

Hydrology Project

Procurement of Dedicated Software and Hardware For Groundwater Data Processing Centers

December 1997

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ion □□□□ **Section I. Invitation for Bids**
Invitation for Bids

Date: 6th October, 1997

IFB NO.: GW SOFT 1

Contract No.: 13-1(1)/HLTG/M(SAM)/CGWB/97

- 1 The Government of India (hereinafter referred to as “the Purchaser”), has received a credit from the International Development Association, hereinafter referred to as the IDA, in various currencies towards the cost of the Hydrology Project. It is intended that part of the proceeds of this credit will be applied to eligible payments under the contract for Dedicated Software and Hardware for Groundwater Data Processing Centers.
- 2 The Regional Director, Central Ground Water Board (CGWB), Ministry of Water Resources, acting on behalf of the Purchaser, now invites sealed bids from eligible bidders for the supply, installation and support of: Groundwater Software, hardware, operating systems, database and GIS tools, communications, and the training of the users (including all the documentation and manuals).
- 3 Interested eligible bidders may obtain further information from and inspect the bidding documents, as from the 5th February, 1998, at the office of:

The Regional Director,
Central Ground Water Board
Jamnagar House,
Mansingh Road
New Delhi - 110011
Tel: 91-11-3383851, Fax: 91-11-3383561
- 4 A complete set of bidding documents may be purchased by interested bidders, on the submission of written application to the above address, and upon payment of a nonrefundable fee of Indian Rupees (Rs) 3,500/-, or US\$ 100, as from 5th February, 1998, between 10.00 AM and 16.00 PM (Indian Standard Time), and on the following working days. The payment is to be made either by banker’s cheque or by crossed demand draft payable to the CGWB, with a request for bid documents, giving the complete postal address of the bidder. Bidders who wish to receive the bidding documents by post should send the document fee along with an extra amount of Rs. 150/- (for Indian bidders) or US\$ 15.00 (for foreign bidders). Bidders who wish to receive the bidding documents by courier should send the document fee along with an extra amount of Rs. 450/- (for Indian bidders) or US\$ 35.00 (for foreign bidders). The CGWB shall not be responsible for any misplacements or late receipt of bid documents through the post or by courier.
- 5 The provisions in the Instruction to Bidders and in the General Conditions of Contract are the provisions of the World Bank *Standard Bidding Documents: Procurement of Information Systems, International Competitive Bidding (Draft)*.
- 6 A two stage bidding procedure will be followed. The first stage bid will consist of:
 - a) A technical bid only, without any reference to prices; and

- b) Any solutions a Bidder wishes to offer and technical justification therefor, provided that such solutions are in accordance with the specific technical requirements.
- 7 The first stage technical bids must be delivered to the above office on or before **15.00 hrs (IST) on the 6th April, 1998**. Bids will be opened in the presence of bidders' representatives who choose to attend, at **15.15 hrs (IST) on the 6th April, 1998**, at the address mentioned above.
- 8 A pre-bid meeting will be held at the: Central Ground Water Board office, New CGO Complex, N.H. IV, Faridabad, Haryana, on 23rd February, 1998, at 14.00 hrs. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at this stage.
- 9 Following evaluation of the first stage bids, the Purchaser will invite each bidder who meets the qualification criteria and who has submitted a technically acceptable first stage bid to a clarification meeting during which the Bidder's bid will be reviewed and all required changes will be noted and recorded in the Minutes of the meeting or in the amended stage two bidding documents. Only qualified Bidders submitting a complete and technically acceptable first stage bid, will be invited to submit a second stage bid.
- 10 The second stage bids will consist of (a) updated technical bids incorporating all the changes required by the Purchaser, as recorded in the Minutes of the clarification meeting or necessary to reflect any amendment(s) to the Bidding Documents or revisions to the Technical Specifications issued subsequent to submission of first stage bids, and (b) the commercial bids containing complete Price Schedules.
- 11 The second stage bids must be delivered to the above office at the date and time to be announced when the second stage bids are invited and will be opened in public immediately thereafter in the presence of the representatives of the Bidders who have been invited to submit the second stage bids and who choose to attend.
- 12 All second stage bids must be accompanied by a security of US\$ 40,000, or equivalent in currency of bid in the form of: (a) a demand draft, or (b) a bank guarantee or irrevocable Letter of Credit issued by a reputable bank selected by the Bidder.

Section II. Instructions to Bidders

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Section II. Instruction to Bidders

A. Introduction

1 Source of Funds

- 1.1 The Borrower named in the Bid Data Sheet has applied for or received a loan or a credit (hereinafter called “loan”) from the International Bank for Reconstruction and Development or the International Development Association (as identified in the Bid Data Sheet and hereinafter interchangeably called “the Bank”) in various currencies equivalent to the US dollar amount indicated in the Bid Data Sheet towards the cost of the Project specified in the Bid Data Sheet. The Borrower intends to apply a portion of the proceeds of this loan to eligible payments under the contract for which this Invitation for Bids is issued.
- 1.2 Payments by the Bank will be made only at the request of the Borrower and upon approval by the Bank, in accordance with the terms and conditions of the Loan Agreement, and will be subject in all respects to the terms and conditions of that agreement. The Loan Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of products, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the loan proceeds.

2 Eligible Bidders

- 2.1 This Invitation for Bids (IFB) is open to all suppliers from eligible source countries as defined in *Guidelines: Procurement under IBRD Loans and IDA Credits*, January 1995 (revised January and August 1996) (hereinafter referred to as *IBRD Guidelines for Procurement*), except as provided hereinafter.
- 2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the Information Systems to be purchased under this IFB.
- 2.3 Government-owned enterprises in the Purchaser’s country may participate only if they are legally and financially autonomous, if they

operate under commercial law, and if they are not a dependent agency of the Purchaser.

- 2.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Bank in accordance with sub-clause 44.1.

3 Eligible Products and Services

- 3.1 For the purpose of these Bidding Documents, the “Information Systems”, also called simply the “Systems,” means all of the products to be installed together with the related services to be provided by the selected Bidder under the contract.
- 3.2 All products and services to be delivered under the contract shall have their origin in eligible source countries, as defined in the *IBRD Guidelines for Procurement*, and all expenditures made under the contract will be limited to such products and services.
- 3.3 For purpose of this clause, “origin” means the place where the products are produced, or the place from which the services are supplied. Products are produced when, through software development, manufacturing, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components. The origin of products and services is distinct from the nationality of the Bidder.
- 3.4 All products and services to be supplied under the contract must be eligible for export to the Purchaser’s country, under the existing regulations of the country(s) of origin, for projects similar to the project identified in the Bid Data Sheet. Bidders shall be responsible for obtaining all necessary export permits for the products and services to be supplied.

4 Cost of Bidding

- 4.1 The Bidder shall bear all cost associated with the preparation and submission of its bids, and the Purchaser named in the Bid Data Sheet, hereinafter referred to as “the Purchaser”, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. The Biding Documents

5 Content of Bidding Documents

- 5.1 The contents of the Bidding Documents are:

Section I.	Invitation for Bids
Section II.	Instruction to Bidders
Section III.	Bid Data Sheet
Section IV.	General Conditions of Contract (GCC)
Section V.	Special Conditions of Contract (SCC)
Section VI.	Schedule of Requirements and Technical Specifications
Section VII.	Sample Forms
Section VIII.	Eligibility for the provision of Products and Services in Bank-Financed Procurements

- 5.2 Bidders are expected to examine all instructions, forms, terms, specifications and other information in the Bidding Documents. Failure to furnish all information required by the Bidding Documents or to submit a bid not substantially responsive to the Bidding Documents in every respect, will be at the Bidder's risk and may result in the rejection of its bid.

6 Clarification of Bidding Documents

- 6.1 Bidders requiring clarification of the Bidding Documents during either the first or the second stage bidding period, may petition the Purchaser in writing or by cable (hereinafter, the term "cable" is deemed to include telex, electronic mail and facsimile) at the Purchaser's address indicated in the Bid Data Sheet. The Purchaser will respond in writing to any such petition received no later than twenty-one (21) days before the respective deadline for submission of bids, prescribed in the Bid Data Sheet. The Purchaser's written response (with an explanation of the query, but without identifying the source of inquiry) will be sent to all purchasers of the Bidding Documents.
- 6.2 When specified in the Bid Data Sheet, the Purchaser will organize and bidders may attend a pre-bid meeting and participate in a site visit at the times and places indicated in the Bid Data Sheet. The purpose of the pre-bid meeting will be to clarify issues and the Technical Specifications. Bidders are requested to submit any questions in writing or by cable, to reach the Purchaser not later than seven (7) days before the meeting. Minutes of the meeting, including the questions raised and responses given, will be sent to all purchasers of the Bidding Documents.
- 6.3 Bidders are advised to inspect the Purchaser's Systems' site(s) during the site visit to obtain all the information necessary for preparing bids and entering into a contract. Visiting the site(s) shall be entirely at the Bidder's own risk and expense. The Bidder and any of its personnel or agents will be granted permission by the Purchaser to visit its site(s) for the purpose of such inspection, but only upon the express condition that they release and indemnify the purchaser and its personnel and agents from and against all liabilities.

7 Amendment of Bidding Documents

- 7.1 The Purchaser may modify the Bidding Documents by issuing addenda, for any reason, and at any time prior to the deadline for submission of bids. Any addenda to the Bidding Documents shall be part of the Bidding Documents, pursuant to ITB Clause 5, exclusively through the issuance of a formal Addendum and not through the Minutes of the meeting.
- 7.2 All purchasers of the Bidding Documents will be notified of the addenda in writing or by cable, and it will be binding on them.
- 7.3 To allow bidders reasonable time to take any addenda into account in preparing their bids, the Purchaser will extend, as necessary, the deadline for the submission of bids. Any addenda issued less than twenty one (21) days prior to the deadline for submission of bids shall include an extension of at least fourteen (14) days.

8 Language of Bids

- 8.1 First and second stage bids and all correspondence and documents relating to the bids exchanged by bidders and the Purchaser, shall be written in English. Supporting documents and printed literature furnished by bidders may be in another language, provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purpose of interpretation of the bid, the translation shall govern. Information supplied in another language without the proper translation shall be rejected.

C1. First Stage Bids: Preparation

9 Documents Comprising the First Stage Bid

- 9.1 The first stage bid prepared by the Bidder shall comprise the following:
 - (a) the relevant completed “First Stage Bid Form”, as furnished in the Bidding Documents, duly signed by the Bidder;
 - (b) documentary evidence established in accordance with ITB Clause 10 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted.
 - (c) documentary evidence established in accordance with ITB Clause 11 that the products and services to be supplied by the Bidder are eligible products and services and conform to the Bidding Documents;

- (d) a full description of the technical solution(s), which must provide an acceptable solution to the business problems described in the Section . Technical Specifications. Any additional or alternative solutions offered must include a complete technical and business justification. Any variation from the mandatory technical specifications, will need to be justified, pursuant to ITB Clause 5.2. Any first stage bids containing any price information will be rejected.

10 Documents Establishing Bidder's Eligibility and Qualifications

- 10.1 Pursuant to ITB Clause 9 and 22, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.
- 10.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder *and any subcontractors*, at the time of submission of the bid, are from an eligible country as defined under ITB Clause 2.
- 10.3 The documentary evidence of the Bidder's qualifications and ability to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
 - (a) that, in the case of a Bidder not doing business in the purchaser's country, the Bidder is or will be (if awarded the contract) represented in that country and is or will be able to carry out the installation, support, maintenance, spare parts-stocking and other service obligations prescribed in the Bidding Documents;
 - (b) that, in the case of a Bidder offering to supply products under the contract that it did not produce, the Bidder has been duly authorized by the subcontracted producer to supply the products in the Purchaser's country and to act on behalf of the producer, corroborated by a completed Producer's Authorization Form as provided in the Bidding Documents; and
 - (c) that a bid submitted by a joint venture of two or more firms as partners is signed so as to be legally binding on all partners and one of the partners is designated as being in charge, corroborated by a power of attorney defining signatories of all partners and specifically stating concurrence with all the terms and conditions defined in the GCC. A copy of the agreement(s) entered into by the joint venture or partners shall be included with the bid; and
 - (d) that the Bidder and any partners and subcontractors have the financial, technical, and staff capabilities to support the Systems, and have successful performance history as specified

in the Bid Data Sheet, appropriate for their role in fulfilling the contract.

11 Documents Establishing Products' Eligibility and Conformity to Bidding Documents

- 11.1 Pursuant to ITB Clause 9 and 22, the Bidder shall furnish, as part of its bids, documents establishing the eligibility and conformity to the Bidding Documents of all products and services which the Bidder proposes to supply under the contract.
- 11.2 The documentary evidence of the eligibility of the products and services shall consist of a statement in the First Stage Bid Form certifying that the proposed Systems have their origin in eligible countries.
- 11.3 The documentary evidence of conformity of the products and services to the Bidding Documents may be in the form of written descriptions, literature, diagrams, certifications and client references, including:
 - (a) a detailed description of the essential technical and performance characteristics of the products;
 - (b) an item-by-item commentary a on the Purchaser's Technical Specifications, demonstrating the substantial responsiveness of the products and services to those specifications, and any additional requirements specified in the Bid Data Sheet; and
 - (c) a confirmation that the Bidder shall accept responsibility for the successful integration and interoperability of all proposed products as required by the Bidding Documents.
- 11.4 For purposes of the commentary to be furnished pursuant to ITB Clause 11.3(b), the Bidder shall note that any references to brand names, and model numbers designated by the Purchaser in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative brand/model names in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutes ensure at least substantial equivalence to those referenced in the Technical Specifications.

12 Period of Validity of First Stage Bids

- 12.1 First Stage Bids shall remain valid for the period specified in the Bid Data Sheet from the date of bid submission prescribed by the Purchaser, pursuant to ITB Clause 14.

C2. First Stage Bids: Submission

13 Format, Signing and Packaging of the First Stage Bids

- 13.1 The Bidder shall prepare an original and number of copies of the bid specified in the Bid Data Sheet, clearly marking each “ORIGINAL BID” or “COPY OF BID”, as appropriate. In the event of any discrepancy between them, the original shall govern.
- 13.2 The original and copies of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to bind the Bidder to the contract. Any interlineation, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.
- 13.3 Bids shall be sealed in an envelope bearing the name and return address of the Bidder, be addressed to the Purchaser, bear the project and contract names and the Invitation for Bids (IFB) title and number, all as indicated in the Bid Data Sheet, and marked: “DO NOT OPEN BEFORE _____”, to be completed with the deadline for bid submission from the Bid Data Sheet.
- 13.4 Bidders shall organize the technical part of their bids in accordance with the format specified in the Section . Technical Specifications.
- 13.5 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

14 Deadline for Submission of First Stage Bids

- 14.1 Bids must be received by the Purchaser at the address specified in the Bid Data Sheet for ITB Clause 13 no later than the time and date specified in the Bid Data Sheet. Bids received after this deadline will be rejected and returned to the Bidder unopened.

