magnetic base station	User-selectable sample interval ranging from 0.2s to 1s and a sensitivity of ~ 0.1 nT
2.2.3	Digital recordings	Digital data should include standard parameters like the date, an absolute value of the total magnetic field and GPS time etc. with accurate e-synchronization to the airborne data acquisition system. The system should have sufficient memory to store 10-12 hours data
2.2.4	Resolution	~ 0.01 nT or better
2.2.5	Absolute Accuracy	Around ± 0.1 to 0.2 nT or better
3	Other Requirements/Conditions	
3.1	System Engineer/Operator	A system engineer will be needed at the time of DGCA inspection for assembly and during the field surveys for maintenance and smooth data acquisition.
3.2	Insurance	The supplier should ensure the insurance of all the systems for the entire period
3.3	Service and maintenance	Necessary time-bound/earliest possible service and maintenance including spare parts have to be ensured by the supplier without attracting any additional cost. Service and maintenance, in case of major changes, should not exceed more than a week. Delay will attract penalization depending upon the resultant loss to CGWB.
3.4	Experience	<ul style="list-style-type: none"> The aquifer mapping requires high-resolution data from very shallow (~ 5 m to map reliably the upper soil essential for recharge zones) to deeper horizons (aquifers and bedrock). Therefore, the contractor must supply essential documents of the Fixed-wing

		<p>single/dual/multi-moment/pulse TEM system to support their adequate experience on groundwater-related studies in various geological terrains.</p> <ul style="list-style-type: none"> • The company should have experience of at least 2,000 line kilometer data collection using single/dual/multi-moment/pulse TEM systems for groundwater investigations during the last five years.
3.4	Age of the system	The Single/dual/Multi-moment/pulse system should be preferably new. In any case, it should not be more than 5 years old, in good condition, up-to-date loaded with the latest updates. The smooth functioning of the system has to be ensured by the supplier during the entire survey period.
3.5	Technical support	The supplier needs to provide technical support for the data acquisition to the CGWB personnel on survey system maintenance, software, and hardware (in the field as well as in the lab), data acquisition, QA&QC system health, safety and security, etc.
3.6	Backup	Additional alternative devices/essential major spares may be ensured as standby for backup reasons.
3.7	Data interpretation	The Fixed-wing TEM data interpretation should be done using industry standard and licensed software.
3.8	Digitization	The Fixed-wing TEM location map, location coordinates, elevation, plotted curves, 2-D section, 3-D model should be digitized as compatible with the GIS platform i.e. *.shp file format. These diagrams should be also produced in JPEG format.
3.9	Reports include the following items	There should be one report for each State (giving district-wise details) containing the Introduction, Objective, Principal and methodology, Correlation of inferred layer parameters with existing VES, GTEM, borehole lithology/logging, and deriving resistivity ranges for different lithological units. Interpretation, results of Fixed Wing-TEM, Inference, Recommendations, Conclusion, and raw, processed field data and workspace of processed data.

(a) Scope of supply and incidental services:

- The indented single/dual/multi-moment TEM survey equipment for high-resolution mapping of electrical resistivity distributions from very near surface up to deep level (~500 m) is required primarily for groundwater studies and also useful for other geotechnical purposes. The magnetometer is used for measurement of the total magnetic field data, primarily for structural features or discontinuity.
- The geophysical (single/dual/multi-moment TEM and magnetic) system should be calibrated at an established test site (in India or abroad) and supportive documents to this effect should be provided.

(b) Acceptance test:

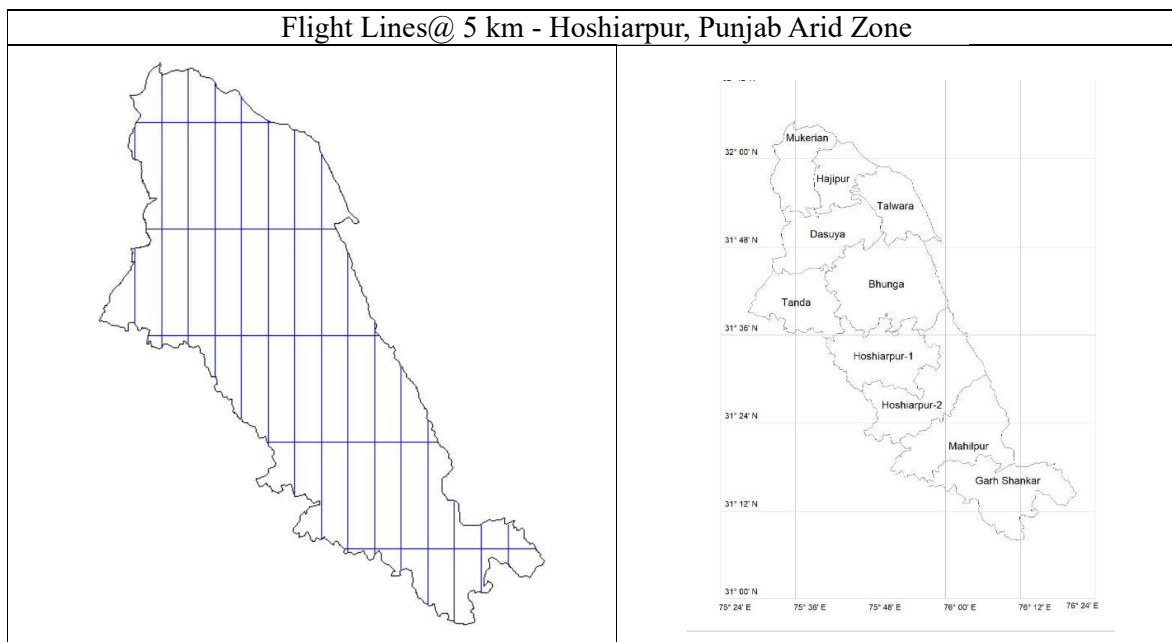
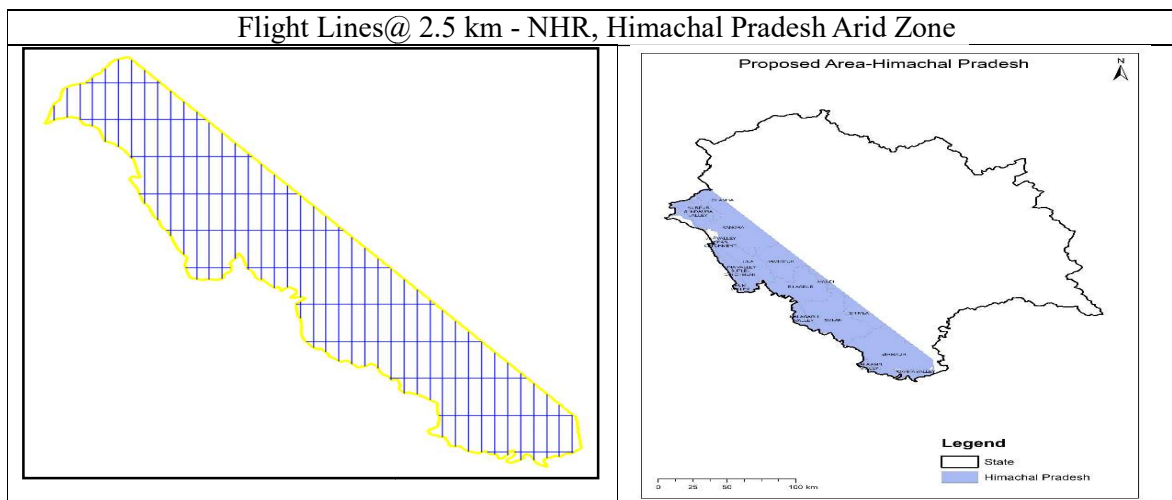
The supplier should supply a calibrated system with the supporting document of calibration. Further, this will be tested with known areas for satisfactory comparison.

(c) Qualification criteria if any:

Comparable with known models of known areas.

Chapter-8**Package – C: Proposed locations for Fixed wing- Transient Electromagnetic and Magnetic survey in Phase-II study area**

S. No.	State
1	Himachal Pradesh (Parts of Kangra, Una, Hamirpur, Bilaspur, Shimla, Solan and Sirmaur Districts) @ 2.5 Km flight spacing.
2	PUNJAB (Hoshiarpur district) @ 5 Km flight spacing



Chapter-9**Preparation of Bid**

- Bidder's bid (the bid) will consist of following components
- EMD Fee/Bid security declaration(BSD)
- Technical bid including details of claim of eligibility criterion laid down in notice inviting tender, and
- Financial bid
- The bid, as well as all related correspondence exchanged by the bidders and the authority shall be in English language only. All reports prepared by the appointed bidder shall also be in English.
- While preparing the bid, the bidder must add the contents table.

Technical bid

The technical bid shall not include any information related to the financial bid. Technical bids containing information related to the financial bid shall be declared non-responsive.

The bid shall contain:

- A brief description of the bidder's organization and an outline of recent experience of the bidder, on assignments of a similar nature. The information which you shall provide on each assignment should indicate, inter-alia, the profiles of the staff provided, duration, contract amount and firm's involvement. The details of assignments on hand shall also be furnished.
- A concise, complete, and logical description of approach and methodology as proposed by the bidder in compliance to the scope of work and technical specifications.
- The composition of the proposed team, the tasks which shall be assigned to each and their timing.
- CVs strictly in the prescribed format and recently signed in blue ink on each page by both the proposed professional staff and the authorized representative of the firm. Key information should include year's served with the firm and degree of responsibility held in various assignments. In CV format, at summary, the individual shall declare his/her qualification & total experience (in years) against the requirements specified in scope of work and technical specification for the position.
- Only one CV may be submitted for each position. Each expert of the preferred bidder may be called for interview at the cost of bidder, prior to issue of LOA.
- A certification to the effect should be furnished by the bidder that they have checked the qualifications and experience details submitted by the key personnel in their CVs and found to be correct. This certification should be made in CVs of all key personnel after the certification by the candidate. The format of CV includes certification to this effect.
- CGWB reserves the right to verify all statements, information, and documents submitted by the bidder in response to the tender. Any such verification or the lack of such verification shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of CGWB thereunder.
- Any comments or suggestions on the scope of work and technical specification and a description of the methodology (work plan) which the firm proposes to execute the services, illustrated with bar charts of activities.
- All documents in support of qualifying criteria as mentioned in relevant chapter.