15 Modification and Withdrawal of First Stage Bids

- 15.1 The Bidder may modify or withdraw its first stage bid after submission, provided that the modification, substitution or written notice of withdrawal of the bid is received by the Purchaser prior to the deadline prescribed for submission of first stage bids. No bid may be modified or withdrawn after the deadline for submission of bids. A withdrawal notice may be sent by cable, but must be followed by a signed original.

C3. First Stage Bids: Opening and Evaluation

16 Opening of First Stage Bids by the Purchaser

- 16.1 The Purchaser will open all first stage bids at the place and time specified in the Bid Data Sheet. Bidders' representatives may attend the opening, and those who are present shall sign a register evidencing their attendance.
- 16.2 The bidders' names, bid modifications or withdrawals, and such other details as the Purchaser may consider appropriate, will be announced at the opening.
- 16.3 The Purchaser will prepare minutes of the first stage bid opening.

17 Preliminary Examination

- 17.1 The Purchaser will briefly examine first stage bids, including any additional or alternative solutions, to determine whether they are complete.

18 Evaluation of First Stage Bids

- 18.1 The Purchaser will evaluate first stage bids to determine if they are technically acceptable according to the requirements of the Bidding Documents.
- 18.2 Generally, the Purchaser will allow a Bidder to correct technical deficiencies or deviations in its first stage bid for the second stage, pursuant to ITB Clause 20 and 21, provided that the technical solution is an acceptable solution to the business problems described in the Bidding Documents.
- 18.3 The Purchaser will similarly review any additional or alternative solutions proposed, to determine if they form a suitable basis for a second stage bid that may be submitted on its own merits.

19 Qualification for Participation in Second Stage Bidding

- 19.1 The Purchaser will then determine whether the bidders having submitted technically acceptable first stage bids are qualified to satisfactorily perform the contract. Such determination shall be based on the information submitted, pursuant to ITB Clause 10 and 11, as well as any other information, discussions, validation tests, and visits that the Purchaser may consider necessary to reach such determination.

D. Clarification Meetings

20 Clarification Meetings

- 20.1 The Purchaser will conduct Clarification Meetings with each responsive and qualified Bidder to clarify aspects of its first stage bid, review needed changes to conform to the requirements of the Bidding Documents, or identify any subcontractors that the Purchaser deems to be unacceptable. Changes applicable only to the specific bid required by the Purchaser to bring the Bidder's first stage bid up to a responsive and common level will be listed in the minutes of the Clarification Meeting.
- 20.2 The Purchaser will review any requested deviations or exceptions taken to the Bidding Documents and may decide to either amend the Bidding Documents accordingly, pursuant to ITB Clause 7, or to reject the requested deviations or exceptions.

21 Notification of First Stage Evaluation Results

- 21.1 At the end of the first stage evaluation and review process, the Purchaser will either formally:
- (a) invite a Bidder to submit a second stage bid without requiring any change in the first stage Bidding Documents;
 - (b) invite a Bidder to submit a second stage bid including all the modifications indicated in the Minutes of the Clarification Meeting through addenda to the first stage Bidding Documents;
 - (c) reject a bid containing an unacceptable solution to the technical and/or business requirements and shall include an explanation of the reason for rejection therewith; or
 - (d) reject a bid that is incomplete or is submitted by a Bidder that does not meet the minimum qualification requirements set forth in the Bidding Documents.

E1. Second Stage Bids: Preparation

22 Documents Comprising the Second Stage Bid

- 22.1 Second stage bids shall consist of updated technical bids containing the complete documents as required for first stage bids according to ITB Clause 9, updated pursuant to ITB Clause 21, and also incorporate the following:
- (a) the Second Stage Bid Form and all Price Schedules, as furnished in the Bidding Documents duly signed by the Bidder, and completed in accordance with ITB Clauses 23,24 and 26; and
 - (b) bid security furnished in accordance with ITB Clause 25.
- 22.2 Each second stage bid shall contain only one technical and price solution. If a Bidder wishes to offer more than one second stage solutions, each must have been deemed acceptable to the Purchaser in the Minutes of the Clarification Meeting, and must be submitted as a *separate bid* with only one bid security required from each Bidder. However, each such bid shall be evaluated on its own merit.

23 Bid Prices

- 23.1 The Bidder shall indicate the prices of the proposed Information Systems using the tables provided in the Bidding Documents.
- 23.2 Prices indicated on the Price and Recurrent Costs Schedules provided in the Bidding Documents shall be listed individually in the following manner:
- (a) Unit and total prices of products offered from abroad shall be quoted on a CIP or DAF point of entry or CIP named place of destination basis, as specified in the Bid Data Sheet, on the Imported Products Price Schedule, exclusive of all taxes and duties in the Purchaser's country. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible countries and may obtain insurance services from any eligible source country;
 - (b) Prices of products offered from within the Purchaser's country on the Locally Supplied Products Price Schedule, as follows:
 - (i) unit and total prices of products quoted EXW (exworks, ex-factory, ex-warehouse or off-the-shelf, as applicable), including all customs excise and other duties and sales or other taxes already paid or payable on previously imported products, or on the components or materials used in the production of the products;
 - (ii) any Purchaser country sales or other taxes that will be payable on the products if the contract is awarded.
 - (c) Unless otherwise specified in the Bid Data Sheet, Prices for services, including all taxes payable by the Bidder thereon, broken down into the local and foreign currency components, on the Services Price Schedule.
 - (d) Recurrent costs during the Maintenance Period, after the expiration of the Warranty Period, as specified in the Bid Data Sheet, on the Recurrent Costs Form, as follows:
 - (i) the cost of all diagnostic equipment, spare parts, consumables, supplies, software updates, recurrent licensing fees, and any other items needed to maintain operation of the Systems, plus any other recurrent supply of products specified in the Bidding Documents, quoted CIP or DAF if offered from abroad or EXW if offered from within the Purchaser's country;
 - (ii) the cost of all maintenance and technical support services, and any other recurrent services specified in

the Bidding Documents, including all taxes payable by the Bidder thereon.

- (e) Prices for inland delivery of the products, including transportation, insurance and all other local costs incidental thereto, for delivery to their destination on the Inland Delivery Price Schedule;
 - (f) Total of bid, inland delivery Prices, and Recurrent Costs, subtotaled by currency and delivery basis (EXW or CIP or DAF) on the Bid Price Summary Form.
- 23.3 The terms “EXW, CIP, DAF” etc., shall be governed by the rules prescribed in the current edition of *INCOTERMS* published by the International Chamber of Commerce, Paris.
- 23.4 The Bidder’s separation of price components in accordance with ITB Clause 23.2 will be solely for purpose of facilitating the comparison of bids and will not in any way limit the Purchaser’s right to contract on any of the terms offered.
- 23.5 Prices quoted by the Bidder shall be fixed maximum prices during the Bidder’s performance of the contract and not subject to increase on any account, except for the maximum annual percentage increases quoted by the Bidder in the Recurrent Costs Schedule. Bids submitted with adjustable price quotations will be rejected.

24 Bid Currencies

- 24.1 Prices for products and services offered from outside the Purchaser’s country shall be quoted in any currency of a Bank member country, or the European Currency Unit (ECU). If a Bidder wishes to be paid in a combination of different currencies, prices may be quoted accordingly but no more than three foreign currencies may be used.
- 24.2 Prices for products and services offered from within the Purchaser’s country and for inland delivery shall be quoted in the currency of the Purchaser’s country, unless otherwise specified in the Bid Data Sheet.

25 Bid Security

- 25.1 Pursuant to ITB Clause 22, the Bidder shall furnish, as part of its second stage bid, a bid security in the amount specified in the Bid Data Sheet. The bid security of a joint venture must be in the name of all partners submitting the bid.
- 25.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture, as per ITB Clause 25.7.
- 25.3 The bid security shall be denominated in the currency of the bid or in a freely convertible currency, shall be valid for thirty (30) days beyond the validity of the bid, and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank of the Bidder's choice, in the form provided in the Bidding Documents or another form acceptable to the Purchaser;
 - (b) a cashier's or certified cheque.
- 25.4 Any bid not secured in accordance with the ITB Clause 25.1 and 25.3 will be rejected by the Purchaser as nonresponsive, pursuant to ITB Clause 32.
- 25.5 Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Purchaser pursuant to ITB Clause 26.
- 25.6 The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 42, and furnishing the performance security, pursuant to ITB Clause 43.
- 25.7 The bid security may be forfeited:
- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or
 - (b) in case of a successful Bidder, if the Bidder fails to:
 - (i) sign the Contract in accordance with ITB Clause 42; and/or
 - (ii) furnish performance security in accordance with ITB Clause 43.

26 Period of Validity of Second Stage Bids

- 26.1 Second stage bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid submission prescribed by the Purchaser, pursuant to ITB Clause 28. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.
- 26.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by cable). The bid security provided under ITB Clause 25 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in ITB Clause 26.3.
- 26.3 If contract award is delayed by a period exceeding sixty (60) days beyond the expiration of the initial bid validity, the Contract Price will be adjusted by a factor specified in the request for extension.

E2. Second Stage Bids: Submission

27 Format, Signing and Packaging of Second Stage Bids

- 27.1 The Bidder shall prepare an original and the number of copies of the second stage bid specified in the Bid Data Sheet, clearly marking each "ORIGINAL BID" or "COPY OF BID", as appropriate. In the event of any discrepancy between them, the original shall govern.
- 27.2 The original and copies of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to bind the Bidder to the contract, which authorization shall be corroborated by a written power of attorney accompanying the bid. All pages of the bid, except for unaltered printed literature, shall be initialed by the person or persons signing the bid. Any interlineation, erasures, or overwriting shall be valid only if initialed by the people signing the bid.
- 27.3 Second stage bids shall be sealed in an envelope bearing the name and return address of the Bidder, be addressed to the Purchaser, bear the project and contract name and the Invitation for Bids (IFB) title and number, all as indicated in the Bid Data Sheet, and marked: "DO NOT OPEN BEFORE _____", to be completed with the time and date specified in the Bid Data Sheet for ITB Clause 28.1.
- 27.4 if the envelopes are not sealed and marked as required by ITB Clause 27.3, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

- 27.5 Bidders shall organize their bids in accordance with the format specified in the Section . Technical Specifications.

28 Deadline for Submission of Second Stage Bids

- 28.1 Second stage bids must be received by the Purchaser at the address specified in the Bid Data Sheet for ITB Clause 27.3 no later than the time and date specified in the invitation to submit a second stage bid. Bids received after this deadline will be rejected and returned to the Bidder unopened.
- 28.2 The Purchaser may, at its discretion, extend this deadline for the submission of second stage bids by amending the Bidding Documents in accordance with ITB Clause 7, in which case all rights and obligations of the Purchaser and bidders previously subject to the deadline will be thereafter be subject to the deadline as extended.

29 Modification and Withdrawal of Second Stage Bids

- 29.1 The Bidder may modify or withdraw its second stage bid after submission, provided that the modification, substitution or written notice of withdrawal of the bid, is received by the purchaser prior to the deadline prescribed for submission of second stage bids, pursuant to ITB Clause 25.
- 29.2 The Bidder's modification or withdrawal notice shall be packaged and dispatched in accordance with ITB Clause 27. A withdrawal notice may be sent by cable, but must be followed by a signed original, postmarked not later than the deadline for submission of second stage bids.
- 29.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security pursuant to ITB Clause 25.7.

E3. Second Stage Bids: Opening and Evaluation

30 Opening of Second Stage Bids by the Purchaser

- 30.1 The Purchaser will open all second stage bids at the place and time specified in the invitation to submit Second Stage Bids. Bidders' representative may attend the opening, and those who are present shall sign a register evidencing their attendance.
- 30.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Purchaser may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids which shall be returned unopened to the Bidder pursuant to ITB Clause 28.1
- 30.3 The Purchaser will prepare minutes of the second stage bid opening.

31 Clarification of Second Stage Bids

- 31.1 During evaluation of second stage bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

32 Preliminary Examination of Second Stage Bids

- 32.1 The Purchaser will examine second stage bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 32.2 Computational errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and the quantity, the unit price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept the correction of any errors, its bid will be rejected, and its bid security may be forfeited.
- 32.3 Prior to detailed evaluation, the Purchaser will determine whether each bid is substantially responsive to the Bidding Documents (including any amendments thereto) and the Minutes of the Clarification Meeting. For purposes of the ITB, a substantially responsive bid is one which conforms to all the terms and conditions of the Bidding Documents and Addenda and the requirements of all mandatory technical specifications, without material deviations, as determined from the contents of bid itself, without recourse to extrinsic evidence. A material deviation is one which limits the scope of the Systems in any

substantial way, and the acceptance of which deviation would affect unfairly the competitive position of other bidders presenting substantially responsive bids. Deviations from or objections or reservations to critical provisions, *such as* those concerning Bid Security (ITB Clause 25), Applicable Law (GCC Clause 10), Taxes and Duties (GCC Clause 20), will be deemed to be a material deviation.

- 32.4 A second stage bid that is not substantially responsive will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.
- 32.5 The Purchaser may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

33 Conversion to Single Currency

- 33.1 To facilitate evaluation and comparison, the Purchaser will convert all bid prices expressed in the various currencies in which they are payable to either:
 - (a) the currency of the Purchaser's country at the selling exchange rate established for similar transactions by the Central Bank or a commercial bank in the Purchaser's country; or
 - (b) a currency widely used in the international trade, such as US dollars, at the selling rate of exchange published in the international press for the amount payable in foreign currency; and at the selling exchange rate established for similar transactions by Central Bank in the Purchaser's country for the amount payable in the currency of the Purchaser's country.
- 33.2 The currency selected for converting bid prices to a common base for the purpose of evaluation and the date and source of the selling exchange rate are specified in the Bid Data Sheet.

34 Evaluation and Comparison of Second Stage Bids

- 34.1 The Purchaser will evaluate and compare second stage bids that have been determined to be substantially responsive, pursuant to ITB Clause 32.
- 34.2 The Purchaser’s evaluation of a bid will exclude and not take into account:
- (a) any Purchaser country sales or other taxes that will be payable on the products offered from within the Purchaser’s country, as per ITB Clause 23.2(b); and
 - (b) customs duties and other similar import taxes that will be payable on the products offered from abroad, as per ITB Clause 23,2(a).
- 34.3 The Purchaser’s evaluation of bids will take into account both cost and technical factors. A Bid Score (S) will be calculated for each responsive bid using the following formula, which weights the Evaluation Bid Price and the total Technical Points awarded to the bid:

$$S = \frac{C_{min}}{C} \times X + \frac{T}{T_{max}} \times Y$$

where

- C = Evaluated Bid Price
- C_{min} = the lowest of all Evaluation Bid Prices
- T = the total Technical Points for the bid
- T_{max} = the maximum Technical Points awarded to any responsive bid
- X = weight of the Price Score as specified in the Bid Data Sheet
- Y = weight of the Technical Score as specified in the Bid Data Sheet

The *highest* responsive Bid Score is eligible for contract award.

- 34.4 The price comparison of bids shall be between the EXW price of the products offered from within the Purchaser’s country, in accordance with ITB Clause 23.2(b), and the “CIP or DAF point of entry” or “CIP named place of destination” price of the products offered from outside the Purchaser’s country, in accordance with ITB Clause 23.2(a). The Evaluated Bid Price for each responsive bid will also include all Recurrent costs, the cost of inland delivery of the products, and the

cost of all Services required in the Bidding Documents. It will be determined using the following process:

- (a) Adjustment of the Bid Price and Recurrent Costs, as specified in the Bid Data Sheet, for the cost of:
 - (i) *Delays in bid installation schedule* within the maximum period specified in the Bid Data Sheet beyond the deliveries and installations specified in the Schedule of Requirements. Delayed deliveries or installations within this permissible range will result in an increase of the EXW or CIP or DAF prices by the percentage specified in the Bid Data Sheet for each week of delay.
 - (ii) *Deviations in bid payment schedule* from the schedule specified in the Special Conditions of Contract, if such deviation is considered acceptable to the Purchaser, bid price will be increased by the amount of interest that could otherwise be earned for any earlier payments involved in the proposed schedule, as compared to those stipulated in the Bidding Documents, at the annual interest rate specified in the Bid Data Sheet.
 - (iii) *Required products and services missing from the bid to be estimated based on the highest equivalent prices from the other responsive bids and added to the price of the bid in question.*
- (b) The Evaluated Bid Price (C) is calculated as the sum of the adjusted total Bid Price (P) and the Net Present Value of the adjusted Recurrent Costs (R), using the following formula:

$$C = P + \sum_{x=1}^N \frac{R_x}{(1+I)^x}$$

where

- P = total Bid Price, adjusted as per ITB Clause 34.4(a) and 35.1
- I = interest rate for Net Present Value from the Bid Data Sheet
- R_x = the total Recurrent Costs for year 'x' including adjustments as per ITB Clause 34.4(a)
- N = number of years of Recurrent Costs from ITB Clause 23.2(d)
- x = index representing each of the N years, in turn

35 Domestic Preference

- 35.1 If the Bid Data Sheet so specifies, the Purchaser will grant a margin of preference to products offered from within the Purchaser's country. The CIP or DAF components representing products offered from abroad, as listed on the Imported Products Price Schedule pursuant to ITB Clause 23.2(a), shall be increased by the applicable import tariff (custom duties and other import taxes) or fifteen (15) percent, whichever is less. If duties vary from item to item within a package, the appropriate tariff for each piece of equipment shall apply. No preference shall be applied for any associated services or works included in the Bid.
- 35.2 No margin of preference will be granted for any other price component and bidders will not be permitted or required to modify the source of any products or services after bid opening as a condition of contract award. Bidders quoting a pricing structure other than that specified herein may have their bids rejected.

36 Contacting the Purchaser

- 36.1 Any effort by the Bidder to influence the Purchaser in the process of evaluating bids and in decisions concerning award of contract, will result in the rejection of the Bidder's bid. If the Bidder wishes to bring additional information to the notice of the Purchaser, it should do so in writing.

F. Post Qualification and Award of Contract

37 Post Qualification

- 37.1 The Purchaser will determine at its own cost and to its satisfaction whether the Bidder that is selected as having submitted the highest evaluated responsive second stage bid is qualified to perform the contract satisfactorily, in accordance with ITB Clause 10 and 13 and the Technical Specifications.
- 37.2 The determination will take into account the Bidder's financial, technical, production and support capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 10 and 11, as well as such other information as the purchaser deems necessary. This determination may include reference site visits and tests pursuant to ITB Clause 37.5.
- 37.3 An affirmative post-qualification determination will be a prerequisite for award of contract to the highest evaluated Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Purchaser will proceed to the next highest evaluated bid to

make similar determination of that Bidder's capabilities to perform the satisfactorily.

37.4 The Purchaser reserves the right to review the user and technical documentation for the proposed Systems at the Bidder's and/or at the Purchaser's site to verify compliance with the Technical Specifications.

37.5 If so specified in the Bid Data Sheet, the Purchaser reserves the right to request a demonstration and/or a benchmark test of the software packages on a reference site computer configuration similar to the one proposed, to verify the functionality and responsiveness to the Technical Specifications and to estimate any necessary customization efforts and costs. The products to be tested, the testing methodology, test data sets, and criteria for success shall be specified in the Bid Data Sheet. The test site should be available for a one week period, with reasonable access to the facilities. The Supplier will assist in the creation of test data and transactions. All travel and subsistence costs will be borne by the Purchaser.

38 Award Criteria

38.1 Subject to ITB Clause 40, the Purchaser will award the contract to the Bidder whose second stage bid has been determined to be substantial responsive and has been determined to have the highest bid score, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily, pursuant to ITB Clause 37.

39 Purchaser's Right to Vary Quantities at Time of Award

39.1 The Purchaser reserves the right at the time of contract award to increase or decrease, by the percentage indicated in the Bid Data Sheet, the quantity of products and services originally specified in the Schedule of Requirements without any change in unit prices or other terms and conditions.

40 Purchaser's Right to Accept any Bid and to Reject any or All Bids

40.1 The Purchaser reserves the right to accept or reject any bid, or to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or bidders.

41 Notification of Award

- 41.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful Bidder in writing by registered letter, or by cable to be subsequently confirmed in writing by registered letter, that its bid has been accepted.
- 41.2 The notification of award will constitute the formation of the contract.
- 41.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 43, the Purchaser will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 25.

42 Signing of Contract

- 42.1 At the same time as the Purchaser notifies the successful Bidder that its bid has been accepted, the Purchaser will send the Bidder the Contract Form provided in the Bidding Documents, incorporating all agreements between the parties.
- 42.2 Within thirty (30) days of receipt of the Contract Form, the successful Bidder shall sign and date the Contract and return it to the Purchaser. By mutual agreement, the contract signature date may be postponed by up to thirty (30) days.

43 Performance Security

- 43.1 Within thirty (30) days of receipt of notification of award from the Purchaser, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, using the Performance Security Form provided in the Bidding Documents or another form acceptable to the Purchaser.
- 43.2 Failure of the successful Bidder to comply with the requirements of ITB Clause 42, or ITB Clause 43.1 shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make the award to the next highest evaluated Bidder or call for new Bids.

44 Corrupt or Fraudulent Practices

- 44.1 The Bank requires that the Borrower (including beneficiaries of Bank loans), as well as Bidder/Suppliers/Contractors under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Bank:

- (a) defines, for the purpose of this provision, the terms set forth below as follows:
 - (i) “Corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public 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 practice 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;
 - (b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practice in competing for the contract in question.
 - (c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a Bank-financed contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for or in executing a Bank-financed contract.
- 44.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 14.6 and sub-clause 23.1 (c) of the General Conditions of Contract.

ion □□□□ II Section III. Bid Data Sheet

The Following specific data for the products and services to be procured shall complement, supplement, or amend the provisions in the Instruction to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in the ITB.

For Project Description see Section VI - Schedule of Requirements and Section VII - Technical Specifications

INTRODUCTION	
ITB 1.1	Name of the Borrower: Government of India Loan or Credit number: IDA Credit 2774-IN Loan or credit amount: US\$ 142 millions
ITB 1.1 & 13.4 & 27.4	Name of Project: Hydrology Project
ITB 1.1 & 13.4 & 27.4	Name of contract: Dedicated Software and Hardware for Groundwater Data Processing Centers. The bid will be evaluated and contract awarded as a whole on a turn-key basis.
ITB 4.1 & 13.4 & 27.4	Name of Purchaser: The Regional Director, Central Ground Water Board (CGWB) (acting on behalf of the President of India)
ITB 5.1	The contents of the Bidding Documents are: Section I. Invitation for Bids Section II. Instructions to Bidders Section III. Bid Data Sheet Section IV. General Conditions of Contract (GCC) Section V. Special Conditions of Contract (SCC) Section VI. Schedule of Requirements Section VII. Technical Specifications Section VIII. Sample Forms. Forms No. 1.1-1.3 (Schedules 1-5), 2- 14 Section IX. Eligibility for the provision of Products and Services in Bank-Financed Procurements Technical Evaluation Annex Guidelines for Groundwater Data Processing Annex, page 185
ITB 6.1	Purchaser's address: The Regional Director, Central Ground Water Board, Jamnagar House, Mansingh Road, New Delhi - 110011, India. Telephone: 91-11-3383851, Fax: 91-11-3383561
ITB 6.2 & 6.3	Date, time and place for the pre-bid meeting and site visit: 14.00 hrs, February 23, 1998, at CGWB office, New CGO Complex, N.H. IV, Faridabad, Haryana

PREPARATION AND SUBMISSION OF FIRST STAGE BIDS	
ITB 10.3(b)	In the case of a Bidder offering to supply products under the contract, that it did not produce, the Bidder shall furnish with the bidding documents completed Producer's Authorization Form 8 of Section VIII, at least for the following categories of products: (a) All personal computers (workstations), servers, modems and hubs; (b) Application software, Database tools, GIS tools
ITB 10.3 (c)	Bids submitted by a joint venture of two or more firms as partners shall comply

	<p>with the following requirements:</p> <ul style="list-style-type: none"> (a) The bid shall include all the information listed in Sub Clause 10.1 & 10.2 above; (b) The bid and, in case of a successful bid, the Agreement, shall be signed so as to be legally binding on all partners; (c) One of the partners shall be nominated as being in charge, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners; (d) Qualification information should be furnished in Form 12 of Section VIII. Performance Statement in Form 9 of Section VIII. (e) The partner in charge shall be authorized to incur liabilities and receive any instructions for and on behalf of any and all partners of the joint venture and the entire execution of the contract, including payment, shall be done exclusively with the partner in charge; (f) All partners of the joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under (c) above, as well as in the bid and in the Agreement (in case of a successful bid); (g) The proposed participation of each of the joint venture partners in respect of design, supply and maintenance of hardware, software or service support and training should be stated clearly in the joint venture agreement, and should not be changed without the prior written approval of the Purchaser; (h) The Joint venture agreement should be legally enforceable and registered in India; and (i) The bid and performance security of a joint venture must be in the name of the Joint Venture submitting the bid. (j) a copy of the agreement entered into by the joint venture partners shall be submitted with the bid.
ITB 10.3(d)	<p>The bidder could be either a Manufacturer of Hardware equipment or Producer/Developer of software or Service & Support company. The bidder may have joint venture with other companies which satisfy the requirements as follows:</p> <p>Qualification requirements for the Bidder and Joint Venture partners are:</p> <ul style="list-style-type: none"> (a) The Bidder should have an annual turnover of not less than the equivalent of US\$ 10,000,000 in all the last 5 years (1992-93 to 1996-97). In case of a Joint Venture each of the partners should have an annual turnover of not less than the equivalent of US\$ 5,000,000 in all the last 5 years (1992-93 to 1996-97). (b) Each Should be ISO 9000 certified. (c) Each should be in their respective business for a minimum period of five years; <p>The Hardware Supplier should have supplied and installed computer/communication equipment (of a reputable manufacturer) for not less than 20 different customers consisting of 50 computers per customer / not less than 20 LANs at different offices and sites consisting of at least 10 computers per LAN, during the last five years. The systems supplied should have been in satisfactory operation and use for a minimum period of six months.</p> <p>The application software vendor shall have sold and provided the software to at least three different customers, for not less than 20 users at each customer, during the last four years (including the customization adaptation and</p>

	<p>implementation of the software), which have been in successful operation for a minimum period of one year. Additionally the Application Software should be readily available for 65% of the Functionality required as per Section VII - Technical Specifications.</p> <p>The Service & Support hardware and software companies should have provided maintenance service and support for at least 10 different customers each, involving support of at least 20 computers each, located at least across an area of 2500 sq. km., have a minimum of 5 service centers in the area, in the last five years, with satisfactory performance for a minimum period of one year. The software support experience should include support of database, GIS, and application software, as well as systems software support. The supporting companies would be required to establish, 2 months before equipment delivery, "Help Desk" and support service in the Project area consisting of 2 technical experts (one hardware and one software) in the State Capital of: Gujarat, Andhra Pradesh, Madhya Pradesh, Orissa, Tamil Nadu, Maharashtra, Karnataka, Kerala. 2 technical experts (one hardware and one software) in Calcutta, Chandigarh, and Guwahati, and 4 technical experts (two hardware and two software) in Delhi. The bidder should furnish the service & support facilities in the format attached in Section VIII - Sample Forms</p> <p>The bidder should furnish Performance Statements for the above as well as the qualification information on the prescribed attached formats, and these should be further supported by attested certificates from the end users in Form 13 of Section VIII.</p>
ITB 10.3 (e, f added)	Add at the end of Clauses 10.3 (d) the following (e), (f)
10.3 (e)	<p>That adequate, specialized hardware, related software experience are already available or will be made available following the execution of the Contract, in the Purchaser's country, to ensure that the support services are responsive; and</p> <p>i) That the Bidder has adequate experience in providing technical project management; and</p> <p>ii) That the Bidder will assure total responsibility for the fault free operation of hardware, application software and maintenance during the warranty period and provide necessary maintenance services for four years after the end of the warranty period.</p>
10.3 (f)	That the Bidder selected for the award of Contract shall be responsible both for complying with any applicable export regulations and for obtaining the necessary export license in the country of origin. To this effect Bidders shall provide along with their bids, a document stating that it expects to obtain the required export license for the equipment, specified in the Technical Specifications within 45 days of the Contract signature date.
ITB 11.3 (a) & (b)	Bidder should furnish technical details of its offer in the attached Forms under Clause 8 of Section VII Technical Specifications
ITB 11.3 (d)	Add the following as Clause 11.3 (d): “(d) a confirmation that, if the Bidder offers a system and/or other software manufactured by another company, such software operates effectively on the system offered by the Bidder; and the Bidder is willing to accept responsibility for it's successful operations;”
ITB 11.3 (e)	Add the following as Clause 11.3 (e): “(e) a confirmation that similar or compatible hardware will be made available in the purchaser's country to provide adequate emergency