Price Bid

The price should be quoted in Indian Rupees (INR) including the GST. Item-wise break-up should be provided in the attached BoQ sheet.

Payment Terms

- The payment will be made to the GEM bidder which is a company or a joint venture or lead partner in case of a consortium.
- Payment will be milestone based as per the Terms of Payment and Maintenance of Account.
- Amount for each milestone will be calculated from the total cost as quoted in GEM as per following procedure:

The milestone amounts without tax will be calculated as percentage specified in the schedule of payment. GST will be added to this to get the final milestone cost with tax. However, The actual Tax (GST) as applicable will be reimbursed against the valid invoice only after producing the following proof of tax amount paid to Government (i) A copy of GSTR-1, (ii) A copy of GSTR- 3B, (iii) CA certificate indicating details of invoices against which the payment under GSTR-3B has been made and any other relevant document.

Submission, Receipt and Opening of Bids

- The original bid (bid security declaration, technical bid) shall contain no interlineations or overwriting, except as necessary to correct errors made by bidders themselves. Any such corrections, interlineations or overwriting must have initials by the person(s) who signed the bid.
- The bidder or its authorized representative shall initial all pages of the bid. The representative's authorization must be confirmed by a written power of attorney accompanying the bids.
- All documents related to technical bids are to be uploaded on GeM portal within the due date as specified in this tender.
- Original "EMD Fee/Bid Security Declaration" in the prescribed format are required to be submitted to "the Superintending Engineer (MMS-I), CGWB, CHQ, Faridabad, Haryana-121001" within the due date as specified in this tender.
- If any document is found missing in the submitted bid, clarification may be sought from the bidders. However, in case of non-receipt of response to clarifications in time, the bid will be rejected without any further evaluation. However, in case any missing documents make the bid non-responsive, then CGWB shall have the right to reject the bid without any further evaluation.

Chapter-10**Bid Evaluation*****Criteria for evaluation of the bids***

- The evaluation of the proposals will be a two-stage. Evaluation of the technical proposals and financial proposals will be done by Tender Evaluation Committee (TEC).
- Evaluation of technical bid will be carried out prior to opening of financial bid. Financial Bids will be opened only for technically qualified bidders.
- In case of a bidder being a consortium of companies or a joint venture company the credentials of all the members of the consortium / joint venture will also be considered for evaluating the technical bids.

Evaluation of technical bids

- The eligibility and qualifying criteria will be first evaluated as defined in tender for each bidder. Detailed technical evaluation will be taken up for only those bidders, who meet with the prescribed eligibility and qualifying criteria.
- The authority's 'Tender Evaluation Committee' (TEC) will be responsible for evaluation of bids received.
- The TEC will evaluate the technical bids on the basis of bid's responsiveness using the evaluation criteria specified in the tender.

A technical bid may not be considered for evaluation in any of the following cases:

- The bidder failed to qualify in the eligibility and qualifying criteria of the tender.
- The technical bid was submitted in the wrong format; or
- The technical bid included details of costs of the services; or
- The EDM Fee/Bid Security Declaration is not received by the authority on or before the due date & time.
- The authority shall notify the bidders who have cleared eligibility and qualification criteria and would be eligible for opening of their financial bids.

Opening and Evaluation of Financial Bids

- As per the results obtained in each technical bid, the "tender evaluation committee" (TEC) will proceed with the technical evaluation report and choose to open the financial bid of qualified bidders.
- At the opening of financial bids, bidder's representatives who choose to attend will sign an attendance sheet. Financial bid of only those bidders will be opened who qualify and are declared as "technically qualified".
- The price bids of the technically qualified bidders will be opened by duly intimating the date and time of opening of the price bids. The bidders may remain present or depute its authorized representatives to witness the same.
- Method of evaluation: lowest price(L1) Bidder

Chapter 11**Pre-contract Integrity pact**

This pre-contract agreement (hereinafter called the integrity pact) is made onday of the month of (year),

Between, on one hand, the President of India acting through the Chairman, Central Ground Water Board, an subordinate office of the Department of Water Recourses, RD and GR, Ministry of Jal Shakti, Government of India (hereinafter called the buyer, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the first part and M/s.....Represented by Shri....., Chief Executive Officer(hereinafter called the bidder / seller, which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the second part;

Whereas, the buyer proposes to procure (name of the stores/service/equipment/items) and the bidder/seller is willing to offer/has offered for the stores/service; and

Whereas, the bidder is a private company/public company/govt. Undertaking/ partnership/ registered export agency, constituted in accordance with the relevant law in the matter and the buyer is Central Ground Water Board, an subordinate office of the Department of Water Recourses, RD and GR, Ministry of Jal Shakti, Government of India, performing its functions on behalf of the President of India;

Now, therefore, to avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the buyer to obtain the desired said stores/service/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling bidders to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the buyer will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this integrity pact and agree as follows:

1. Commitments of the buyer

- 1.1 The buyer undertakes that no official of the buyer, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, Reward, favor or any material or immaterial benefit or any other advantage from the bidder, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2 The buyer will, during the pre-contract stage, treat all bidders alike, and will provide to all bidders the same information and will not provide any such information to any particular bidder which could afford an advantage to that particular bidder in comparison to other bidders.
- 1.3 All the officials of the buyer will report to the appropriate government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of

such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the bidder to the buyer with full and verifiable facts and the same is prima facie found to be correct by the buyer, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the buyer and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the buyer the proceedings under the contract would not be stalled.

3. **Commitments of the bidders**

The bidder commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

3.1 The bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favor, any materials or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the buyer, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

3.2 The bidder further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favors, any material or immaterial benefit or other advantage, commission fees, brokerage or inducement to any official of the buyer or otherwise in procuring the contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the government for showing or forbearing to show favor or disfavor to any person in relation to the contract or any other contract with the government.

3.3 Bidders shall disclose the name and address of agents and representatives and Indian bidders shall disclose their foreign principals or associates.

3.4 Bidders shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

3.5 The bidder further confirms and declares to the buyer that the bidder is the original manufacturer/integrator/authorized government sponsored export entity of the defense stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the buyer or any of its functionaries, whether officially or unofficially to the award of the contract to the bidder, nor has any amount been paid, promised or intended to be paid to any such individual firm or company in respect of any such intercession, facilitation or recommendation.

3.6 The bidder, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the buyer or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

3.7 The bidder will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

3.8 The bidder will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The bidder shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the buyer as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The bidder also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The bidder commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11 The bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the bidder or any employee of the bidder or any person acting on behalf of the bidder, either directly or indirectly, is a relative of any of the officers of the buyer, or alternatively if any relative of an officer of the buyer has financial interest/stake in the bidder's firm, the same shall be disclosed by the bidder at the time of filing of tender. The term 'relative' for this purpose would be as defined in section 6 of the companies' act 1956.

3.13 The bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the buyer.

4. Previous transgression

4.1 The bidder declares that no previous transgression occurred in the last three years immediately before signing of this integrity pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any public sector enterprise in India or any government department in India that would justify bidder's exclusion from the tender process.

4.2 The bidder agrees that if it makes incorrect statement on this subject, bidder can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. Earnest money (security deposit)

5.1 While submitting the bid, the bidder shall provide the bid security declaration along with the technical bid.

6. Sanctions for violations

6.1 Any breach of the aforesaid provisions by the bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the bidder) shall entitle the buyer to take all or any one of the following actions, wherever required:-

- I. To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the bidder. However, the proceedings with the other bidder(s) would continue.
- II. The earnest money deposit (in pre-contract stage) and/or security deposit/performance bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the buyer and the buyer shall not be required to assign any reason therefore.
- III. To immediately cancel the contract, if already signed, without given any compensation to the bidder.

- IV. To recover all sums already paid by the buyer, and in case of an Indian bidder with interest thereon at 2% higher than the prevailing prime lending rate of State Bank of India, while in case of a bidder from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the bidder from the buyer in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- V. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the bidder, in order to recover the payments, already made by the buyer, along with interest.
- VI. To cancel all or any other contracts with the bidder. The bidder shall be liable to pay compensation for any loss or damage to the buyer resulting from such cancellation/rescission and the buyer shall be entitled to deduct the amount so payable from the money(s) due to the bidder.
- VII. To debar the bidder from participating in future bidding processes of the government of India for a minimum period of five years, which may be further extended at the discretion of the buyer.
- VIII. To recover all sums paid in violation of this pact by bidder(s) to any middleman or agent or broker with a view to securing the contract.
- IX. In cases where irrevocable letters of credit have been received in respect of any contract signed by the buyer with the bidder, the same shall not be opened.
- X. Forfeiture of performance bond in case of a decision by the buyer to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

6. 2 The buyer will be entitled to take all or any of the actions mentioned at Para 6.1(i) to (x) of this pact also on the commission by the bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the bidder), of an offence as defined in chapter-ix of the Indian penal code, 1860 or prevention of corruption act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the buyer to the effect that a breach of the provisions of this pact has been committed by the bidder shall be final and conclusive on the bidder. However, the bidder can approach the independent monitor(s) appointed for the purposes of this pact.

7. Fall clause

The bidder undertakes that it has not supplied/is not supplying similar service/product/systems or subsystems at a price lower than that offered in the present bid in respect of any other ministry/department of the government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the bidder to any other ministry /department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the bidder to the buyer, if the contract has already been concluded.

8. Independent external monitor

8.1 The buyer has appointed an independent external monitor (hereinafter referred to as monitor) for this pact in consultation with the Central Vigilance Commission. The name & address of the monitor is as follows:-

.....

8.2 The task of the monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this pact.

8.3 The monitors shall not be subject to instructions by the representatives of parties and perform their functions neutrally and independently.

8.4 Both the parties accept that the monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8.5 As soon as the monitors notices, or has reasons to believe, a violation of the pact, he will so inform the authority designated by the buyer.

8.6 The bidder(s) accept that the monitor has the right to access without restriction to all project documentation of the buyer including that provided by the bidder. The bidder will also grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to sub bidders. The monitor shall be under contractual obligation to treat the information and documents of the bidder/sub bidder(s) with confidentiality.