	processing arrangements; and”
ITB 11.3 (f)	Add the following as Clause 11.3 (f): “(f) a confirmation to the effect that the hardware and software offered are taking care of year 2000 calculations.”
ITB 12.1	The bid validity period shall be: 120 days
ITB 13.1	Required number of copies of first stage bid: 10 copies
ITB 13.3 & 27.4	The IFB title: Dedicated Software and Hardware for Groundwater Data Processing Centers IFB number: GW SOFT 1
ITB 13.3 & 14.1 & 16.1	The address for first stage bid submission is: The Regional Director, Central Ground Water Board, Jamnagar House, Mansingh Road, New Delhi - 110011, India. Deadline for first stage bid submission: 15.00 hrs. (IST); Day: Monday, Date: April 6th, 1998. Time, date, and place for first stage bid opening are: 1515 hours (IST) Monday, April 6th, 1998 at the above address. In the event of the specified date for submission of bids being declared a holiday for the Purchaser, the bids will be received upto the appointed time on the next working day.
ITB 19.1	Applicable first stage qualification measures are: Documentation reviews, reference site contacts and/or site visits.
ITB 23.2(a)	Prices for products offered from abroad shall be quoted as: CIP named place of destination according to the Schedule of Requirements - Section VI (the Bidder will be required to supply and install the Information Systems at the final destination of all Project sites). Purchaser will only obtain customs clearance after filing the Bill of Entry and payment of necessary customs duty. All other aspects, such as port clearance and transport to ultimate destination, etc., should be done by the supplier
ITB 23.2 (b)	(i) Insert the words “excise and other” in between the words “customs” and “duties” in line 3 of this Sub-clause
Note: below ITB 23.2 (b)	Note: Bidders may like to ascertain availability of Deemed Export Benefits. They are solely responsible for obtaining such benefits which they have considered in their bid, and in case of failure to receive such benefits, the Purchaser will not compensate the Bidder. Where the Bidder has quoted taking into account the Deemed Export Benefits, he must give all information required for issue of Project Authority/Payment Certificates in terms of the Import Export Policy along with his bid in Form 14 of Section VIII. The Project Authority/Payment Certificate will be issued on this basis only, and no subsequent change will be permitted. Where such Certificates are issued by the Purchaser, Excise Duty will not be reimbursed separately. Bids which do not conform to this provision will be treated as non-responsive and rejected.
ITB 23.2 (c)	The Services are as described in the Technical Specifications. Taxes and Duties are as described in the Special Conditions of Contract Clause 8
ITB 23.2(d) & 34.4(b)	The “Maintenance Period” (N) for Recurrent Costs to be included in the evaluation process shall be Four (4) years after the expiration of the Warranty Period (which is as defined in the GCC/SCC).
ITB 24.1	Delete the words ”from outside the Purchaser’s country” in line 1.

ITB 24.2	Delete the words "for Products and Services offered from within the Purchaser's country and" in line 1. The currency to be used for inland transportation is Indian Rupees.
ITB 24.3 (added)	Add the following as Clause 24.3 24.3 Agents and service facilities in India: If a foreign Bidder has engaged an Indian agent, it will be required to give the following details in the offer: 1. The name and address of the local agent; 2. What service the agent renders; and 3. The fixed amount of remuneration for the agent included in the offer. The agency commission shall be indicated in the space provided for, in the price schedule and will be paid to the Bidder's agent in India in Indian Rupees, using the Telegraphic Transfer buying market rate of exchange ruling on the date of award of contract and shall not be subject to any further exchange variation.

PREPARATION AND SUBMISSION OF SECOND STAGE BIDS

ITB 25.1	The amount of second stage bid security required is US\$ 40,000.00 or equivalent in the currency of the bid.
ITB 25.3	The bid security shall be valid for forty five (45) days beyond the validity of the bid.
ITB 25.3 (b)	Substitute "a Cashier's or Certified Check" with the words "Demand Draft"
ITB 25.5	Substitute 30 by 45
ITB 26.1	The bid validity period shall be : 120 days
ITB 26.3	Delete the Sub-clause 26.3
ITB 27.1	Required number of copies of the bid: 10 copies
ITB 27.6 (added)	Telex, cable, or fax bid will be rejected.
ITB 27.3 & 28.1 & 30.1	The address for second stage bid submission is: The Regional Director, Central Ground Water Board, Jamnagar House, Mansingh Road, New Delhi - 110011, India. Deadline for the bid submission: <i>[date and time will be specified in the invitation to submit a second stage bid]</i> Time, date, and place for second stage bid opening are: <i>[date and time for bid opening will be specified in the invitation to submit a second stage bid.]</i>

SECOND STAGE BID EVALUATION

ITB 31.2 (added)	"Subject to sub-clause 31.1, no Bidder shall contact the Employer on any matter relating to its bid from the time of the second stage bidding opening to the time the contract is awarded. If the Bidder wishes to bring additional information to
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	the notice of the Purchaser, it should do so in writing”
ITB 31.3 (added)	“Any effort by the Bidder to influence the Purchaser in the Purchaser’s bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidder’s bid.”
ITB 32.1	Add the following at the end of this clause as Sub-Paragraph “Bids from Agents without proper authorization from the products / manufacturer as per ITB Clause 10.3 (b) shall be treated as non-responsive”
ITB 32.3	Add the following clauses as additional critical provisions, deviations from or objections or reservations to which will be treated as material deviations: <ul style="list-style-type: none"> - “Performance Security” (GCC Clause 17) - “Deemed Export” [Note under 23.2(b) of ITB]; - “Warranty” (GCC Clause 34 and SCC Clause 15); and - “Force Majeure” (GCC Clause 26) - “Limitation of Liability” (GCC Clause 27) - “Product Support” (GCC Clause 35)
ITB 33.2	The Currency chosen for the purpose of converting to a common currency is Indian Rupees (Rs.) The source of exchange rate is: BC Selling market exchange rates established by State Bank of India or any other commercial bank in India The date of exchange rate determination is: Date of opening of Second Stage Bids
ITB 34.3	Price and Technical Factors shall be combined using the formula specified below. The relative weights for Price and Technical Scores are: Price = 60% Technical = 40% (i.e. In the formula below X=0.60, Y=0.40). $S = \frac{C_{min}}{C} \times X + \frac{T}{T_{max}} \times Y$ <p>Where:</p> <p>C = Evaluated Bid Price C_{min} = the lowest of all Evaluation Bid Prices T = the total Technical Points for the bid T_{max} = the maximum Technical Points awarded to any responsive bid X = weight of the Price Score as specified in the Bid Data Sheet Y = weight of the Technical Score as specified in the Bid Data Sheet</p> <p>The highest responsive Bid Score is eligible for contract award.</p> <p>The maximum number of Technical Points (T) that may be awarded to any bid is 100.</p> <p>T (technical score) - will combine: Application Software, Database & GIS features and tools, Development tools, Hardware, Communications, Operating</p>

	<p>Systems and maintenance tools, Service & Support, Training, and Vendors Experience. Technical Points will be awarded according to the below listed criteria:</p> <ul style="list-style-type: none"> a) Conformance to Mandatory Technical Specifications in order to be considered qualified. b) The bids will be awarded the number of points according to the degree of meeting the technical specifications as evaluated by the Purchaser c) A minimum Technical Score of 75 is required for a Bid, in order to be considered technically responsive bid <p>The formula for technical evaluation will be:</p> $T = (.50 \times AT) + (.10 \times GE) + (.25 \times SS) + (.10 \times SH) + (.05 \times T)$ <p>Where:</p> <p>AT - Application Software and tools and Application Software Vendor experience and software overall use SS - Service and Support T - Training GE - General Bidder's Experience, Key Persons and Project Plan SH - Systems and Network software tools, Hardware and Communication equipment</p> $AT = (.45 \times AS) + (.15 \times DB) + (.12 \times G) + (.08 \times DT) + (.10 \times SU) + (.10 \times SD)$ <p>AS - Application Software DB - Database tools G - GIS tools DT - Development tools SU - Application Software vendor experience and software use SD - Application Software Demonstration (see Demo -details in the Technical Specifications)</p> <p>Detailed evaluation criteria tables for each of the above is given in the Technical Evaluation Annex page 169. Bidders are invited to furnish their comments on the technical evaluation criteria along with their first stage bids. These will be finalized after first stage evaluation.</p>
ITB 34.3 (added)	<p>Application Software Demonstration - The Bidder will be required to demonstrate in New Delhi, India, its Application Software on the computer configuration proposed, using the proposed software tools, to verify the functionality, availability, and responsiveness to the Technical Specifications and to estimate the necessary development efforts. The functions to be demonstrated and criteria for success will be according to the Technical Specifications and Schedule of Requirements. The Demonstration site should be available for a one week period. All travel and subsistence costs of the Bidder in order to create and carry out the demonstration will be borne by the Bidder.</p>
ITB 34.4(a)	<p>The applicable bid price adjustments for evaluation purposes are:</p> <ul style="list-style-type: none"> (i) Full-scale Implementation can be offered up to a maximum of three (3) month beyond the schedule specified in the Schedule of Requirements. (ii) The percentage for adjustments for delayed full-scale implementation is one-

(iii)	half percent (0.5%) of the bid price per week. The percentage adjustment for payment schedule deviation is 14 percent per annum.
ITB 34.4(b)	Interest Rate (I) for net present value calculations for Recurrent Costs in determining the second stage Bid Price = 10 percent
ITB 35	A margin of Domestic preference will apply; and the basis of application will be CIP

CONTRACT AWARD	
ITB 37	Applicable second stage post qualification measures are: Documentation reviews, reference site contacts and/or site visits.
ITB 39.1	Percentage of quantity increase or decrease shall be 15 percent (rounded to the next whole number).
ITB 42.2	Read the number of days in Line 1 as twenty one (21) in place of thirty (30).
ITB 43.1	Read the number of days in Line 1 as twenty one (21) in place of thirty (30).

Section IV. General Conditions of Contract

A. Contract and Interpretation

1 Definitions

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
- (a) “The Contract” means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by the reference therein.
 - (b) “The Contract Price” means the price payable to the Supplier under the Contract for the full and proper performance of all its contractual obligations. The extent to which the Recurrent Costs as identified in the Supplier’s bid during the Maintenance Period are included in the Contract Price is specified in SCC.
 - (c) “GCC” means these General Conditions of Contract in Section IV.
 - (d) “SCC” means the Special Conditions of Contract in Section V.
 - (e) “The World Bank” means the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
 - (f) “The Purchaser” means the organization purchasing the Information Systems, as named in SCC.
 - (g) “The Purchaser’s country” is the country named in SCC.
 - (h) “The Supplier” means the firm or joint venture supplying the Information Systems under this Contract, as named in SCC.
 - (i) “Subcontractor” means any entity that is directly or indirectly subcontracted by the Supplier to deliver any Services or supply any Products, including supply of Products as third party producer.
 - (j) “The Information Systems” also called simply “the Systems” means all the Products to be installed, integrated, developed, customized and made operational, together with the Services to be delivered by the Supplier under the Contract.

- (k) “The Services” means those services associated with the supply of the Systems, as defined in the Contract.
- (l) “The Products” means all of the Equipment, Hardware, Software, supplies and consumable items that the Supplier is required to install or provide under the Contract, plus the associated documentation.
- (m) “Software” means instructions that cause data processing systems to perform in a specific manner or execute specific operations.
- (n) “Standard Software” means system and general purpose Software, System Software includes the operating systems, communication and network software, Systems and Network management utilities. General purpose Software includes word processing, spreadsheet, generic database management and application development software.
- (o) “Application Software” means business or technical Software either packaged or custom-developed using Standard Software, formulated to interface with the users of the data processing system.
- (p) “Custom Software” means either Standard or Application Software developed by the Supplier at the Purchaser’s expense under the Contract, including customization made to packaged Software.
- (q) “Source Code” means the database structures, dictionaries, definitions, program source files and any other symbolic representations necessary for the compilation, execution and subsequent maintenance of the Custom and/or Application Software.
- (r) “The Project Sites” means the place or places named in the Schedule of Requirements for delivery and installation of the Systems.
- (s) “The Effective Date” means the date following contract signing that the Contract enters into full force and effect with respects to the scheduled Installation dates for the Systems, as specified in the Schedule of Requirements, and upon fulfillment of any and all additional conditions specified in the SCC.
- (t) “The Project Manager” means the duly authorized Purchaser’s representative named in SCC, who shall manage and be responsible for fulfillment of the Purchaser’s obligations, pursuant to GCC Clause 37, and shall oversee the Supplier’s performance of the Contract.

- (u) “The Supplier’s Representative” means the duly authorized representative of the Supplier, approved by the Purchaser to manage and be responsible for the Supplier’s performance under the Contract in accordance with GCC Clause 38.
- (v) “The Project Plan” means the document to be developed by the Supplier and approved by the Purchaser, pursuant to GCC Clause 16, based on the requirements of the Contract and the preliminary project plan included in the Supplier’s bid. Should the Project Plan conflict with Contract in any way, the relevant provisions of the Contract shall prevail in each and every instance.
- (w) “Installation” means the Supplier’s written notification that the Systems (of a specific part thereof) have been installed by the Supplier in accordance with Contract requirements and the Project Plan, and are ready for Acceptance testing.
- (x) “Acceptance” means the Purchaser’s written certification that, following Installation the Systems (or a specific part thereof) have been tested and verified as complete and/or fully operational, in accordance with the Acceptance tests defined in the Contract and Project Plan.
- (y) “The Warranty Period” is the period specified in the GCC or SCC, following Acceptance of the Systems, during which the Supplier’s Warranty obligations in respect of the Systems are in force, pursuant to GCC Clause 34.
- (z) “The Maintenance Period” is the number of years specified in SCC for maintenance and support Services for the Systems under this Contract, as measured from the expiration of the Pilot Warranty Period, and is used for evaluating the bids.
- (aa) “The Coverage Period” is the days of the week and the hours on those days during which maintenance, operational and/or technical support services must be available, as specified in SCC, and is used to enable Suppliers to identify costs.
- (ab) “Intellectual Property Rights” means any and all copyright, moral right, trademark, patent, and other intellectual and proprietary sub-license, transfer, rent, lease, transmit or provide access electronically, broadcast, display, enter into computer memory, or otherwise use any portion or copy, in whole or in part, in any form, directly or indirectly, or to authorize or assign others to do so.
- (ac) “Day” means calendar day.
- (ad) “Procurement Guidelines” refers to the latest edition of the World Bank Guidelines: Procurement under IRBD Loans and

IDA Credits, January 1995 (revised January & August 1996
(hereinafter referred to as the IRBD Guidelines for
procurement).

2 Application

- 2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

3 Country of Origin

- 3.1 All Products and Services supplied under the Contract shall have their origin in the countries and territories eligible under IRBD Guidelines for Procurement of the World Bank.
- 3.2 For purposes of this Clause, “origin” means the place where the Products were produced or from which the Services are supplied. Products are produced when, through manufacturing, processing, software development or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components. The origin of Products and Services is distinct from the nationality of the Supplier.

4 Standards

- 4.1 The Systems supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Systems’ country of origin. Such standards shall be the latest issued by the relevant organization.

5 Contract Amendments

- 5.1 Subject to GCC Clause 36, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

6 Joint Ventures

- 6.1 If the Supplier is a joint venture, all members of a joint venture shall be jointly and severally liable for the fulfillment of the Contract and shall designate one of the firms to act as the leader. The constitution of the joint venture shall not be altered without the prior written consent of the Purchaser.

7 Assignment

- 7.1 The Supplier shall notify the Purchaser in writing of its intent to award subcontracts not already specified in the Bid, or change subcontractors under this Contract. Such awards and changes must comply with GCC Clause 3 and shall require the Purchaser's written consent prior to execution thereof. Such notification, and the Purchaser's consent or objection thereto, shall not relieve the Supplier from any liability or obligation under the Contract. The Supplier shall not assign, in whole or in part, its obligations to perform or right to receive payments under this Contract, except with the Purchaser's prior written consent.

8 Resolution of Disputes

- 8.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct or indirect informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 8.2 If, after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and/or international arbitration.

9 Governing Language

- 9.1 The Contract shall be written in the language specified in SCC. Subject to GCC Clause 10, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

10 Applicable Law

10.1 The Contract shall be interpreted in accordance with the laws of the Purchaser's country, unless otherwise specified in SCC.

11 Notices

11.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC.

11.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

12 Supplier's Bid

12.1 The Supplier's Bid shall form part of the Contract.

13 Secondary Contractual Agreements

13.1 Any additional contractual or liability agreements may be attached to the Special Conditions of Contract by mutual, written agreement of the Purchaser and the Supplier. If there is any conflict with the GCC or SCC Clauses or the Technical Specifications, the GCC/SCC Clause shall prevail in each and every instance.

B. Confidentiality and Property Rights

14 Use of Contract Documents and Information; Inspection and Audit by the Bank

14.1 The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

14.2 Any document, other than the Contract itself, enumerated in GCC Clause 14.1 shall remain the property of the Purchaser and all copies thereof shall be returned to the Purchaser on termination of the Contract, if so required by the Purchaser.

- 14.3 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated in GCC Clause 14.1 except for purpose of performing the Contract.
- 14.4 The Purchaser shall not, without the Supplier's prior written consent, disclose any documents, data or other information furnished by the Supplier in connection with the Contract, and clearly identified in advance by the Supplier as being confidential, to parties not directly involved in the project(s) covered by the Contract, pursuant to GCC Clause 14.5
- 14.5 The provisions of GCC Clause 14 shall survive termination of the Contract for a period of one year thereafter, and shall not apply to information which:
- (a) now or hereafter enters the public domain through no fault of that party;
 - (b) can be proven to have been in possession of that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party hereto; or
 - (c) otherwise lawfully becomes available to that party from a third party under no obligation of confidentiality.
- 14.6 The Supplier shall permit the Bank to inspect the Supplier's accounts and records relating to the performance of the supplier and to have them audited by auditors appointed by the Bank, if so required by the Bank.

15 Indemnification

- 15.1 The Supplier shall, at its own expense, defend and indemnify the Purchaser against all third-party claims of infringement of Intellectual Property Rights, including patent, trademark, copyright, trade secret or industrial design rights arising from use of the Products or any part thereof in the Purchaser's country.
- 15.2 The Supplier shall expeditiously extinguish any such claims and shall have full rights to defend itself therefrom. If the Purchaser is required to pay compensation to a third party resulting from such infringement, the Supplier shall be fully responsible therefor, including all expenses and court and legal fees.
- 15.3 The Purchaser will give notice to the Supplier of any such claim without delay, shall provide reasonable assistance to the Supplier in disposing of the claim, and shall at no time admit to any liability for or express any intent to settle the claim.
- 15.4 Indemnities shall not apply if any claim of infringement or misappropriation:

- (a) is asserted by a parent, subsidiary or affiliate of the Purchaser's organization;
- (b) is a direct result of a design mandated by the Purchaser's Technical Specifications and the possibility of such infringement was duly noted in the Supplier's Bid; or
- (c) results from the Purchaser's alteration of the Products.

15.5 The Purchaser shall indemnify and defend the Supplier against all third-party claims of infringement of Intellectual Property Rights, including patent, trademark, copyright, trade secret or industrial design rights arising from the use of any information or Software provided to the Supplier by the Purchaser under the Contract.

16 Software License Agreements

16.1 The Supplier hereby grants to Purchaser a fully paid-up, irrevocable, non-exclusive license throughout the territory of the Purchaser's Country to access and use the Standard and Application Software, including all inventions, designs and marks embodied therein, which Software may be:

- (a) used or copied for use or with the primary computer for which it was acquired, plus a backup computer if the primary is inoperative;
- (b) reproduced for safekeeping or backup purposes;
- (c) customized, adapted, or combined with other computer software, provided that derivative software incorporating any of the delivered, restricted computer software shall be subject to same restrictions set forth herein;
- (d) disclosed to and reproduced for use by support service suppliers or their subcontractors, subject to the same restrictions set forth in this Contract;
- (e) used or copied for use on or transferred to a replacement computer.
- (f) subject to audit by the Supplier to verify compliance with these License Agreements.

16.2 The copyright in all documents, Standard Software and other materials containing data and information furnished to the Purchaser by the Supplier shall remain vested in the Supplier or, if they are furnished to the Purchaser by any third party including subcontractors and original producers of Products furnished by the Supplier under the Contract, the copyright in such materials shall remain vested in such third party.

16.3 The Purchaser agrees to restrict use, copying or duplication Software and related documentation in accordance with GCC Clause 16.1 and 16.2 and SCC , except that additional copies of documentation may be made by the Purchaser for use within the scope of the project for which this Contract was issued, in the event that the Supplier is unable to deliver copies within 30 days from receipt of an order.

- 16.4 The Purchaser's contractual rights to use the Software may not be assigned, licensed, or otherwise transferred voluntarily without the Supplier's prior written consent, except as otherwise provided for in SCC.

C. Payments, Guarantees and Liabilities

17 Performance Security

- 17.1 Within thirty (30) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Purchaser the performance security in the amount specified in SCC.
- 17.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract. The Purchaser shall notify the Supplier in writing of its invocation of its right to receive such compensation within 7 days, indicating the contractual obligation(s) for which the Supplier is in default.
- 17.3 The performance security shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Purchaser and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Purchaser's country or abroad, acceptable to the Purchaser, in the form provided in the Bidding Documents or another form acceptable to the Purchaser; or
 - (b) a cashier's or certified cheque.
- 17.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than thirty (30) days following the date of written acceptance of all the supplier's performance obligations under the Contract, as specified in SCC.
- 17.5 GCC Clause 17 shall not be invoked if the contractual default condition has been referred for dispute resolution under the provision of GCC Clause 8.

18 Payment

- 18.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.
- 18.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Systems delivered, installed and accepted, and by documents

submitted pursuant to GCC Clause 29, and upon fulfillment of other obligations stipulated in the Contract.

- 18.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of valid invoice or claim by the Supplier.
- 18.4 The currency or currencies in which payment is made to the Supplier under this Contract shall be specified in SCC, subject to the principle that payment for imported Products will be made in the currency or currencies in which the payment has been requested in the Supplier's bid.
- 18.5 Payment of the foreign currency portion of the Contract Price for imported Products and Services shall be made to the Supplier through an irrevocable letter of credit opened by an authorized bank in the Supplier's country, and will be payable on presentation to it of the appropriate documents. It is agreed that the letter of credit will be subject to Article 10 of the last revision of *Uniform Customs and Practice for Documentary Credits*, published by the International Chamber of Commerce, Paris.

19 Prices

- 19.1 Prices charged by the Supplier for Systems installed and Services performed under the Contract shall not be increased from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in GCC Clause 36, SCC or in the Purchaser's request for bid validity extension.

20 Taxes and Duties

- 20.1 A foreign Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's country.
- 20.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the Products and Services to the Purchaser.
- 20.3 Furthermore, both foreign and local Suppliers are responsible for any taxes levied in connection with performance of Services described in the SCC. If any rate of tax is increased or decreased fourteen (14) days prior to the deadline for submission of bids, the same shall be compensated to, or deduced from, payments due to the Supplier as the case maybe.

21 Delays in the Supplier's Performance

- 21.1 Delivery and Installation of the Systems and Services shall be made by the Supplier in accordance with the time schedule prescribed by the Purchaser in the Schedule of Requirements.
- 21.2 If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery or installation of the Systems or performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 21.3 Except as provided under GCC Clause 26, a delay by the Supplier in the performance of its delivery or installation obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 or 36 without the application of liquidated damages.

22 Liquidated Damages

- 22.1 Subject to GCC Clause 26, if the Supplier fails to deliver or install any or all of the Systems or any of the Systems fail to gain Acceptance within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Performance Security, as liquidated damages, a sum equivalent to the percentage of the Contract price specified in SCC for each week or part thereof of delay until successful acceptance, up to a maximum deduction of the percentage specified in SCC, subject to the provisions of Clause 22.2. once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 23.
- 22.2 If delivered or installed Products and/or Services cannot be put to use without the uninstalled Products or undelivered Services, the damages will be calculated using the total price of the Systems that cannot be put to use.

23 Termination for Default

- 23.1 The Purchaser, without prejudice to any other remedy for breach of Contract, by thirty (30) days advance written notice of default sent to the Supplier, may terminate this Contract in whole or in part:
 - (a) if the Supplier fails to deliver any or all of Products or to install any or all of the Systems within the period(s) specified in the

- Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 21; or
- (b) if the Supplier fails to perform any other significant obligation(s) under the Contract.
 - (c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For purpose of this clause:

“corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.

“Fraudulent practice” means a misrepresentation of facts in order to influence o procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice 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.

- 23.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 23.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Products similar to those uninstalled or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for those similar Products or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

24 Termination for Insolvency

- 24.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

25 Termination for Convenience

- 25.1 The Purchaser may, by 60 days advance written notice sent to the Supplier, terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser’s convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 25.2 The Products that are complete and ready for shipment within thirty (30) days after the Supplier’s receipt of notice of termination shall be

accepted by the Purchaser at the Contract terms and prices. For the remaining terminated Products and Services, the Purchaser may elect:

- (a) to have any portion completed and delivered under mutually agreed terms and prices; and/or
- (b) to cancel the remainder and pay the Supplier an agreed amount for Products and Services partially completed or already procured.

25.3 The Purchaser shall not unreasonably terminate the Contract in part if such termination would result in the Supplier being unable to complete the remaining contractual obligations. The Purchaser shall also not terminate the Contract in part if the non-performance is due to the inability of the Purchaser to fulfill its contractual obligations.

26 Force Majeure

26.1 Notwithstanding the provisions of GCC Clause 21,22, and 23, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

26.2 For purposes of this clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but not restricted to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

26.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

26.4 If the Supplier has made all reasonable efforts to obtain the required export permit(s), including the exercise of due diligence in determining the eligibility of the Systems for receipt of the necessary export permits, but has failed, this shall be considered a Force Majeure situation.

26.5 If an event of Force Majeure, other than as covered under GCC Clause 26.4, continues for a period of one hundred and eighty (180) days or more, the parties may by mutual agreement, terminate the Contract without either party incurring any further liabilities towards the other with respect to the Contract, other than to effect payment for Products already delivered or Services already performed.

27 Limitation of Liability

27.1 Except in cases of criminal negligence or willful misconduct:

- (a) the Supplier shall not be liable to the Purchaser, whether in the Contract or otherwise, for any indirect or consequential loss or damage, provided this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser; and
- (b) the aggregate liability of the Supplier to the Purchaser under the Contract shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Supplier to indemnify the Purchaser with respect to patent infringement.

D. Contract Execution

28 Packing

28.1 The Supplier shall provide such packing of the Products as is required to prevent their damage or deterioration during the shipment. The Supplier shall promptly repair or replace any Products that are damaged in transit due to inadequate packing or related causes, where such damage is not otherwise fully covered by insurance. The packing, marking, and documentation within and outside the package shall also comply strictly with the requirements therefor in SCC.

29 Delivery and Documents

29.1 Delivery, Installation and Acceptance of the Systems shall be made by the Supplier in accordance with the schedule and at the Project Sites specified in the Schedule of Requirements, which forms an integral part of the Contract.

29.2 For purposes of the Contract, “EXW, CIP, DAF” and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of Incoterms, published by the International Chamber of Commerce, Paris.

29.3 Early or partial deliveries require the explicit written consent of the Purchaser, which consent shall not be unreasonably withheld.

29.4 For Products supplied from abroad (CIP or DAF Terms): Upon shipment, the Supplier shall notify the Purchaser and the Insurance Company by cable with the full details of the shipment, etc. The Supplier shall promptly send the following documents to the Purchaser

by mail or courier, as appropriate, with a copy to the Insurance Company:

- (a) two copies of the Supplier's invoice showing the Products' description, quantity, unit price, and total amount;
- (b) usual transportation documents;
- (c) insurance certificate for CIP only; and
- (d) certificate(s) of origin.

29.5 For Products from within the Purchaser's country (EXW Terms): Upon shipment, the Supplier shall notify the Purchaser and shall promptly send the following documents to the Purchaser by mail or courier, as appropriate:

- (a) two copies of the Supplier's invoice showing the Products' description, quantity, unit price, and total amount;
- (b) delivery note, railway receipt, or truck receipt; and
- (c) certificate(s) of origin.

29.6 The documents listed in GCC Clause 29.4 or 29.5, as appropriate, shall be received by the Purchaser at least one week before arrival of the Products at the point of entry or delivery destination, as appropriate, and if not received on time, the Supplier will be responsible for any consequent expenses.

30 Insurance

30.1 The Products supplied under the Contract shall be fully insured to 110% of their CIP or DAF or EXW value from shipment until receipt at their final destination on an "all risk" basis, in a freely convertible currency, against loss or damage incidental to production or acquisition, transportation, storage, and delivery. The Supplier shall arrange and pay or otherwise provide for this insurance, which shall name the Purchaser as beneficiary. Furthermore, if specified in the SCC, the Supplier shall also be responsible for insurance coverage till the successful Acceptance of the Products.

31 Transportation

31.1 Transportation of the Products, including insurance and storage, to the point of entry or the named place of destination in the Purchaser's country, as specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.

31.2 Transportation of Products from the delivery destination to the place(s) of final installation, if different, shall be the responsibility of the Purchaser unless otherwise specified in the SCC.