8.7 The buyer will provide to the monitor sufficient information about all meetings among the parties related to the project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the monitor the option to participate in such meetings.

8.8 The monitor will submit a written report to the, Central Ground Water Board, within 8 to 10 weeks from the date of reference or intimation to him by the buyer/bidder and, should the occasion arise, submit proposals for correcting problematic situations.

9. Facilitation of investigation

In case of any allegation of violation of any provisions of this pact or payment of commission, the buyer or its agencies shall be entitled to examine all the documents including the books of accounts of the bidder and the bidder shall provide necessary information and documents in English and shall extend all possible held for the purpose of such examination.

10. Law and place of jurisdiction

This pact is subject to Indian law. Place of performance and jurisdiction is the registered office of the Principal, i.e., Faridabad.

11. Other legal actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

12. Validity

12.1 The validity of this integrity pact shall be from date of its signing and may extend upto 5 years or the complete execution of the contract to the satisfaction of both the buyer and the bidder/seller, whichever is later. In case bidder is unsuccessful, this integrity pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

13. The parties hereby sign this integrity pact on

Buyer
Name of the Officer

Bidder
Chief Executive Officer

designation

Central ground water board

Witness:

1. _____

2. _____ 2. _____

Witness:

1. _____

*provisions of these clauses would need to be amended / deleted in line with the policy of the buyer in regard to involvement of Indian agents of foreign supplier.

Chapter-12

Forms to be Submitted

Form tech - 1

Technical bid

[Location, date]:

To,

...../ Head of the department

.....

Central Ground Water Board, Bhujal Bhawan, NH-IV, NIT-4 Fariadabad-121001.

Dear Sir/ Madam:

We, the undersigned, offer to provide the consulting services for “.....” in accordance with your request for proposal dated [insert date]. We are hereby submitting our bid, which includes this technical bid, and a financial bid sealed under a separate cover.

We are submitting our bid in individual capacity. We hereby declare that all the information and statements made in this bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the bid, i.e., before the date indicated in tender, we undertake to negotiate on the basis of the proposed personnel. Our bid is binding upon us and subject to the modifications resulting from contract negotiations.

We undertake, if our bid is accepted, to initiate the consulting services related to the assignment not later than the date indicated (please indicate date).

We understand you are not bound to accept any bid you receive.

Yours sincerely,

Authorized signature [in full and initials]: name and title of signatory:

Name of firm: address:

Form Tech - 2

Bidder's organization and experience

Form Tech-2a: BIDDER ORGANIZATION

[Provide here a brief (maximum 10 pages) description of the background and organization of the bidder]

Name of bidder:	
Address of registered office of bidder:	
Year of establishment:	
Contact person with contact details:	
Annual turnover in last three years (in lakhs)	
Financial year 2021-22:	
Financial year 2022-23:	
Financial year 2023-24:	
Average annual turnover for above three financial years: *audited statements to be enclosed	
Audited net worth of agency as on 31.03.2024 (positive/ negative):	
Experience in similar assignments:	
Number of years:	
Total assignments:	
Assignment completed in last 5years:	
Similar assignments in last 5years:	
Any award or felicitation received by your agency:	
Any other relevant details:	

Form Tech-2b: Bidder's Experience

Assignment name:	Country:
Location within country:	Site professional provided by your firm/entity(profiles):
Name of firm/entity:	No. of site professionals:
Address:	No. of site professionals-months: duration of assignment:
Start date (month /year) completion date (month/year)	Value of services (in Indian rupee):
Name of associated consultants, if any:	No. of months of professionals provided by associated consultants:

Name of senior staff (Project Director/coordinator, team leader) involved and functions performed:
Narrative description of project:
Description of actual services provided by your site professionals:

* Completion certificate from employer regarding experience should be furnished

firm'sName:

Signature of authorized representative:

Form Tech - 3

Description of approach, methodology and work plan for performing the assignment

Approach and methodology: In this chapter, bidder should explain its understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. Bidder should highlight the problems being addressed and their importance, and explain the technical approach it would adopt to address those. Bidder should also explain the methodologies the bidder proposes to adopt and highlight the compatibility of those methodologies with the proposed approach.

Work plan: In this chapter, bidder should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the authority), and delivery dates of the deliverables. The proposed work plan should be consistent with the technical approach and methodology, showing an understanding of the scope of work and technical specification and ability to translate them into a feasible working plan. A list of the final deliverables should be included here. The work plan should be consistent with the work schedule.

Organization and personnel: In this chapter bidder should propose the structure and composition of its team. Bidder should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support personnel. The manpower requirement given in the tender is an indicative minimum requirement. The bidder should assess the specific and realistic manpower with reference to specific project package and it should be consistent with the proposed work schedule.

Form tech – 4

Team composition, task assignments

The bidder should provide a list of primary and backup personnel including name, project position, and level of education, years of relevant experience and years employed by the bidder. In addition, the curricula vitae of key personnel should be provided where indicated. The requested CVs will be incorporated in the technical evaluation and selection process. The following personnel and backups should be listed (additional positions may be added by the bidder):

Project Manager(CV)

Operations Manager(CV)

Instrument operators, if applicable.

*(if not applicable, the bidder should state the responsibilities of the pilots and ground personnel with respect to instrument operation prior to, during and after each flight).

Field processors

Data compilation Manager(CV)

Data processors

Interpretation Manager(CV)

Interpreters

Officer of the bidder, together with the person responsible for HSE in the field.

During the course of the survey, substitute personnel not listed in the proposal may be required. If so, the bidder must submit their qualifications to CGWB prior to commencing work on the project. Delays involve in the appointment of substitute will be the sole responsibility of the Contractor.

Experts:

S. No.	Name of the Expert	Educational Qualification	Area of Expertise	Years of Experience	Task Assigned
1					
2					
3					

Team members (Senior & Junior level professionals):

S. No.	Name of the team member	Educational Qualification	Area of Expertise	Years of experience	Task assigned
1					
2					
3					

In addition, all nominated survey pilots should be named with their qualifications, including total hours operating the proposed Helicopter and total hours operating a Helicopter on a geophysical survey.

Form tech – 5

Curriculum vitae (CV) for proposed experts

(Summary of CV: the information in the summary shall be precise and accurate. The information in the summary will have bearing on the evaluation of the CV)

Proposed position [only one candidate shall be nominated for each position]:

Name of firm [insert name of firm proposing the expert]:

Name of expert [insert full name]:

Details of ID Card issued by Government (Copy to be attached):

Date of birth: citizenship:

Education [indicate college/university and other specialized education of expert, giving names of institutions, degrees obtained, and dates of obtainment:

Membership of professional associations:

Other training [indicate significant training since degrees under 5 - education were obtained]:

Languages [for each language indicate proficiency: good, fair, or poor in speaking, reading, and writing]:

Employment record [starting with present position, list in reversed order, every employment held. List all positions held by staff member since graduation, giving dates, names of employing

organizations, title of positions held and location of assignments. For experience period of specific assignment must be clearly mentioned, also give employer references, where appropriate:

From [year]: to [year]:

Employer:

Positions held:

List all tasks to be performed under this project and the corresponding experience of the expert

Certification:

I, the undersigned, certify to the best of my knowledge and belief that:

This CV correctly describes my qualifications and my experience.

I am not employed by the TSQA/QC agency.

I am/ I am not in regular full-time employment with the bidder.

In the absence of medical incapacity, I will undertake this assignment for the duration provided team mobilization takes place within the validity of this bid or any agreed extension thereof.

I am willing to work on the project and I will be available for the entire duration of the project assignment.

I, the undersigned, certify that to the best of my knowledge and belief, this bio-data correctly describes me my qualifications and my experience I am committed to undertaking the assignment within the validity of bid.

I understand that any willful mis-statement described herein may lead to my disqualification or dismissal if engaged.

Date: [day/month/year]

[Signature of expert or authorized representative of the firm]

Full name of authorized representative:

Chapter-13**ROLE of Contractor (PIA)and CGWB****ROLE of the Contractor:**

Contractor will undertake the following activities as under;

- CONTRACTOR shall exercise all professional care, skill and diligence in the performance of the services under the agreement and shall carry out all its responsibilities in accordance with recognize professional standards.
- CONTRACTOR shall modify if needed in consultation and agreement with CGWB the quantum of work and methodology essentially required for obtaining specific sub-surface information for the objective of the Project.
- CONTRACTOR shall cooperate and shall submit hard copy & digital soft copy of all the deliverables mentioned in Tender Document.
- CONTRACTOR shall carry out the requisite services for successful completion and commissioning of the Project.
- The quality control assurance as per best Industrial practice and acceptable to CGWB shall be ensured by the CONTRACTOR in all respects of complete items of work as may be applicable. The requisite supervisory staff and subject matter experts shall provide at the site of work by the CONTRACTOR for effective supervision and quality assurance work.
- The CONTRACTOR will involve scientists from the CGWB at all stages of data acquisition, processing and interpretation for both ground and **Fixed Wing - Transient Electromagnetic and Magnetic Survey**.
- CONTRACTOR shall be responsible for taking necessary Permission/NOCs required for the execution of the Project from the Central/State/Local authorities.
- CONTRACTOR will ensure that there is no time and cost overruns, subject to necessary clearances/approvals from various Central and State Govt. agencies and also ensure the quality of the work carried out.
- CONTRACTOR shall ensure compliances to due procedures, any other extant rules, orders, conformity in the implementation of all the works pertaining to the project.
- CONTRACTOR shall be responsible for timely completion of all the activities as per the time schedule mentioned in the Tender Document.
- CONTRACTOR shall be liable to CGWB for performance of the work including performance of services and of CONTRACTOR obligations under this agreement and shall carry out requisite services for successful completion and commissioning of the project.
- CONTRACTOR would be responsible for adhering to safety measures during execution of the project including insurance coverage against any risk involved in this project. CGWB would not be liable for any damage, loss, compensation due to accidents, injuries/deaths to deployed personnel or the third party personnel etc. in the execution of the project.
- CONTRACTOR shall be liable to CGWB for performance of the work including performance of services and of CONTRACTOR obligations under this agreement and shall carry out requisite services for successful completion and commissioning of the project.
- Contractor shall be liable to CGWB for confidentiality of acquired data, should handover it to CGWB in secure condition and acquired be deleted from the system/devices of the field personnel provided by the supplier to ensure that no data is transmitted elsewhere.
- Contractor should ensure mandatorily that no raw, compiled, processed and interpreted data, products and deliverables leave India. Consequently, the contractor must be prepared to undertake all work within the country, either at the operational bases and/or at CGWB premises situated at **Jaipur/Chandigarh/CHQ** or at National Data Center of CGWB situated at CHQ,

Faridabad (Final Center will be finalized after discussion with the PIA). The contractor must establish a processing and interpretation centre at the CGWB premises situated at **Jaipur/Chandigarh/CHQ** or at National Data Center of CGWB situated at CHQ, Faridabad (Final Center will be finalized after discussion with the PIA). The TS-QC team will have secure access to the network and server with data storage. Each contractor will be responsible for arranging its own hardware and software necessary for data compilation, internal QC, processing, modelling and, interpretation, printing and map plotting.

- CONTRACTOR shall provide the output of the Fixed Wing - Transient Electromagnetic and Magnetic Survey in form of
- Pin pointed sites for groundwater drilling and managed artificial recharge (MAR) along with inferred lithology up to depth of 300 m in Alluvial area and 200 m bgl in hard rock.
- Paleo channel map along with dimensions (length, width and thickness) of the study area and its linkages with the aquifer system, if any.
- 3D Geophysical model of the area in reproducible vector format
- Geophysical Thematic maps at horizontal and vertical planes. Aquifer Geometry in 2D and 3D in reproducible vector formats depicting de-saturated/saturated and fresh/saline zones.
- Submission of the entire raw and processed dataset generated in the study area in external HDD. The Raw and processed data should be compatible with Aarhus Workbench software.
- Hands on training of CGWB scientists in data acquisition, processing, and interpretation at Jaipur/Chandigarh/CHQ or place of mutual consent between CGWB and Contractor, as per agreed training module and timeline.
- Inception Report (within 1 month of signing of MoA)
- Monthly Progress Reports
- Draft final report
- Final Report of the study state-wise giving details for each district (10 Hard Copies to CHQ Faridabad and 2 copies each to concerned Regional offices of CGWB) including all outputs and deliverables upon completion of the study.

ROLE OF CGWB:

- The Central Ground Water Board will cooperate with the CONTRACTOR throughout the work for smooth execution of project. CGWB shall provide/share the following data / inputs for study areas:
 - The location details of the project area along with a base map showing location of bore well, observation wells, VES locations, Wells with E logs, lithologs and other existing data in GIS platform.
 - A Baseline Report/data giving hydro-geological information including water levels and water quality data, data gaps and other relevant details, like aquifer parameters, and surface geophysical data.
 - The data generated by CGWB within the project period through exploration, monitoring and other activities shall be made available to the CONTRACTOR to complete the project task.
 - Report/data on Ground water recharge and draft estimation and water quality data from the departmental ground water regime monitoring for correlation with the geo-electrical characteristics.
 - CGWB will ensure providing timely input and support such as existing data (geophysical, hydrogeological, water level etc.) and deep drilling as well as active participation on scientific discussion as and when required.

- CGWB shall not be liable for any legal and financial obligation to contractor/subcontractor or any agency hired by CONTRACTOR for execution of the work under this agreement.
- CGWB will provide the space to the contractor for establishing a processing and interpretation centre at the CGWB premises situated at Jaipur/ Chandigarh/ CHQ or at National Data Center of CGWB situated at CHQ, Faridabad (Final Center will be finalized after discussion with the PIA).
- CGWB shall not be liable for any legal and financial obligation to contractor/subcontractor or any agency hired by CONTRACTOR for execution of the work under this agreement.
- CGWB will provide the space to the contractor for establishing a processing and interpretation centre at the CGWB premises situated at Jaipur/Chandigarh/CHQ or at National Data Center of CGWB situated at CHQ, Faridabad (Final Center will be finalized after discussion with the PIA)
- The concerned Regional Directors of CGWB will monitor the progress of work and submit the status report in the first week of every month to CHQ.
- CGWB with the help of DoWR, RD&GR will make efforts to expedite the formalities in obtaining permission for flying of the Fixed Wing Air-craft for **Fixed Wing - Transient Electromagnetic and Magnetic Survey** and its regional offices will help CONTRACTOR in obtaining support from local administrations in the respective study areas.
- All data shared by CGWB will be subject to the data dissemination policies of the Government of India.
- No other use of CGWB data will be made by CONTRACTOR except for the purpose of meeting the objectives of the project.
- Concerned Regional Directors of CGWB will designate a Nodal Officer for coordination of work in the particular state.
- The concerned Regional Director, CGWB will monitor the progress of work separately in respect of their Region and as part of Working Group and Nodal Officer will liaison with CONTRACTOR for timely completion of work.
- The concerned Regional Director, CGWB will issue a completion certificate mentioning the date of completion to CONTRACTOR upon completion of the work in all respect and submission of Outputs and Deliverables with respect to his jurisdiction. Final Completion Certificate of the entire project shall be issued by the concerned Member.

ANNEXURE- I

Bid security declaration

Tender no.:.....Date:.....

To

(Insert complete name and address of the purchaser)

I/WE.

The undersigned, declare that:

I/WE understand that, according to your conditions, bids must be supported by a bid security declaration.

I/WE accept that I/we may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am / we are in a breach of any obligation under the bid conditions, because I/we

Have withdrawn / modified / amended, impairs or derogates from the tender, my/ our bid during the period of bid validity specified in the form of bid;

or

Having been notified of the acceptance of our bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or reuse to furnish the performance security, in accordance with the instructions to bidders.

I/ We understand this bid security declaration shall cease to be valid if I am / we are not the successful bidder, upon the earlier of (i) the receipt of your notification of the name of successful bidder; or (ii) thirty days after the expiration of the validity of my / our bid.

Signed:

(Insert signature of person

Whose name and capacity are shown)

In the capacity of

(Insert legal capacity of person

Signing the bid security declaration)

Name:

(Insert complete name of person

Signing the bid security declaration)

Duly authorized to sign the bid for an

On behalf of (Insert Complete Name of Bidder)

Dated onday of

(Insert date of signing)

Corporate seal (where appropriate)

(Note: in case of joint venture, the bid security declaration must be in the name of all partners to the joint venture that submits the bid)

[Notes: 1) the above declaration shall be signed and sealed by the company secretary or any other officer of the Organization not below the rank of general manager or equivalent and be duly affirmed before a notary public. 2) to be executed by the Organization on non- judicial stamp paper / e-stamp paper worth Rs. 200/- or as applicable from time to time as per the stamp act in force in the state where the document is executed.]

ANNEXURE- II

Bank guarantee Performa for furnishing performance security

In consideration for the President of India (hereinafter called “the Government” having agreed to contractor(s)” from the demand, under the terms and conditions of an agreement dated.....made between.....and.....

..... of performance security for the due fulfillment of the said contractor(s) of the terms and conditions contained in the said agreement, on production of bank guarantee for Rs.....(Rupees.....

..... (indicated the name of the bank) bank”) at the request of contractor(s) do here by undertake to pay to the Government an amount not exceeding.....against any Loss or damage caused to or suffered would be caused to or suffered by the government by reason of any breach of the said contractor(s) of any of the terms or conditions contained in the said agreement.

I/ We..... do hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the government by reason of breach by the said contractor(s) of any of the terms or conditions contained in the said agreement or by reason of the contractor(s)’s failure to perform the said agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding.....

We undertake to pay the government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier(s) in any suit or proceeding pending before any court or tribunal relating thereto liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment hereunder and

the contractor(s)/ supplier(s) shall have no claim against us for making such payment.

We,.....further agree that the guarantee herein contained shall remain in

Full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the government under or by virtue of the said agreement have been fully paid and its claim satisfied or discharged or till.....that the terms and conditions of the said agreement have been fully and properly carried out by the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the guarantee there after.

I/ We, further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the government against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of the Government or any indulgence by the government to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

Notwithstanding anything contained herein above our liability under the guarantee is restricted to ₹..... And shall remain in force until____.

Unless acclaim or suit under this guarantee is filed with as on or before____.

All our rights under the guarantee shall be forfeited and the

Bank shall be relieved and discharged from all liabilities therein.

This guarantee will not be discharged due to the change in the constitution of the bank or the

contractor (s)/supplier(s).

I/ We,.....lastly undertake not to revoke this guarantee during its currency except with the previous consent of the government in writing.

Dated: the.....date of 202

For

(Indicate the name of bank)

Signature.....

Name of the officer.....

(In block capitals)

Designation of

Code no.....

Name of the bank and branch.....

Important: the bank guarantee details required be sent through digitally signed secured SFMS mode mails by the banker to our banker in order to confirm the issuance of the same. Bank Details for the same is as follows:-

Name:- Drawing & Disbursing Officer, Central Ground Water Board, Bhujal Bhawan, NH-IV, Faridabad-121001

Account No.- 30104397868

Bank- State Bank of India Branch- Faridabad, Main Branch, Neelam Chowk, Faridabad, Haryana

IFSC Code- SBIN0000734

Annexure- III

Undertaking acceptance of terms and conditions of tender

I/ We undertake that all the terms and conditions as laid in the attached pages and anywhere in the tender and its subsequent corrigendum if any, are accepted by the company and will abide by them.

I/ We further undertake that the information given in this tender are true and correct in all respects and we hold responsibility for the same.

I/ We shall be responsible for rejection/cancellation of contract if the services are not found up to the mark and for civil/criminal proceedings if the material supplied is found sub-standard or not accordance with the quality of services.