32 Implementation Services

- 32.1 The Supplier shall provide all Services specified in SCC and the Technical Specifications in accordance with the highest standard of professional competence and integrity. The Purchaser reserves the right to require the replacement of any Supplier staff assigned to work on the Purchaser's site by suitably qualified staff, in the event that the staff concerned is determined to be incompetent or loses the confidence of the Purchase.
- 32.2 Prices charged by the Supplier for Services, if not included in the Contract, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged by the Supplier to other purchasers in the Purchaser's country for similar services.

33 Inspections and Acceptance Tests

- 33.1 The Purchaser or its representative shall have the right to inspect and/or test the Systems to confirm their conformity to the Contract specifications at point of delivery and or at the final place(s) of Installation at no extra cost to the Purchaser.
- 33.2 Should any inspected or tested Systems fail to conform to the Contract specifications or to pass the acceptance tests as defined jointly in the Project Plan, the Purchaser may reject the Systems, and the Supplier shall either replace the rejected System or make alterations as necessary to meet the specifications free of cost to the Purchaser.
- 33.3 Acceptance of the Systems (or part thereof) shall be made at the Installation sites specified in the Schedule of requirements. At the Purchaser's discretion, acceptance tests will also be performed on replacement products, upgrades and new versions releases, and products which are added or field-modified after Acceptance of the Systems.
- 33.4 The Purchaser will develop and execute Acceptance test programs, procedures and data, with all necessary and proper cooperation from the Supplier, pursuant to GCC Clause 38. The Purchaser shall provide the necessary input to the development of the Acceptance testing portion of the Project Plan, pursuant to GCC Clause 37 and 38, within the number of days from the Effective Date of the Contract specified in SCC. Acceptance tests and success criteria will be defined to substantiate the standard of performance stipulated in the Supplier's bid.
- 33.5 Acceptance testing of Systems shall commence within 30 days from the date of Installation. Production use of Systems shall not commence prior to the start of formal Acceptance testing. Production use of a System for 60 consecutive days shall constitute Acceptance, and shall

be so documented by the Supplier. The Purchaser shall certify its Acceptance of the System within 14 days thereafter.

- 33.6 Nothing in GCC Clause 33 shall in any way release the supplier from any warranty or other obligations under this Contract or limit the Purchaser's ability to seek other remedies as specified in the Contract.

34 Warranty

- 34.1 The Supplier warrants that the Systems supplied under the Contract are new, unused, of the latest appropriate design, and that they incorporate all recent improvements in design and materials. The Supplier also warrants that all the Products form part of the producers' current product lines, have been previously released to the market, and all non-custom software products have been in production use for at least three months. The Supplier further warrants, for the duration of the twelve month (12) Warranty Period commencing from the date of acceptance of each product, that all Systems supplied under this Contract shall have no defect arising from design or workmanship (except when design is defined by the Purchaser's specifications and the defect was duly noted in the Supplier's bid) or from any act or omission of the Supplier, that may develop under normal use of the supplied Systems in the conditions prevailing in the Purchaser's country. Normal operating environmental conditions are specified in the Contract. This warranty exclude defects attributable to external factors beyond the Supplier's control, including power supply fluctuations, or the Purchaser's alterations, misuse or negligence in proper maintenance of the Systems.
- 34.2 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, within the warranty period and with all reasonable speed, repair or replace the defective Systems, without costs to the Purchaser other than, where applicable, the cost of inland delivery of the repaired or replaced Systems from EXW or the CIP or DAF point of entry to the Installation site. Replacement equipment shall be covered under warranty for three month period, or the time remaining in the Warranty Period for the item replaced, whichever is greater. The Warranty Period for replacement Software shall be incidental to the initial warranty period for the defective Software unless otherwise specified in the SCC. The replaced Products shall be the property of the Supplier.
- 34.3 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the Purchaser may proceed to take such reasonable remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.
- 34.4 During the Warranty Period, the Supplier will provide at no additional cost to the Purchaser all Product and documentation updates and new

software versions releases within 30 days of their availability in the Purchaser's country, and no later than 12 month after they are released in the country of origin of the Product.

- 34.5 The Supplier hereby represents and warrants that the Software as delivered does not and will not infringe any Intellectual Property Rights held by any third party and that it has all necessary rights, or at its sole expense shall have secured in writing all transfers of rights and other consents necessary to make the assignments, licenses and other transfers of Intellectual Property Rights and the warranties set forth in the Contract, and for the Purchaser exclusively to own or exercise all Intellectual Property Rights as provided in the Contract. Without limitation, the Supplier shall secure all necessary written agreements, consents and transfers of rights from its employees and other persons or entities whose services are used for development of the Software.
- 34.6 Without prejudice to the warranties given for individual Products or Services, the Supplier hereby warrants to the Purchaser that:
- (a) the Systems represent a complete, integrated solution to the Purchaser's requirements as set forth in the Technical Specifications and will provide the functionality and the performance set forth therein. The Supplier shall accept responsibility for the successful interoperation and integration in accordance with the requirements of the Technical Specifications, of all Products provided under the Contract;
 - (b) the Systems' specifications, capabilities and performance characteristics are as stated in the Supplier's Bid and Product documentation;
 - (c) all modifications to the Products will be at a minimum uniform with those given to other users in the Purchaser's country, except for those designed specifically to fulfill the Purchaser's requirements.
 - (d) the Supplier will offer all possible assistance to the Purchaser to seek warranty services or remedial action from subcontracted third party producers or licensors of Products included in the Systems. The Supplier will make all reasonable and necessary efforts to correct defects in the Systems that constitute significant deviations from the Technical Specifications and/or Supplier performance claims.

35 Product Support

- 35.1 For Products still to be delivered, the Supplier will offer to the Purchaser newer versions based on latest appropriate technology and having equal or better performance or functionality at the same or lesser unit prices, cost reductions, support and facilities which are offered to other clients of the Supplier, pursuant to GCC Clause 36.1.
- 35.2 The Supplier shall provide new Software version releases and documentation within 30 days of their availability in the Purchaser's

country and no later than 12 months after they are released in the country of origin of the Product, and technical support Services if so specified in SCC. In no case will the price or yearly percentage price increases for these Products and Services exceed those quoted by the Supplier in the Recurrent Costs Form in its bid.

- 35.3 The Purchaser shall implement software updates and new version releases within 18 month of receipt of a production-ready copy thereof, provided that the new release does not adversely affect Systems' operation or performance, or require extensive reworking of the Systems. In case where the new version release adversely affects the Systems performance, the period for implementation of the new version shall be suitably extended and the Supplier shall continue to support and maintain the version currently in production for as long as necessary to properly implement the new version. In no case shall the Supplier cease to support or maintain a version of software less than 24 months from the date the Purchaser receives a production-ready copy of a subsequent version.

36 Change Orders

- 36.1 The Purchaser may at any time, by a written order given to the Supplier pursuant to GCC Clause 11, make changes within the general scope of the Contract in any one or more of the following:
- (a) designs or specifications for Services for Systems that are to be integrated, developed or customized specifically for the Purchaser;
 - (b) the method of shipment and/or schedule for and/or place of delivery;
 - (c) the schedule for Installation or Acceptance;
 - (d) the Services to be provided by the Supplier; and/or
 - (e) the substitution of new products and services from the Supplier. When such substitution is requested by the supplier, the Purchaser shall notify the Supplier in writing within 30 days of its decision to accept or reject the proposed Change Order.
- 36.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order. If the parties cannot agree on an equitable adjustment, the Change Order will not be implemented, however this provision does not limit the right of either party under GCC Clause 8.
- 36.3 The parties will agree during development of the Project Plan to a time period prior to the schedule date for Acceptance, after which all

specifications shall be frozen. Any Change Order generated after this time will be dealt with after Acceptance.

37 Purchaser's Obligations

- 37.1 The Purchaser will appoint a Project Manager (and a deputy as the case may be) responsible for managing the project, with the authority to accept or reject all deliverables and to be the primary contact for the Supplier's Representative. The Project manager will officially record all delays and problems, and forward them to the Supplier within two weeks of discovery of such problems.
- 37.2 The Purchaser shall be responsible for timely provision of all resources, facilities, equipment access, and information necessary for the completion of the project implementation, as identified in the agreed and finalized Project Plan, except where provision thereof is explicitly identified in the Contract as being the responsibility of the Supplier. Delay by the Purchaser may result in an appropriate extension of the project Installation and/or Acceptance schedule, at the Supplier's discretion.
- 37.3 The Purchaser will designate appropriate staff for the training courses to be given by the Supplier, and shall make all appropriate logistical arrangements therefor in accordance with the Project Plan.
- 37.4 The Purchaser is responsible for performing and safely storing timely and regular backups of its data and Software in accordance with accepted data management principles, except where such responsibility is clearly assigned to the Supplier elsewhere in the Contract.

38 Supplier Obligations

- 38.1 The Supplier will abide by the job safety, insurance, customs and immigration measures prevalent and laws in force in the Purchaser's country, and will indemnify the Purchaser from all demands or responsibilities arising from accidents or loss of life, the cause of which is the Supplier's negligence. The Supplier will pay all indemnities arising from such incidents and will not hold the Purchaser responsible or obligated.
- 38.2 The Supplier is responsible for, and obligated to conduct all contracted activities with due care and diligence, in accordance with the Contract and using state-of-the-art methods and economic principles, and exercising all reasonable means to achieve the performance specified in the Contract.
- 38.3 The Supplier is obliged to work closely with the Purchaser's Project Manager and staff, act within its own authority, and abide by directives issued by the Purchaser that are consistent with the terms of the Contract. The Supplier is responsible for managing the activities of its personnel and any sub-contracted personnel, and will hold itself responsible for any misdemeanors.
- 38.4 The Supplier shall appoint an experienced Representative to manage its performance of the Contract within 30 days from Contract signature. The Representative shall be authorized to accept orders and notices on behalf of the Supplier, and to generate notices and commit the Supplier to specific courses of action within the scope of the Contract. The Representative may be replaced only with prior written consent of the Purchaser.
- 38.5 The Supplier shall develop the final Project Plan based on Contract requirements and time table, to be submitted to the Purchaser for review and approval within the number of days specified in SCC from the Effective Date of the Contract, with all reasonable and necessary input from the Purchaser pursuant to GCC Clause 37.
- 38.6 The Supplier shall complete Delivery, installation and Acceptance of the Systems in accordance with the Contract requirements (as may be further elaborated in SCC and the Project Plan), or such schedule and specification changes as the Supplier may be entitled to, pursuant to GCC Clause 36.

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C2. First Stage Bids: Submission

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E3. Second Stage Bids: Opening and Evaluation

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ion □□□□ III **Section V. Special Conditions of Contract**

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

A. Common Conditions

1 Definitions (GCC Clause 1)

GCC 1.1 (b) - Contract Price. The Products and Services identified in the Recurrent Costs Form in the Supplier’s bid are included in the Contract Price in their entirety.

GCC 1.1 (f) - The Purchaser is: The Government of India (GOI). The Contract Price will be paid by each of the following: states: Andhra Pradesh, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu, Maharashtra, Karnataka, Kerala, and the CGWB according to the Schedule of Requirements and the Price Schedules. The authorized acting agent on behalf of GOI is: The Regional Director, Central Ground Water Board (CGWB)

GCC 1.1 (g) - The Purchaser’s country is: India

GCC 1.1 (h) - The supplier is: *[name]*¹

In case of a bid submitted by a joint venture of two or more firms as Partners, the “Supplier” is the Partner assuming overall responsibility for the Contract and designated the “Partner in Charge”.

“Partners” are all parties to a joint venture agreement(s) with the Supplier, whereby the parties thereto are jointly and severally liable for performance of the Contract, and the duly authorized Partner in Charge may bind, incur liabilities and receive instructions for and on behalf of all Partners. Changes in partnership agreement(s) must comply with GCC Clause 3 and shall require the Purchaser’s written consent prior to execution thereof. Such notification, and the Purchaser’s consent or objection thereto, shall not relieve the Supplier from any liability or obligation under the Contract.

The Partners are: 1) _____
2) _____
3) _____

GCC 1.1 (l) - Add at the end “and Training”

GCC 1.1 (n) - Add at the end “and GIS software”

¹ The ‘Name of Supplier’ and list of Partners (if any) should be filled in at the time of contract award.
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GCC 1.1 (s) - The “Effective Date of Contract ” shall be thirty (30) days after Signing of the Contract

GCC 1.1 (t) - The Purchaser’s Project Manager is: Regional Director (H.P.) New Delhi

GCC 1.1 (x) - Add to the end of this paragraph: “Application Software Acceptance” means written certification in the prescribed form in Section VIII - Sample Forms, that the Application Software is ready for Full-scale Implementation at the user’s site(s)

GCC 1.1 (y) - The Warranty Period is 12 month from the date of completion of the Installation and Acceptance of the complete Systems.

GCC 1.1 (z) - “The Maintenance Period” is the number of years for maintenance and support Services for the Systems under this Contract, as measured from the expiration of the Warranty Period, and is used for evaluating the bids. The Maintenance Period is: four (4) years following the expiration of the Warranty Period.

GCC 1.1 (aa) - The Coverage Period is: six (6) days per week (on working days), 09.00 hrs. (IST) to 18.00 hrs. (IST) and for software & hardware “hot-line” services and at the site on demand, “on-call”

Add the following new definitions:

GCC 1.1 (ae) - “Pilot” means the testing of the Application Software and Information Systems at site(s) decided by the Purchaser, with real data, before Full-scale Implementation.

GCC 1.1 (af) “Pilot Period” the period specified in the SCC for testing of the Information Systems before Acceptance of the Application Software.

The Pilot sites are: 1) Faridabad National Data Center, 2) Andhra Pradesh: State Data Center, 1 Regional and 1 District Data Center (the pilot will include in total 4 sites).
The Pilot Period is: 3 months.

GCC 1.1 (ag) “Full-scale Implementation” means the implementation of the Information Systems after the Conclusion of the Pilot.

GCC 1.1 (ah) “Implementation Period” means the period starting from the Pilot Installation to the conclusion of the Implementation as specified in the Schedule of Requirements.

2 Resolution of Disputes (GCC Clause 8)

Add as GCC 8.3 the following:

8.3 The dispute resolution mechanism to be applied pursuant to GCC Clause 8.2 shall be as follows:

- 2.1 In the case of a dispute or difference arising between the Purchaser and a Domestic Supplier relating to any matter arising out of or connected with this agreement, such dispute or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the Institution of Engineers (India).
- 2.2 In the case of a dispute with a Foreign Supplier, the dispute shall be settled in accordance with the provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. The Arbitral Tribunal shall consist of 3 arbitrators one each to be appointed by the Purchaser and the Supplier. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties, and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the Institution of Engineers (India).
- 2.3 If one of the parties fails to appoint its arbitrator in pursuance of sub-clause 2.1 and 2.2 above, within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the Presiding Arbitrator shall be nominated by the President of the Institution of Engineers (India), both in cases of Foreign supplier as well as Indian supplier, shall appoint the arbitrator. A certified copy of the order of the President of the Institution of Engineers (India), making such an appointment shall be furnished to each of the parties..
- 2.4 Arbitration proceedings shall be held at New Delhi, India, and the language of the arbitration proceedings and that of all the documents between the parties shall be English.
- 2.5 The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.