Company seal

Authorized signatory of the company

Place: _____ date: _

Annexure- IV***Format for the Checklist***

S. No.	ITEM	Please mark		Page No.
1.	Techno-commercial bid	Yes	No	
2.	EMD Fee/Bid security declaration	Yes	No	
3.	Integrity pact. The integrity pact should be signed and stamped by the contractor where applicable, leaving blank the segments to be Completed by the CGWB.	Yes	No	
4.	MSE valid registration certificate for availing Exemption for submission of bid security declaration	Yes	No	
5.	Commercial terms & condition compliance sheet	Yes	No	
6.	Undertakings for submission of performance security Deposit as per NIT terms(see undertaking below)	Yes	No	
7.	Undertakings to accept all terms and conditions of NIT(see undertaking below)	Yes	No	
8.	Solvency certificate	Yes	No	
9.	Brochure/literature	Yes	No	
10.	Price/Financial Bid	Yes	No	NA
11.	Undertaking for providing equipment having NIA equal to or more than 86,000	Yes	No	
12.	Copies of work order along with work completion certificate of client or copies of client certificate(s) stating completion of the project(s) as per Pre qualifying criteria	Yes	No	
13.	Proof of Ownership of technology, Undertaking of full responsibility of all aspects of the Geo-physical component as per Pre qualifying criteria	Yes	No	
14.	CVs experts and team members in prescribed format certified by authorized signatory. Proof of assignment & familiarity with aero-geophysical TEM & Magnetic data processing & interpretation and the proposed TDEM system in accordance with Pre qualifying criteria	Yes	No	
15.	Declaration for not subcontracting for key responsibilities like Airborne-geophysical survey work involving data acquisition, processing, interpretation and integration and report writing as per Pre qualifying criteria	Yes	No	
16.	Declaration for the Airborne Survey Provider selected for the project will execute a confidentiality document for the project as per Pre qualifying criteria	Yes	No	
17.	Copy of audited Financial statement/ Balance sheets and Calculation Sheet of average turnover of last three financial years duly signed by CA as per Prequalifying criteria	Yes	No	
18.	A self-certified letter by an authorized signatory in the format attached at Annexure-X as per Prequalifying criteria	Yes	No	
19.	Original power of attorney/ board resolution copy with due authorization in the name of the person signing the tender bid as per Prequalifying criteria.	Yes	No	
20.	Copy of ITRs shall be attached with certified financial statement as per Prequalifying criteria.	Yes	No	
21.	GST registration certificate, Certificate of Incorporation/ registration/ Joint venture/ Consortium participation (Company Act/ Parternership	Yes	No	

	Pact/ JV/ Consortium agreement), PAN No., declaration of Non-blacklisting.			
22	Signed Declaration for the party or parties participating in this tender as joint venture partners are not participating in the same tender as separate bidder or as a partner of another joint venture as per Prequalifying criteria.	Yes	No	
23	Undertaking for the bidder have a representative/ partner/ employee in India who is always accessible to the CGWB.	Yes	No	

Undertaking

I do hereby agree to submit the performance security as per the given Performa (annexure-II) and accept all the terms and conditions mentioned in the notice inviting tender (NIT).

Company seal

Authorized signatory of the company place:_ date: _

Annexure- V**BIDDER'S GENERAL INFORMATION**

1	Bidder Name	
2	Status of Firm	Proprietorship Firm/Partnership firm/ Limited/Others If Others Specify: _____ [Enclose certificate of Registration]
3	Name of Proprietor/Partners/Directors of the firm/company	
4	Number of Years in Operation	
5	Address of Registered Office: *In case of a partnership firm, enclose a letter mentioning the current address of the firm and the full names and current addresses of all the partners of the firm.	
6	Bidder's address where order/contract is to be placed	
7	Address from where services are to be dispatched/provided along with GST no. (In case supply of Goods/Services are from multiple locations, addresses and GST no. fall Such locations are to be provided).	
8	Telephone Number of address where order is to be placed	
9	E-mail address	
10	Website	
11	Fax Number:	
12	ISO Certification, if any	If yes, please furnish details
13	Bid Currency	
14	Banker's Name	
15	Branch	
16	Bank account number	
17	PAN No.	[Enclose copy of PAN Card]
18	GST No.(refersl.no.8above)	[Enclose copy of GST Certificate]
19	EPF Registration No.	[Enclose copy of EPF Registration Certificate]
20	ESI code No.	[Enclose copy of relevant document]
21	Whether Micro/Small/Medium Enterprise	(Bidder to submit documents as specified in ITB)
22	Type of Entity	Corporate/ Non-Corporate (As per CGST/SGST/UTGST Act).(In case of Non-Corporate Entity, bidder will submit documentary Evidence for same).
23	Whether Bidder is Startups or not	Yes/No

Place:

Signature of Authorized Signatory of Bidder:

Date:

Name:

Designation:

ANNEXURE- VI

FORM OF BANKER'S SOLVENCY CERTIFICATE FROM A SCHEDULED BANK

This is to certify that to the best of our knowledge and information that M/s/Sri [name of applicant]....., having marginally noted address [address of applicant]....., a customer of our bank are/is respectable and can be treated as good for any engagement up to a limit of..... [amount in words]** (Rupees ₹ [amount in figures]).**

This certificate is issued without any guarantee or responsibility on the bank or any of the officers.

Signature

Name of the bank

Note:

1. Bankers certificate should be on the letterhead of the bank, sealed in a cover addressed to the tendering authority.
2. In the case of a partnership firm, the certificate should include the names of all partners as recorded with the bank.

Annexure-VII

Deleted

Annexure-VIII (A)

Declaration of local content by local supplier

Subject: public procurement (preference to make in India)

References:

Preference to make in India will be as per the public procurement (preference to make in India), order 2017, available in the following links:-

https://dipp.gov.in/public-procurementshttp://dipp.nic.in/sites/default/files/publicProcurement_MakeinIndia_15June2017.pdfhttp://dipp.nic.in/sites/default/files/Revised-PPP-MII-Order-2017_28052018.pdfhttps://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019_0.pdf<https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dated%204th%20June%202020.pdf>

We hereby declare with reference to above subject and references that M/s.....tick whichever is applicable as below)

‘Class-I local supplier’ meeting the requirement of minimum local content equal to 50% (fifty percent) or more defined in the above government notification for the goods and services

(or)

“Class-II local supplier” meeting the requirement of local content 20% to less than 50% (fifty percent) defined in the above government notification for the goods and services

(or)

Non-local supplier (if not belonging to Class-I& Class-II) please mention the details against the following:

GEM bid no. dated

Type of supplier (class-I/class-II)

Product/service:

Project:.....

Details of location at which local value addition will be made is as follows:

We also understand that the false declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per rule 151(iii) of the general financial rules along with such other actions as may be permissible under law.

Authorized signature m/s

(Signature and seal)

Place:

Date:

Annexure-VIII (B)**Format for declaring the break-up of the percentage of the local content in the project cost as per quoted Price bid**

Declaration of Local Content and Foreign Content on the Total Project Cost				
Sl. No.	Component of the Project	Declared Resources as per Technical Bid	Local Content*	Foreign Content*
			A	B
1	Fixed wing aircraft with Regn. Number			
2	Pilot in Charge with Name			
3	Pilot with Name			
4	AME with Name			
5	Fuel			
6	Project Manager with Name			
7	Operation Manager with Name			
8	Geophysical Equipment with Model			
9	Instrument Operator with Name			
10	Field Processors with Name			
11	Data Compilation Manager with Name			
12	Data Processors with Name			
13	Interpretation manager with Name			
14	Interpreters with Name			
15	Safety Officer with Name			
16	QA-QC team (Geophysicists) with Name			
17	Other Resources if any maybe Indicated in detail			

Note:*Local and foreign component should be in terms of percentage of total project cost.

****Total of columns 'A' and 'B' should be 100.**

NB:-

1. Non submission of the per -VII, VIII and IX, the Technical bid will be treated as incomplete and the bidder will not get any Make in India purchase preference for this tender.
2. Incomplete information submitted by the bidders with the technical bid against the Annexure-VII, VIII and IX, will be treated as non-compliance of the tender terms & Conditions and the bidder will not get any Make in India purchase preference for this tender.

Annexure-VIII (C)

Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

Tender Reference No.: GeM Bid No.....dated

This is to certify that I personally checked all the data provided by the firm to claim the Local Content under

Make In India clause and certify that the company/bidder is a Class I / Class II supplier and their service is containing % Local Content.

Signature: Name:

Place and Date: Official Seal

Annexure- IX***Draft memorandum of agreement (MOA)***

Draft Memorandum of agreement

This memorandum of agreement (the “contract”) is made at Faridabad on the ____ day of ____ 2025.

By and between

The President of India acting through, **The Chairman, CGWB**, Department of Water Resources, RD & GR, Ministry of Jal Shakti, Government of India having its office located at CGWB, BhujalBhawan, NH-IV, Faridabad, HR-121001 (hereinafter referred to as “**client**”, which terms or expression shall unless excluded by or repugnant to the subject or context shall mean and include its successor(s)-in-office, administrators or permitted assignees) of the **first part**;

And

M/s____ (lead partner of the consortium),
(Address)____ of PIA representing its consortium partner
____ (Hereinafter called “**Project Implementation Agency (PIA)**” which expression shall, unless repugnant to the context, be deemed to include its successors and assigns) of the **second part**;

Whereas the client requires the services for conducting the “**Fixed Wing - Transient Electromagnetic and Magnetic Survey**” in parts of
.....States of India, as defined in **appendix- I**, and invited bids from eligible bidders vide its tender no. ____ dated ____.

Whereas in response to the aforesaid tender, the PIA has submitted its bid proposal and the same was selected by CGWB for implementing the Project over area____, as per the terms of reference mentioned at appendix- II, and agreed to execute the contract herein.

Whereas PIA has the required number of Fixed wing Air-craft, geophysical equipment, personnel, experience and access to the know-how to provide the services required by the client, as mentioned in **appendix - II**;

"PIA" and "client" may hereinafter collectively be referred to as "parties" and separately as "party".

Now, therefore, in consideration of the above matters and the representations, warranties, and covenants contained in this contract, both parties intending to be bound legally agree as follows:

A	General provisions		
1	General	1.1	The division of this contract into paragraphs or clauses and the Headings is for convenience of reference only, and shall not be used in interpreting the contract.
		1.2	References to the word “include” or “including” shall be Construed without limitation.
2	Definitions	2.1	Unless the context otherwise requires, the following terms,

			Whenever used in this contract, have the following meanings:
		(a)	“applicable law” means the laws and any other instruments having The force of law in the client’s country, India.
		(b)	“client” means the agency that signs the contract for the services with the selected PIA.
		(c)	“PIA” means a legally-established firm (inclusive of the lead partner and the consortium partners) or entity selected by the client toProvide the services under the signed contract.
		(d)	“Contract” means the legally binding written agreement signed between the client and the PIA and which includes all the attachedDocuments.
		(e)	“Day” means a working day unless indicated otherwise.
		(f)	“effective date” means the date on which this contract comes into force.
		(g)	“Services” means the work to be performed by the PIA pursuant to this contract, as described in appendix – II hereto.
3	Addresses of the parties	3.1	Representative of client: The Chairman Central Ground Water Board, BhujalBhawan, NH-IV, NIT-IV Faridabad-HR (India) - 121001 (India) Tel/fax: E-mail :
		3.2	PIA: Consortium of 1. M/s (lead PIA) Address----- Contacts----- M/s..... Address..... Contacts..... And M/s..... Address..... Contacts.....
	Communications		Any communication required or permitted to be given or made pursuant to this contract shall be in writing in the language specified in clause 7. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the party to whom the communication is addressed, or when sent to such party at the address specified at clause-3. Any change in the address should be communicated to the other party. All correspondence will be made only with the lead partner of the consortium i.e. M/s.xxxxxxxxxxxx.
5	Relationship between the parties		Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between the client and the PIA. The PIA, subject to this contract, has complete charge of the experts and sub-PIAs, if any, performing the services and shall be fully responsible for the services performed by them or on their behalf hereunder.
6	Law governing		This contract, its meaning and interpretation, and the relation

	contract		between the parties shall be governed by the laws of the republic of India.
7	Language		This contract has been executed in the English language, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this contract.
8	Headings		The headings shall not limit, alter or affect the meaning of this Contract.
9	Location		The services shall be performed at such locations as are specified in Chapter-8-hereto and, where the location of a particular task is not so specified, at such locations, whether in the client's Country or elsewhere, as the client may approve.
10	Authority of Member in charge		The consortium members hereby authorize the representative of the lead partner specified at clause 3.2 of Chapter 4-, to act on their behalf in exercising all the PIAs rights and obligations towards the client Under this contract, including without limitation the receiving of instructions and payments from the client.
11	Authorized representatives		Any action required or permitted to be taken, and any document required or permitted to be executed under this contract by the client or the PIA may be taken or executed by the officials specified in the clause 3.0.
12	Corrupt and fraudulent Practices		The client requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in pre-contract Integrity pact APPENDIX – III.
13	Effectiveness of Contract		This contract shall come into force and effect on the date (the "Effective date") of the signing of the agreement.
14	Termination of contract for Failure to become effective		If the PIA fails to be into carry out the services within twenty (20) days of signing of the contract, the client shall have the right to terminate the contract and the PIA shall not have any claim against the client. The PIA has to submit a proof that the work is initiated within twenty (20) days of signing of the contract. Initiation of the services may include, but is not limited to, the following: communication with TS-QC consultant regarding draft survey/flight plan, draft HSE documents, time schedule, start of importation procedures, customs and permitting process, and other project documents. Copies of any one such document forwarded to the client, within twenty (20) days of Contract signature, constitute proof.
15	Expiration of Contract		Unless terminated earlier pursuant to clause 20 hereof, this Contract shall expire by *****. This expiry date can be Extended depending on the requirement with mutual agreement.
16	Entire agreement		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.
17	Modifications or variations	17.1	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 proposals for modification or variation made by the other party.
		17.2	In cases of substantial modifications or variations, the prior written consent of the Government of India or its declared

			representative is required.
		17.3	After award of contract, the PIA can change/replace any declared resources (similar/equivalent or higher version) provided in the technical bid with prior approval from the competent authority of CGWB. No other changes will be admissible.
18	Force majeure	18.1	For the purposes of this contract, “force majeure” means an event which is beyond the reasonable control of a party, is not foreseeable, is unavoidable, and makes a party’s performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible under the circumstances, and subject to those requirements, includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action confiscation or any other action like lockdown, international travel restrictions imposed by government due to pandemic situation.
		18.2	Force majeure shall not include (i) any event which is caused by the negligence or intentional action of a party or such party’s experts, sub-PIAs or agents or employees, nor (ii) any event which a diligent party could reasonably have been expected to both take into account at the time of the conclusion of this contract, and avoid or overcome in the carrying out of its obligations hereunder.
		18.3	Force majeure shall not include insufficiency of funds or failure to make any payment required hereunder.
		18.4	The failure of a party to fulfill any of its obligations hereunder shall not be considered to be a breach of, or default under, this contract insofar as such inability arises from an event of force majeure, provided that the party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this contract.
		18.5	A party affected by an even of force majeure shall continue to perform its obligations under the contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of force majeure.
		18.6	A party affected by an event of force majeure shall notify the other party of such event as soon as possible, and in any case not later than fourteen (14) calendar days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible
		18.7	Any period within which a party 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.
		18.8	In the case of disagreement between the parties as to the Existence or extent of force majeure, the matter shall be settled according to clause 22.
19	Suspension		The client may, by written notice of suspension to the PIA, suspend all payments to the PIA hereunder, if the PIA fails to perform any of its obligations under this contract, including the carrying out of the services, provided that such notice of

			suspension (i) shall specify the nature of the failure, and (ii) shall request the PIA to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the PIA of such notice of suspension.
20	Termination of the contract		This contract may be terminated by either party as per Provisions set up below:
	By the client	20.1	The client may terminate this contract in case of the occurrence of any of the events specified in paragraphs (a) through (g) of this clause. In such an occurrence the client shall give at least thirty (30) calendar days written notice of termination to the PIA 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); and at least thirty (30) calendar days written notice in case of the event referred to in(f):
			(a) if the PIA fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to clause 19;
			(b) if the PIA becomes (or, if the PIA 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;
			(c) if the PIA fails to comply with any final decision reached as a result of arbitration proceedings pursuant to clause 22.3
			(d) if, as the result of force majeure, the PIA is unable to perform a material portion of the services for a period of not less than ninety (90) calendar days;
			(e) if the client, in its sole discretion and for any reason Whatsoever, decides to terminate this contract;
			(f) if the PIA fails to confirm availability of key experts as Required
			(g) non submission of PBG amounting to INR
			Furthermore, if the client determines that the PIA has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the contract, then the client may, After giving fourteen (14) calendar days written notice to the PIA, terminate the PIA's employment under the contract.
	Cessation of rights and Obligations	20.3	Upon termination of this contract pursuant to clauses 14 or 20 hereof, or upon expiration of this contract pursuant to clause 15, all rights and obligations of the parties hereunder shall cease.
	Cessation of Services	20.4	Upon termination of this contract by notice of either party to the other pursuant to clause 20, the PIA shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum.
	Payment upon termination	20.5	Upon termination of this contract, the client shall make all the payments to the PIA for services satisfactorily performed prior to the effective date of termination.
21	Fairness and good faith		The parties undertake to act in good faith with respect to each other's rights under this contract and to adopt all reasonable measures to ensure the realization of the objectives of this contract.

22	Settlement of Disputes	22.1	The parties shall seek to resolve any dispute amicably by mutual consultation.
		22.2	If either party objects to any action or inaction of the other party, the objecting party may file a written notice of dispute to the other party providing in detail the basis of the dispute. The party receiving the notice of dispute will consider it and respond in writing within fourteen (14) days after receipt. If that party fails to respond within fourteen (14) days, or the dispute cannot be amicably settled within fourteen (14) days following the response Of that party, clause 23 shall apply.
		22.3	Any dispute between the parties arising under or related to this contract that cannot be settled amicably may be referred to by either party to the adjudication/arbitration in accordance with the clause 23.
23	Arbitration		<p>If any dispute or difference or claims of any kind arises in connection with the contract, such dispute or difference or claim shall be referred by either party to the arbitration. The Indian arbitration and conciliation act, 1996 and any statutory modifications or re-enactment thereof rules made there under and for the time being in force shall be applicable to the arbitration. The arbitration shall be referred to the sole arbitrator duly appointed by the Hon'ble high court of</p> <p>The decision of the arbitral tribunal shall be pronounced within six months unless otherwise extended by the parties, and the decision of the sole arbitrator shall be final and binding on the parties. The right to arbitrate disputes under this contract shall also survive even after expiry or the termination of this contract. The venue of arbitration proceedings pursuant to this clause shall be at, India and shall be conducted in English language. Pending the submission of and/or decision on dispute, difference or claim or until the arbitral award is published; the parties shall continue to perform all of their obligations under this contract without prejudice to a final adjustment in accordance with such award. The fees and expenses of sole arbitrator appointed by the Hon'ble high court of, in accordance with the provision of this clause shall be governed by the rules of the arbitration tribunal,</p>
B	Obligations of the client		
24	Assistance in obtaining the permits and approvals	24.1	Client will facilitate the PIA in preparing necessary letters and other documentation to obtain work permits for import of the Fixed wing aircraft, survey equipment & crews for foreign operators and flight operations. However it is the responsibility of the PIA to submit all the necessary documentation to the concerned authorities and pursuing for obtaining the same.
	Work space	24.2	The client will provide the work space to the PIA in the premises of CENTRAL GROUND WATER BOARD (CGWB), BHUJAL BHAWAN, NH-IV, FARIDABAD, HARAYANA-121001.for establishing processing and interpretation Centre.
	Geo-science Data	24.3	The client will provide the available data pertaining to geology, gravity, geochemistry and occurrences to the PIA <i>(For the integration in the available format).</i>
	Ts-qc Consultant	24.4	The client will appoint a TS-QC consultant to implement a range of quality assurance and quality control (QA/QC) procedures and