3 Governing Language (GCC Clause 9)

GCC 9.1 - The Governing Language for all communications and technical documentation shall be: English

4 Notices (GCC Clause 11)

GCC 11.1 - Purchaser's address for notice purposes: The Regional Director, Central Ground Water Board, Jamnagar House, Mansingh Road, New Delhi - 110011, India

- Supplier's address for notice purposes: [address]

5 Performance Security (GCC Clause 17)

GCC 17.1 - The initial amount of performance security shall be as follows: 10 percent of the total Bid Price, excluding Recurrent Costs. After Acceptance of the Information Systems in their entirety, the Performance Security shall be reduced to 6 percent of the Bid Price for the duration of the Warranty Period, to cover the Supplier's warranty obligations pursuant to GCC Clause 34.

GCC 17.4 - The Performance Security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligation, under the contract and following receipt of a performance guarantee for 2% of contract value for the Recurrent Costs (as indicated in the Recurrent Costs Form including the maximum annual percentage price increases quoted therein).

GCC 17.6 - Add as Clause 17.6 to the GCC in the following:

In the event of any contract amendment, the Supplier shall within 21 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for further period of 60 days thereafter.

In the event of any correction of defects or replacement of defective equipment during the implementation and warranty period, the warranty for the corrected/replaced equipment shall be extended to a further period of 12 months. The performance guarantee for a proportionate value shall be extended 60 days over and above the extended warranty period.

6 Payment (GCC Clause 18)

- 6.1 Payments will be made separately by each of the states and the CGWB according to the Contract Price for each state and CGWB.
- 6.2 Payments shall be made in the currency specified in the contract in the following manner.
- 6.3 The payment schedule to be observed in paying the Supplier for the Information Systems, except for Recurrent Costs during the Maintenance Period, is as follows: Payment will be made within 30 days of submission of valid claims and/or invoices.
- (a) Advanced Payment. 10% of the Contract Price, exclusive of all Recurrent Costs, shall be paid within thirty (30) days of the Effective Date of the Contract, on submission of claim together with evidence of export authorization and a bank guarantee for the equivalent amount valid until the Systems are delivered, installed and accepted.
 - (b) Software Development and Adaptation. 50% of the Contract Price therefor, after Application Software Installation for the Pilot; 30% of the Contract price therefor, after final Acceptance at the end of the Pilot Period.
 - (c) Products, including Application Software License Fee, except for Software Development and Adaptation. Payments will be made on a pro-rata basis: 60% of the Contract Price therefor against installation of the Systems; 20% of the Contract Price therefor against Acceptance of the Product(s).
 - (d) Services, except for Recurrent Services during the Maintenance Period. 80% of the Contract Price therefor paid quarterly in arrears, on submission and Purchaser' approval of invoices.
 - (e) Complete System Integration. 10% of the Contract Price, exclusive of all Recurrent Costs, as final payment against Acceptance of the Information Systems as a complete, integrated system and/or network, shall be made within 60 days.
 - (f) Training Costs will be paid separately from all other services. These will be paid quarterly, based on the number of man-days trained.
 - (g) Conversion Services (of user data files (see Technical Specifications) if requested by the Purchaser) during the Implementation Period. 100% on completion of work per site on submission and Purchaser' approval of invoices.
- 6.4 The payment schedule to be observed in paying the Supplier for Recurrent Costs during the Maintenance Period, is as follows: Payment will be made within 30 days of submission of valid claims and/or invoices.

- (a) Services. 100% paid yearly in arrears, on submission and Purchaser's approval of invoices, on a receipt of Bank Guarantee for 2% of the Contract Price, valid for 48 months from the date of completion of Warranty period.
- 6.5 Payment of Local Currency Portion including Agency Commission: Payment shall be made in Indian Rupees within thirty (30) days of submission of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.
- 6.6 Letter of Credit (LC)
- (a) Where payments are to be effected through Letter of Credit (LC), the same shall be subject to the latest Uniform Customs and Practice for documentary credit, of the International Chamber of Commerce;
 - (b) The LC will be confirmed at Supplier's cost if requested specifically by the Supplier;
 - (c) If LC is required to be extended/reinstated for reasons not attributable to the Purchaser, the charges thereof shall be to the Supplier's account.
 - (d) For all the payments to be made, against Bank guarantees, the bank guarantee shall be issued by a Scheduled Indian Bank or a Foreign bank located in India in the format enclosed at Section VIII. The guarantees issued by other banks should be confirmed by a scheduled Indian bank or a foreign bank operating in India.
 - (e) Bank guarantees for advance payment shall be released not later than 30 days after the date of completion of installation of the goods at their final destination.

7 Prices (GCC Clause 19)

GCC 19.1 Prices payable to the Supplier as stated in the Contract shall be firm and not subject to adjustment during performance of the Contract

8 Taxes and Duties (GCC Clause 20)

- 8.1 For goods supplied from outside the country, the Supplier will be entirely responsible for all taxes, stamp duties, license fees, etc., and other such levies imposed outside the Purchaser's country, as well as for the taxes and levies to be charged in connection with commissioning services performed in India, and the Purchaser shall pay all the customs duties and import taxes in consequence of the importation of the goods.
- 8.2 For goods supplied from inside the country, the Supplier will be entirely responsible for all taxes, duties, license fees, Octroi, road permit fees, etc. borne by them in connection with delivery of goods at site including taxes and levies to be charged in connection with local transportation and incidental services and commissioning.
- 8.3 Income/Corporate Taxes in India:
- (a) The Supplier shall be liable to pay all corporate taxes and income tax that shall be levied according to the laws and regulations applicable from time to time in India and the price bid by the Supplier shall include all such taxes in the contract price.

- (b) Wherever the laws and regulations require deduction of such taxes at the source of payment, the Purchaser shall effect such deductions from the payment due to the Supplier. The remittance of amounts so deducted and issuance of certificate for such deductions shall be made by the Purchaser as per the laws and regulations in force. Nothing in the Contract, shall relieve the Supplier from his responsibility to pay any tax that may be levied in India on income and profits made by the Supplier in respect of this contract.
- (c) The Supplier's staff, personnel and labour will be liable to pay personal income taxes in India in respect of such of their salaries and wages as are chargeable under the laws and regulations for the time being in force, and the Supplier shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

9 Liquidated Damages (GCC Clause 22)

GCC 22.1 - Applicable rate: 1/2 percent per week. Maximum deduction: 10 percent.

10 Delivery of Documents (GCC Clause 29)

Replace GCC Clauses 29.4, 29.5 & 29.6 by the following:

- a) For Goods supplied from abroad:

GCC 29.4 Within 24 hours of shipment, the Supplier shall notify the Purchaser and the Insurance Company by cable or telex or fax the full details of the shipment including Contract number, description of goods, quantity, the vessel, the bill of lading number and date, port of loading, date of shipment, port of discharge, etc.. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:

- (i) 4 copies of Supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Original and 4 copies of the negotiable, clean, on-board bill of lading marked freight prepaid and 4 copies of non-negotiable bill of lading;
- (iii) 4 copies of packing list identifying contents of each package;
- (iv) Insurance certificate;
- (v) Manufacturer's/Supplier's warranty certificate;
- (vi) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and
- (vii) Certificate of origin.

The above documents shall be received by the Purchaser at least one week before arrival of Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.

- b) For Goods from within India:

GCC 29.5 Upon delivery of the goods to the transporter/consignee, the supplier shall notify the purchaser and mail the following documents to the Purchaser:

- (i) 4 Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount;

- (ii) Delivery note, Railway receipt or acknowledgment of receipt of goods from the Consignee;
- (iii) Insurance Certificate;
- (iv) Manufacturer's/Supplier's warranty certificate;
- (v) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and
- (vi) Certificate of Origin.

GCC 29.6 The above documents shall be received by the Purchaser at least one week before arrival of Goods (except at where it is handed over to the Consignee) and, if not received, the Supplier will be responsible for any consequent expenses.

11 Insurance (GCC Clause 30)

GCC 30.1 The Insurance shall be in the amount equal to 110 percent of the CIF or CIP value of the Goods from "Warehouse to warehouse (final destination)" on "All Risk" basis including War Risks and Strikes, valid for a period not less than 3 months after installation and commissioning and issue of acceptance certificate by the Purchaser.

Add GCC Clause 30.2 as under:

GCC 30.2 Should any loss or damage occur, the Supplier shall:

- a) Initiate and pursue claim till settlement, and
- b) promptly make arrangements for repair and/or replacement of any damaged item(s) irrespective of settlement of claim by the underwriters.

B. Specific Conditions

12 Ownership Rights for Custom Software and Documentation (GCC Clause 16)

- 12.1 The Supplier hereby assigns and transfer to the Purchaser all Intellectual Property Rights in the Custom Software, including all writings, designs, algorithms and programming documentation made, conceived, reduced to practice authorized by the Supplier or its employees during performance of the Contract, or with information, materials or facilities furnished by the Purchaser. In the event that, by the operation of law, the Supplier is deemed to have retained rights in any portion of the Custom Software, the Supplier grants to the Purchaser an irrevocable world-wide license thereto.
- 12.2 The Supplier shall have no Intellectual Property Rights in the Custom Software (Application Software modules developed specifically to the Purchaser's requirements, such as: Water Balance and Resource Assessment module, etc.).
- 12.3 The Supplier shall relinquish to the Purchaser the Custom Software Source Code within 15 days from the date of Implementation Period expiration. The Supplier represents and warrants to the Purchaser that:

- (a) The Source Code supplied to the Purchaser shall at all times be complete, accurate, and up-to-date copy corresponding exactly to the current production release of the Software; and
- (b) The Source Code shall contain all information in human readable form necessary to enable a reasonable skilled programmer or analyst to maintain and/or enhance the Software, and without prejudice to the generality of the foregoing, that the Source Code and related documentation shall contain a listing of programmer's comments, data and process models, logic manuals, and flowcharts.

12.4 Upon receipt of the Source Code the Purchaser shall:

- (a) Use the Source Code for the purpose of maintenance or enhancing the Programs where required
- (b) During the Implementation, Warranty and Maintenance period the changes (if any) to the Custom Software will be made by the Supplier according to the Purchaser's requirements and at the Contract Conditions.

13 Implementation and Support Services (GCC Clause 32 and 35)

(for additional details see Section VI - Schedule of requirements and Section VII - Technical Specifications)

13.1 The Supplier shall provide Services for Customization Installation, Implementation, and Acceptance Testing as required by the Contract for the prices quoted in its bid and included in the Contract Price, as follows:

- (a) Performance of on-site Installation of the supplied Systems at all places of final installation specified in the Schedule of Requirements. The Supplier is responsible for all unpacking, assembling, wiring, installation, cabling between equipment units and components, and connection to power supplies. The Supplier will test all System's operations and perform all the necessary setup, configuration and customization for successful operation of the Systems at the Installation sites, in accordance with Contract requirements;
- (b) For each of the systems installed, the Supplier is required to train the designated Purchaser's technical and end-user staff, according to the Schedule of Requirements, to enable them to effectively manage and use the Systems, as specified in the Technical Specifications. The training and accompanying materials shall be provided in the language specified in SCC Clause 3. The Supplier shall provide a detailed operations and user's manual for each appropriate unit of the supplied Systems;
- (c) Turn key management and system integration during the Implementation Period.
- (d) On-site technical support and service obligations during the Coverage Period for the Implementation Period at the Purchaser's Installation site(s), and otherwise as required by the Technical Specifications;
- (e) On-call support for "turn-key" Systems support and/or network management and operation obligations, during the Coverage Period for the Maintenance Period after the conclusion of the Full-scale Implementation, as specified in the Technical Specifications; and
- (f) Other service obligations as required by the Contract, including: Acceptance testing obligations pursuant to GCC Clause 33 and SCC Clause 14, project

Planning obligations pursuant to GCC Clause 38 and SCC Clause 19, and as specified in the Technical Specifications;

- (g) During the Implementation Period and Warranty Period the Supplier is the responsible for the functionality and the performance of the Systems.
- (h) During the Implementation Period Warranty and Maintenance Periods, The Supplier is responsible for the implementation of the new versions, and will make all the necessary modifications and adaptation of the Software to the new version.

13.2 The Supplier will provide the following for Application Software:

- (a) Details of functional and design specifications for Custom Software for the Purchaser's review and approval, within the time periods allocated therefor in the Project Plan. Such specifications will define the standards of performance and functionality of the Custom Software to be measured during acceptance testing.
- (b) Software development, customization, configuration, installation and technical assistance in the Application Software implementation at the Project sites. Assistance to the Purchaser's staff in the Acceptance Testing of the Application Software for the Pilot Period (or longer if required) until Acceptance of the Software by the Purchaser.
- (c) Technical and user documentation to enable the Purchaser to use and administer the software systems, and if it so elects, to develop additional modules, reports and queries using the existing database and GIS tools.
- (d) If so decided by the Purchaser, the Supplier will provide error free conversion services for existing automated records, consistent with the quality of the original data, and within the specified time frame. The files as specified in the Technical Specifications, The payment for these services will be made on a pro-rata basis per site implemented and data volume converted (see SCC Clause 6.3 (f)).

13.3 Information Systems Service & Support

The Supplier shall provide technical support and "help desk" services for the Information Systems supplied under this contract, including software (all items supplied under this Contract) and hardware (all equipment supplied under this Contract), and will have overall responsibility of the performance, functionality and operation of the Systems under this Contract. If required, the Supplier will subcontract third party suppliers for service and maintenance purposes, and will be the coordinator between the purchaser and third-party suppliers. On receiving a complaint, the "help-desk" will analyze the problem and invite the relevant technical expert(s) until the problem is completely solved to the Purchaser's satisfaction.