			inspections to ensure that CGWB’s QA/QC objectives are met. The client or client’s TS-QC should review and revert back on the products submitted with comments within 10 workingdays.		
	Security of the data.	24.5	The client alongwith its TS-QC consultant will co-ordinate with the PIAs on secure methods for transmission of data to CENTRAL GROUND WATER BOARD (CGWB), BHUJAL BHAWAN, NH-IV, FARIDABAD, HARAYANA-121001and maintain security& confidentiality through out the contract period. It is a mandatory requirement that no raw, compiled processed and interpreted data, products or deliverables leave India. The client will deploy a scientific officer to the field, who will participate in the review and secure transmission of the data.		
	Scientific Officer deployedbythe client	24.6	The scientific officer deployed by the client will check the data for its quality along with the qc team of PIA and data can be transmitted only after getting the clearance by the officer. The PIA should provide data to the concerned scientific field officer of the client in readable format.		
	Training	24.7	The client will nominate geoscientists for getting hands on training as per details given in tender document clause 3.9.		
	Return of PSD	24.8	The client will return the PSD submitted by PIA within 60 days after completion of the contract obligation.		
C	Obligations of the PIA				
25	Details of the allotted block and obligations	25.1	The PIA shall perform the services and carry out the services as mentioned in Appendix – II		
		25.2	The lead partner of the consortium i.e.M/s.....is responsible for technical leadership of project and will provide the state of art equipment, technology and technical experts, Fixed wing aircraft required for the project, the required flight crews and maintenance personnel (mention as per consortium agreement of technical bid). It is the sole responsibility of the lead partner of the consortium for timely and successful execution of the project.M/s._____, is responsible to provide for all permission, required local logistics and administrative issues of the project (mentioned as per consortium agreement of technicalbid).		
D	Payment terms				
26	Contract price	26.1	Allotted block	:	Fixed wing block-
			Area	:	----- Sq km
			Line km	:	----- L km
			Total cost of theproject: quoted In thebid(INR)	:	----- INR
			Rate per line km	:	----- INR
			Total line km amount	:	-----
			GST 18%	:	----- INR
			Total project contract price	:	----- INR
		26.2	There may be restricted zones in the area, which will be intimated by local ATC while giving flying permission. The exact coverage in line km may vary after the block is completely covered. Accordingly the total contract price may change based on the actual line km covered. The difference amount will be adjusted at		

			the time of payment to milestone 5, mentioned at clause 27.1. Accordingly an addendum will be made to MOA.
27	Payment Schedule	27.1	As per NIT
		27.2	Each of the above deliverables will be subject to review and approval by TS-QC(client or client's TS-QC consultant), and finally by the client, prior to submission of the corresponding invoice. For milestone 3, the last field crew and Fixed wing aircraft will not be permitted to leave a survey area until all data acquired over that block are reviewed & approved by Ts-qc (client or client's ts-qc consultant), and finally by the client. This period is limited to ten (10) days after the completion of the data acquisition and receipt Of the data by client or client's TS-QC consultant.
	Timeline for completion of project	27.3	As per NIT
		27.4	The PIA has to cover the block contiguously without leaving any gap unless restricted by regulatory authorities. Payments shall be made only for the actual line Km's covered within the block area.
		27.5	Income tax (TDS) will be deducted at source as per Government of India rules, as applicable.
28	Delay in deliverables		1% monthly penalty on total contract amount will be levied on the first day of each month if the deliverables are delayed beyond *****. The total penalty will be capped at 10% of the contract amount. In case of any deficiency/delay/unsatisfactory/non-performance by the PIA, the appropriate action will be taken by the client against the delinquent PIA as per prevailing Government of India rules/guidelines on procurement.
29	Change in the applicable law - related to taxes.		If, after the date of this contract, there is any change in the applicable law in the client's country with respect to taxes which increases or decreases the cost, then the amount payable to the PIA under this contract shall be increased or decreased accordingly, and corresponding adjustments shall be made to the contract price amount specified in clause 26.
30	Currency of Payment & mode		All milestone payments mentioned at clause 27.1 will be paid only in INR and will be paid only to the lead partner of the consortium i.e., M/s._____.
31	Performance security deposits		Performance security deposit (PSD) for the value of 3% of the total contract amount is to be deposited by the successful bidder, on selection of the bid, by way of bank guarantee of an acceptable bank (i.e. Scheduled bank as listed in the second schedule of the reserve bank of India act, 1934 excluding those listed under the headings of Gramin banks, urban co-operative banks and state co-operative banks) as per format under annexure-II in the NIT. In case of non-compliance of terms and conditions of the contract and for any other unsatisfactory performance or/and failure to render contracted service during the period of contract by the PIA to whom order has been awarded, the performance security will be forfeited.

			<p>If the PIA is unable to complete the task as per the milestone within the stipulated time, PIA has to renew the performance security beyond two months according to the extended contract period.</p> <p>On successful completion of the contract, performance security deposit will be returned.</p> <p>No interest will be paid on performance security deposits.</p>
32	Liquidity Damages		<p>If the bidder is not carrying out the work as per the memorandum of agreement (MOA) guidelines, the delays in delivery of the final deliverables (of the complete project) will attract <u>Liquidity Damages</u> (financial penalty) at the rate of 1% of the contract amount per month. The total penalty will be capped at 10% of the total contract amount.</p> <p>In case of any deficiency/delay/unsatisfactory/non-performance by the bidder, the appropriate action will be taken by CGWB, against the delinquent bidder as per prevailing Govt. of India rules/guidelines on procurement.</p>

In witness whereof, the parties hereto have caused this contract to be signed in their respective names as of the day and year first above written. Two original of this agreement is signed, one for each party.

<p>For and on behalf of the President of India, Signed, sealed and delivered by</p> <p>Shri CENTRAL GROUND WATER BOARD, BHUJAL BHAWAN, NH-IV, FARIDABAD-HR (INDIA).</p> <p>In the presence of Witness:</p> <p>1.</p> <p>2.</p>	<p>For and on behalf of the M/s----- Signed, sealed and delivered by Shri/ Smt----- Address-----</p> <p>And</p> <p>For and on behalf of the consortium member M/s Shri/ Smt Address</p> <p>In the presence of witness:</p> <p>1.</p> <p>2.</p>
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Appendix - I

1. Allotted block details:

The Package shown in the following figure is allotted to the PIA for conducting
The **Fixed Wing - Transient Electromagnetic and Magnetic Survey**.....

Fig-1. Map showing the Fixed wing areas (as per NIT)

Appendix – II

1. Broad nature of work of the contract	
1.1	To conduct Fixed Wing - Transient Electromagnetic and Magnetic Survey in Arid Region Falling in Parts of Punjab (Hoshiarpur district) @ 5 Km flight spacing and Himachal Pradesh (Parts of Kangra, Una, Hamirpur, Bilaspur, Shimla, Solan and Sirmaur Districts) @ 2.5 Km flight spacing States of North-Western India under PIB Project in Phase-II (Package-C) The terrain clearance is set at a nominal height of m (as per NIT).
1.2	Total area of the survey area is ----- (as per NIT) and the estimated line-Kilometers is (as per NIT) includes traverses and tie-lines.
1.3	Geophysical data processing, modeling and integrated interpretation with an interpretation report.
1.4	Obtain necessary approvals from the technical supervisor cum quality control (ts-qc) consultant and the client for the final deliverables including final data, maps and All reports including interpretation report.
1.5	To impart hands-on training to the officers of CGWB.
2. Initial arrangements	
2.1	PIA has to submit all the required documentation to DGCA and other related government agencies for obtaining permissions related to import of Fixed wing aircraft, geophysical survey equipment's, survey crews for foreign operators and flight operations.
2.2	The health and safety of all staff involved in the Fixed wing aircraft survey must be given utmost priority. The PIAs must undertake to provide a safe and secure working environment for all staff and visitors including appropriate public liability insurance cover in place.
2.3	Before the survey commences, PIA should present to client a risk assessment, health and safety plan (to the IAGSA standard) and associated emergency response and search and rescue procedures;
2.4	Undertake to always accept modifications to the flight plan as required by the client in response to requests from organizations or members of the public concerned for the safety of their property (notably animals).
3. Survey Helicopter	
3.1	The PIA will commence data acquisition with (No. of Fixed wing aircraft), With one identical backup Fixed wing aircraft which can be used if required, and will complete the data acquisition.
3.2	The PIA must provide evidence of adequate insurance coverage to Fixed wing aircraft, equipment and survey operations prior to mobilization to India.

3.3	The PIA must provide qualified pilots, co-pilots and Fixed wing aircraft maintenance engineers (M.E.), as per the norms of DGCA. During the course of the survey, substitute Fixed wing aircraft, pilots and/or Aircraft Maintenance Engineer may be required. They must meet the same requirement criterion.
4. Fixed Wing - Transient Electromagnetic and Magnetic Survey instrumentation	
4.1	As per NIT
4.2	Base station magnetometer
5.	Technical specifications
5.1	As per NIT

Appendix - III

Pre-contract integrity pact- As per NIT

Annexure-X

Declaration by the bidder

(to be executed on INR 100 non-judicial stamp paper and to be duly notarized)

Date: __

Sub: Tender No. _____

In response to the tender document above stated, I/WE hereby declare and Solemnly swear that our company/ firm is not banned/ blacklisted as on date by any competent court of law, forum or any state government or central government or their agencies or by any statutory entities or any PSUs.

And, if at any stage the declaration/statement on oath is found to be false in part or otherwise, then without prejudice to any other action that may be taken, I/ We, hereby agree to be treated as a disqualified bidder for the ongoing contract.

In addition to the disqualification our concern/entity may be banned/ blacklisted.

And, that I/WE, shall have no right whatsoever, to claim for consideration of my/our bid at any stage and the money deposited in the form of EMD shall be liable for forfeiture in full, and the tender, if any to the extent accepted may be cancelled.

Signature of the deponent
(Authorized signatory of the bidder with seal)

Date:

Place:

Annexure-XI

BANK GUARANTEE FORM FOR EMD

To

The President of India

Acting through

Drawing & Disbursing Officer, Central Ground Water Board, BhujalBhawan, NH-IV,
Faridabad-121001.

WHEREAS {Name and Address of Tenderer} (hereinafter called “the tenderer”) has submitted its quotation (hereinafter called the “tender”) dated {} for supply of {Short Description of Goods and Services} against the Employer’s tender inquiry No. {} dated {}

Know all persons by these presents that we {Name of Bank}(hereinafter called the “Bank”) having our registered office at {Address of Bank}are bound unto {Name of Employer}(hereinafter called the “Employer”) in the sum of {Amount} for which payment will and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this {Specify Day} day of {Specify Month and Year}.

The conditions of this obligation are:

If the Tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.

If the Tenderer having been notified of the acceptance of his tender by the Employer during the period of its validity:

fails or refuses to furnish the performance security for the due performance of the contract.

fails or refuses to accept/execute the contract.

We undertake to pay the Employer up to the above amount upon receipt of its first written demand, without the Employer having to substantiate its demand, provided that in its demand the Employer will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s).

This guarantee will remain in force for a period of 60 (sixty) days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

{Signature of the Authorized Officer of the Bank}

{Name and Designation of the Officer}

{Seal, Name & Address of the Branch of the Bank}

Important: the bank guarantee details required be sent through digitally signed secured SFMS mode mails by the banker to our banker in order to confirm the issuance of the same. Bank Details for the same is as follows:-

Name:- Drawing & Disbursing Officer, Central Ground Water Board, BhujalBhawan, NH-IV, Faridabad-121001

Account No.- 30104397868

Bank- State Bank of India Branch- Faridabad, Main Branch, Neelam Chowk, Faridabad, Haryana
IFSC Code- SBIN0000734

Annexure-XII

Integrity pact

(To be signed on Plain paper)

(To be submitted as part of Technical bid)

Integrity pact for tender document no. Tender no. _____,

Tender Title :.....)

This agreement (hereinafter called the integrity pact) is made on _____ day of the month of _____ 202__ at _____, India

Between

Procuring organisation, ----- through head of procuring organisation,

For and on behalf of president of India (hereinafter called the “The Principal”, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the first part

And

M/ s. _____ (hereinafter called the “The Bidder/ Contractor” which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the second part.

Preamble

‘The Principal’ intends to award, under laid down organizational procedures, contract/ s for _____, ‘The Principal’ values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its bidder(s) and/ or contractor(s).

In order to achieve these goals, the principal shall appoint independent external monitors (IEMs) who shall monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the ‘The Principal’ .

‘The Principal’ commits itself to take all measures necessary to prevent corruption and to observe the following principles:

No employee of the principal, personally or through family members, shall in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

The principal shall, during the tender process treat all bidder(s) with equity and reason. The principal shall in particular, before and during the tender process, provide to all bidder(s) the same information and shall not provide to any bidder(s) confidential/ additional information through which the bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

The principal shall exclude from the process all known prejudiced persons.

If the principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/ PC act, or if there be a substantive suspicion in this regard, the principal shall inform the chief vigilance officer and in addition can initiate disciplinary actions.

Section 2 - Commitments of the ‘Bidder/ Contractor’

1. The ‘Bidder/ Contractor’ commit themselves to take all measures necessary to prevent corruption. The ‘Bidder/ Contractor’ commit themselves to observe the following principles during participation in the tender process and during the contract execution.

A. The ‘Bidder/ Contractor’ shall not, directly or through any other person or firm, offer, promise, or give to any of the principal’s employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

B. The 'Bidder/ Contractor' shall not enter with other bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

C. The 'Bidder/ Contractor' shall not commit any offence under the relevant IPC/ pc act; further the 'bidder/ contractor' shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the principal as part of the business relationship, regarding plans, technical proposals, and business details, including information contained or transmitted electronically.

D. The 'Bidder/ Contractor' of foreign origin shall disclose the name and address of the agents/ representatives in India, if any. Similarly, the bidder/ contractors of Indian nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "guidelines on Indian agents of foreign suppliers" shall be disclosed by the bidder/ contractor. Further, as mentioned in the guidelines all the payments made to the Indian agent/ representative have to be in Indian rupees only. Copy of the "guidelines on Indian agents of foreign suppliers" is placed at annexe to this agreement.

E. The 'Bidder/ Contractor' shall, when presenting their bid, disclose any and all payments made, is committed to, or intends to make to agents, brokers, or any other intermediaries in connection with the award of the contract.

F. Bidder/ contractor who have signed the integrity pact shall not approach the courts while representing the matter to IEMS and shall wait for their decision in the matter.

2. The 'Bidder/ Contractor' shall not instigate third persons to commit offences outlined above or be an accessory to such offenses.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the 'Bidder/ Contractor', before award or during execution has committed a transgression through a violation of section 2, above or in any other form such as to put their reliability or credibility in question, the principal is entitled to disqualify the 'Bidder/ Contractor' from the tender process or take action as per the procedure mentioned in the "Guidelines On Banning Of Business Dealings".

Section 4 - Compensation for Damages

1. If the principal has disqualified the 'Bidder/ Contractor' from the tender process prior to the award according to section 3, the principal is entitled to demand and recover from 'Bidder/Contractor' the damages equivalent to earnest money deposit/ bid security.

2. If the principal has terminated the contract according to section 3, or if the principal is entitled to terminate the contract according to section 3, the principal shall be entitled to demand and recover from the contractor liquidated damages of the contract value or the amount equivalent to performance bank guarantee.

Section 5 - Previous Transgression

1. The bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the anti-corruption approach or with any public sector enterprise in India that could justify his exclusion from the tender process.

2. If the bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "guidelines on banning of business dealings".

Section 6 - Equal treatment of all bidders/ contractors/ subcontractors

In case of sub-contracting, the principal contractor shall take the responsibility of the adoption of integrity pact by the sub-contractor.

The principal shall enter into agreements with identical conditions as this one with all bidders and contractors.

The principal shall disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 - Criminal charges against violating bidder(s)/ contractor(s)/ subcontractor(s)

If the principal obtains knowledge of conduct of a bidder, contractor or subcontractor, or of an employee or a representative or an associate of a bidder, contractor or subcontractor which

constitutes corruption, or if the principal has substantive suspicion in this regard, the principal shall inform the same to the chief vigilance officer.

Section 8 - Independent External Monitor

1 The principal appoints competent and credible independent external monitor for this pact after approval by central vigilance commission. The task of the monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

2 The monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The monitor would have access to all contract documents, whenever required. It shall be obligatory for him/ her to treat the information and documents of the bidders/ contractors as confidential. He/ she reports to head of procuring organization of procuring organization.

3 The bidder(s)/ contractor(s) accepts that the monitor has the right to access without restriction to all project documentation of the principal including that provided by the contractor. The contractor shall also grant the monitor, upon his/ her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to sub-contractors.

4 The monitor is under contractual obligation to treat the information and documents of the bidder/ contractor(s)/ sub-contractor(s) with confidentiality. The monitor has also signed declarations on 'non-disclosure of confidential information' and of 'absence of conflict of interest' .in case of any conflict of interest arising at a later date, the IEM shall inform head of procuring organization of procuring organization and recues himself/ herself from that case.

5. The principal shall provide to the monitor sufficient information about all meetings among the parties related to the project provided such meetings could have an impact on the contractual relations between the principal and the contractor. The parties offer to the monitor the option to participate in such meetings.

6. As soon as the monitor notices, or believes to notice, a violation of this agreement, he/ she shall so inform the management of the principal and request the management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the monitor has no right to demand from the parties that they act in a specific manner, refrain from action, or tolerate action.

7. The monitor shall submit a written report to head of procuring organisation of procuring organisation within 8 to 10 weeks from the date of reference or intimation to him by the principal and, should the occasion arise, submit proposals for correcting problematic situations.

8. If the monitor has reported to head of procuring organisation of procuring organisation, a substantiated suspicion of an offence under relevant IPC/ PC act, and head of procuring organisation of procuring organisation has not, within the reasonable time taken visible action to proceed against such offence or reported it to the chief vigilance officer, the monitor may also transmit this information directly to the central vigilance commissioner.

9. The word 'monitor' would include both singular and plural.

Section 9 - Pact duration

This pact begins when both parties have legally signed it. It expires for the contractor 12 months after the last payment under the contract, and for all other bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by head of procuring organisation of procuring organisation.

Section 10 - Other provisions

This agreement is subject to Indian law. Place of performance and jurisdiction is the registered office of the principal, i.e., Faridabad.

Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made. If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

Should one or several provisions of this agreement turn out to be invalid, the remainder of this

agreement remains valid. In this case, the parties shall strive to come to an agreement to their original intentions.

Issues like warranty/ guarantee etc. Shall be outside the purview of IEMS.

In the event of any contradiction between the integrity pact and its annexure, the clause in the Integrity pact shall prevail.

For and on behalf of the Principal

(Name of the Officer and Designation)

(Office Seal)

For and on behalf of 'Bidder/ Contractor'

(Name of the Officer and Designation)

For and on behalf of the principal

Place

Date

Witness 1:

(Name & address)

Witness 2:

(Name & address)

Date:

Annexe to integrity pact

Guidelines for Indian agents of foreign bidders

- 1.0 there shall be compulsory registration of agents for all global (open) tender and limited tender. An agent who is not registered with 'the principal' shall apply for registration in the registration form with appropriate unit.
- 1.1 Registered agents shall file an authenticated Photostat copy duly attested by a notary public/ original certificate of the principal confirming the agency agreement. It should cover - the precise relationship, services to be rendered, mutual interests in business - generally and/ or specifically for the tender. Any commission/ remuneration/ salary/ retainer ship, which the agent or associate receives in India or abroad from the OEM, whether should be brought on record in the agreement and be made explicit.
- 1.2 wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e., principal) before finalizing the order.
- 2.0 Disclosures of particulars of agents/ representatives in India, if any.
- 2.1 Bidders of foreign nationality shall furnish the following details in their offers:
 - 2.1.1 The 'bidder/ contractor' of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority given to commit the principals. In case the agent/ representative be a foreign company, it shall be confirmed whether it is existing company and details of the same shall be furnished.
 - 2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.
 - 2.1.3 Confirmation of the bidder that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by 'the principal' in Indian rupees only.
- 2.2 Bidders of Indian nationality shall furnish the following details in their offers:
 - 2.2.1 The 'bidder/ contractor' of Indian nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e., whether manufacturer or agents of manufacturer holding the letter of authority of the principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.
 - 2.2.2 The amount of commission/ remuneration included in the price (s) quoted by the bidder for himself.
 - 2.2.3 confirmation of the foreign principals of the bidder that the commission/ remuneration, if any, reserved for the bidder in the quoted price(s), may be paid by 'the principal' in India in equivalent Indian rupees on satisfactory completion of the project or supplies of stores and spares in case of operation items.
- 2.3 In either case, in the event of contract materializing, the terms of payment shall provide for payment of the commission/ remuneration, if any payable to the agents/ representatives in India in Indian rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 failure to furnish correct and detailed information as called for in clauses above shall render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by 'the principal'. Besides this there would be a penalty of banning business dealings with 'the principal' or damage or payment of a named sum.