The Supplier shall provide technical support services for the Hardware, Communications, Application Software, and all Standard and General Purpose and Other Software Supplied under this Contract for the Maintenance Period , which is four (4) years, commencing at the expiration of the Warranty Period. The cost of support during the Maintenance Period will be included in the Recurrent Costs for purpose of proposal evaluation; however, the maintenance will be procured under a separate contract. Maintenance and support services shall include the following:

- (a) Maintenance and support of the systems and network operation, during the Coverage Period for the Implementation Period, Warranty Period and Maintenance Period after the conclusion of the Full-scale Implementation, as specified in the Technical Specifications; and
- (b) Telephone “hot-line” support in English for Coverage Period available within 2 hours;
- (c) On-call support for “turn-key” Systems service at site, available within 48 hours from receipt of the Purchaser’s request, during the Coverage Period for the Maintenance Period after the conclusion of the Full-scale Implementation, as specified in the Technical Specifications; and
- (d) Emergency and urgent “per-call”, on site service available within 8 hours from receipt of the Purchaser’s request; and
- (e) Upgrade to latest software versions (Application Software, Database and GIS Software, Operating and Network Systems, and other administration software within 90 days of such update being made available in the Supplier’s country. Upgrade to the software will be made according to the Purchaser’s approval and according to an Upgrade Plan prepared by the Supplier.
- (f) The Supplier will provide all the necessary adjustments of the Application Software and the modifications required to adapt the System to the new versions of software or the replacement of hardware (provided the software supports the new environment)
- (g) Failure to provide maintenance support as above will be liable for a penalty of Rs. 500 /- per day per installation. The amount of penalty will be recovered for bank guarantee during Implementation & Warranty & maintenance periods as the case may be.

13.4 Application Software Source Code Escrow

The Supplier will place the Source Code (and the procedures necessary to build the Source into executable form) for the Application Software, within 30 days of formal Acceptance thereof, in escrow with a reputable agency acceptable to the Purchaser (preferably a bank or established software escrow firm in the Purchaser’s country) for the duration of the Warranty and Maintenance Periods. The escrow will be released to and become the property of the Purchaser in the event that the Contract is terminated for either Default or Insolvency, or should the Supplier cease or give notice of intention to cease to provide maintenance or technical support services for the Software as required by the Contract. The release will be effected by the agent within 15 days of receipt of written demand from the Purchaser therefor. The contents of the escrow shall be kept current with the most recent release of the Software as long as the purchaser contracts with the Supplier for the Software maintenance, within 30 days of the Installation of said release into production operation at the Purchaser’s site. The escrow shall be established so as to maintain the last three versions deposited, and the expense thereof shall be the responsibility of the Purchaser. The Purchaser may require (not more than two times), with 30 days written notice, that the Supplier demonstrate the currentness of the escrow contents by actually compiling the contents thereof on a suitably configured system to be provided by the Purchaser, and the Supplier shall remedy any deficiencies noted through such an exercise within 30 days or face the imposition of liquidated damages. Such liquidated damages will be limited to the extent necessary for the Purchaser, at its discretion, to attempt to obtain the current source from the Supplier using all available and necessary means, make the necessary adaptations itself to

correct the deficiencies, and/or purchase and install a replacement for the Software in question. Should the Contract be terminated for Convenience (of the Purchaser) or terminate normally when the Supplier has completed all its obligations thereunder, the escrow shall be released in favor of the Supplier and the Purchaser shall have no further claim thereto.

13.5 Training

- (a) The Supplier shall provide training for the Systems supplied under this Contract. The training program will be suggested and planned by the Supplier (as part of its bid) and approved by the Purchaser. The training should include all the relevant items required to operate the Systems by the end-user and the operation and management of the data center by the staff according to the Schedule of Requirements.

14 Acceptance Tests (GCC Clause 33)

(for additional details see Section VI - Schedule of requirements and Section VII - Technical Specifications)

The Purchaser will provide the necessary input to the Supplier for development of the Acceptance testing portion of the Project Plan within 30 days from the Effective Date of the Contract.

- 14.1 The Purchaser, with full cooperation and assistance from the Supplier, shall conduct formal Acceptance tests on the installed Systems to verify their conformance with the Contract requirements. The Acceptance tests defined in the Technical Specifications and/or the agreed and final Project Plan shall establish a standard of performance which must be met before the Systems are Accepted by the Purchaser. Written certification of Acceptance shall be issued by the Purchaser only after successful completion of the Acceptance tests, and the Purchaser shall not make payments for the Systems until after Acceptance. Acceptance testing shall be subject to the following provisions:
 - (a) The Project Plan shall group appropriate components of the System together for the purpose of Acceptance testing, scheduling the implementation process.
 - (b) Acceptance testing for the System shall end when the System has met the standard(s) of performance defined in the Technical Specifications and according to the Project Plan.
 - (c) Within two weeks from the end of the initial Acceptance test, the Purchaser's Project Manager will either certify Acceptance of the System under test, thereby formally commencing its Warranty Period, or provide a written description of the deficiencies that must be rectified before the System can be accepted. Failure to provide such documentation will, by default, constitute Acceptance and shall be so documented by the Supplier.
 - (d) If the System fails to meet the standard(s) of performance after 45 days from the start of Acceptance testing, the Purchaser may, at its own option, request a replacement or correction of deficiencies, or terminate the Contract for default and/or return the System for appropriate credits.
 - (e) Unsatisfactory performance, inter-connectivity or integration between software packages, computer systems and/or workstations may result in the Purchaser's rejection of part or all of the System under Acceptance testing.

- (f) The duration of the Acceptance testing shall not exceed three (3) months from the date of Pilot commencement or the date when all corrections are made by the Supplier, whichever is later.
- (g) On successful completion of acceptability test, receipt of deliverables etc., and after the Purchaser is satisfied with the working of the systems, the acceptance certificate (in the prescribed format in Form 10 of Section VIII) signed by the Supplier and the Purchaser's Project Manager will be issued. The date on which such certificate is signed shall be deemed to be date of successful commissioning of the systems.

14.2 Application Software Acceptance Tests

- (a) The Application Software Acceptance Tests will be planned by the Supplier, approved by the Purchaser, and include all the necessary steps to ensure complete functionality, operational and performance according to the technical specifications and world-standards. The Application Software Acceptance Tests will be conducted in two stages: (1) At the end of the Application Software adaptation to the Purchaser's requirements and the development of the missing modules (if any), according to the Project Plan and Schedule of Requirements, the Purchaser will conduct testing to verify that all the requirements are met. At the end of stage one of the testing as specified in the Project Plan, the Purchaser will certify and authorize the software as ready for installation at the Pilot. (2) Stage two of the tests will be conducted during the Pilot Period. During this period the Purchaser will notify the Supplier in writing of the findings and the Supplier will rectify whatever is required according to the Technical Specifications. At the successful conclusion of the Pilot, the Application Software will be Accepted and Certified by the Purchaser as ready for Full-scale implementation.
- (b) The Acceptance of the Application Software will not be a certification or acceptance of the Systems, and will not replace the Acceptance testing of the Systems after Installation at the Projects sites.

14.3 Pilot

- (a) The Pilot will be conducted at site(s) selected by the Purchaser for the installation of the Systems for the use by the first end-users (Beta-tests). The Pilot will be conducted for three (3) months, and during this period the Purchaser will notify in writing of any required modifications to the Application software, or any other required adjustments. The Supplier will rectify/adjust the System to the requirements. After the successful conclusion of the Pilot the Systems will be authorized and certified in writing by the Purchaser to be Installed at all the other project sites. If the System fails to meet the standard(s) of performance after three months from the start of the Pilot, the Purchaser may, at its own option, request a terminate the Contract. In that case the Purchaser will pay the Supplier the Contract Price for the hardware, operating systems and communications. The Purchaser will not pay for the specific software: Application Software, Database, GIS and Development tools

15 Warranty (GCC Clause 34)

The Period of correction of defects is: 3 months from Acceptance of each product.

- 15.1 The Supplier warrants that there is no intention of discontinuing production of the Products to be supplied under the Contract within 12 months following Contract signature. In the event that the Supplier intends to discontinue production of any Product (or has knowledge of third party producers' intention of discontinuing production of a product) after this period, the Supplier shall notify the Purchaser 90 days in advance of such discontinuance to permit the Purchaser, at its option, to procure the necessary quantities of product, or require that the Supplier propose the contractual substitution of newer, compatible and functionally equivalent Product, in accordance with the Provisions of GCC Clause 36.1. Nothing in SCC Clause 15.1 shall in any way release the Supplier from any warranty, maintenance or support obligations under this Contract or limit the Purchaser's ability to seek other remedies as specified in the Contract.
- 15.2 Without limitation, the Supplier warrants that it shall secure all necessary written agreements, consents and transfer of rights from its employees and other persons or entities whose services are used for the development of Custom Software, including a written agreement with employees that all Custom Software created under the Contract fall within the scope of their employment duties, and that all Intellectual Property Rights in such Custom Software are Fully transferable to the Purchaser

16 Hardware Maintenance and Support (GCC Clause 35)

- 16.1 Hardware service and support will be supplied as part of the Information Systems support (SCC Clause 13 above) and will include replacement of malfunctioning parts. Spare parts and supplies shall be supplied as promptly as possible, but not later than 7 days from receipt of the Purchaser's complaint. In the event of expected termination of production of relevant spare parts or supplies, the Supplier shall provide ninety (90) day advance notification to the Purchaser of the pending termination to permit the Purchaser to procure needed stock. During the Maintenance Period the Supplier is responsible for all spare part stocking and part replacement.

17 Change Orders for Software (GCC Clause 36)

- 17.1 Application Software Final Design
- (a) According to the Schedule of Requirements and Project Plan the Supplier and the Purchaser will conduct the detailed design of the software according to the Technical Specifications. At the end of the design process the Supplier will prepare a list of items to be developed/ customized/ configured in its software in order to adapt the Application software to the requirements. The list will be approved in writing by the Purchaser, and the Supplier will act according to this list. All the effort which is to be made by the Supplier to conclude this process, will be part of the Application Software and will not be considered as Change Order.
- 17.2 The Supplier agrees to design and program additional features, modules, reports, queries to Custom or Application Software packages (if required in excess of the Requirements after the Acceptance of the Application Software) at a price and schedule to be agreed upon by the Purchaser and the Supplier by means of Change Order. The rates for Supplier technical staff responsible for the additional effort shall be computed at market rates prevalent in the Purchaser's country.

- 17.3 Change Orders for Custom or Application Software enhancements requested by the Purchaser during Acceptance testing in excess of the Requirements of the Bidding Documents, will not delay or be added into the Acceptance test process unless both parties agree in writing to a revised schedule, price and/or Project plan by means of a Change Order.

18 Purchaser's Obligations (GCC Clause 37)

- 18.1 The Purchaser's Project Manager is the Regional Director (H.P.) New Delhi.
- 18.2 The Project Manager will finalize the designation of the Pilot site(s) and final installation sites at least 30 days before the scheduled Installation date, to allow the Supplier to perform a site inspection to verify the adequacy of the preparation before installation of the equipment.
- 18.3 The Project Manager will notify the Supplier before the Installation, of the data center administrator at every Installation site, for the purpose of the Support and Maintenance Services.
- 18.4 The Purchaser shall be responsible for the preparation of the sites and the construction of the infrastructure at the sites in compliance with the environmental specifications defined by the supplier.

19 Supplier Obligations (GCC Clause 38)

- 19.1 The Supplier will assign its Project Representative (Project Manager) and other key persons (such as Hardware and Software Support Manager, Application Software Manager, etc.) as from the Effective Date of the Contract. The Supplier's Project Manager shall have at least 7 years of experience in managing similar (complexity) projects.
- 19.2 The Supplier shall develop a Project Plan within 30 days from the Effective Date of the Contract. The Project Plan shall include the following:
- (a) definition of the project implementation tasks, and identification of all major Installation, Acceptance and Service deliverables and milestones and key persons responsible for each part;
 - (b) a detailed, fully integrated project schedule covering Installation, Acceptance, training and delivery of other services, and including a graphical representation of task durations and interdependencies (e.g., a GANT or PERT charts);
 - (c) organization of Supplier and Purchaser project implementation and operational support teams, including identification of specific staff resources, timing and their estimated workloads;
 - (d) elaboration of a Training Program, outlining course contents and schedule, and minimum qualifications for participants of each training course;
 - (e) elaboration of an Acceptance Tests Plan, including identification of the Systems to be tested, specific tests and processes to be performed, and the respective testing schedules. The detailed Acceptance Testing Plan must be completed and approved within 90 days from the Effective Date of Contract ;

- (f) procedures for document and specification review and approval, and for change order management;
 - (g) identification and scheduling of the specific resources and facilities that the Purchaser is required to provide; and
 - (h) identification of any external dependencies.
- 19.3 The minimum reporting requirements are:
- (a) Completion Reports: Project Plan, Application Software Final Design, detailed Acceptance Tests design, Training Program;
 - (b) Quarterly Progress Reports consisting of project progress, constraints, problem encountered, etc.; and
 - (c) Pilot Conclusion Report consisting of Pilot Implementation and Application Software Acceptance Tests results;
 - (d) State Implementation Report on completion of implementation in a specific state
 - (e) Project Completion Report on completion of the Full-scale Implementation

20 Employees

- 20.1 During the Contract and for a period of six (6) months thereafter, both the Purchaser and the Supplier shall refrain from canvassing each other's employees engaged in the performance of the Contract with a view to offering employment.

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ion □□□□IA. Schedule of Requirements and Quantities

1. Project General Description

(see Technical Specifications paragraph 1-6, and Data Flow Diagrams paragraph 7, in Section VII)

The main objective of the Hydrology Project is to establish a computerized Hydrological Information System (HIS), including, inter alia, **data storage centers** and **data processing centers** at the professional agencies. The state data storage center is a storage facility for data that are processed and validated at the data processing centers. As such, the processing centers are required to include a comprehensive hardware and software system to accommodate all the data processing involved. This Invitation for Bids pertains specifically to the supply, implementation and support of **Dedicated Software and Hardware for Groundwater Data Processing Centers** to be used by the Central Ground Water Board (CGWB) and the State Groundwater Departments (SGWDs) in the eight participating states: Gujarat, Andhra Pradesh, Madhya Pradesh, Orissa, Tamil Nadu, Maharashtra, Karnataka, and Kerala. The CGWB operates through regional and unit offices coordinated and managed by national headquarters. The SGWDs are operating within their state jurisdiction through 2-4 regional centers and 4-22 district offices controlled by state headquarters. Different nomenclature is used in different states but usually a three level office structure (Central-with 5-10 software users, Medium - with 2-5 users and Lower level - with 2 users) is maintained, the quantities are as specified in Table 2.1 - Summary Table of Requirements .

The professional staff comprises hydrogeologists, geophysicists, engineers and chemists at *M.Sc.* and *Ph.D.* level. The software users at the Processing Centers will be derived from this staff, who, have had so far only limited exposure to computerized work. The larger offices will operate in a LAN environment, whereas the smaller ones will operate in a stand-alone configuration.

The Software is required to handle a large amount of data originating from about 25,000 manually monitored wells, including 5,900 wells equipped with automatic water level recorders and many additional exploration wells. The software package should be modular and adjustable to the requirements at the level of the offices. The various modules need to be developed and customized to the client requirements to form an integrated software environment. It will comprise: Basic module, Water Resource Assessment module, Basic GIS module and Advanced GIS module. The Basic module is mandatory in all configurations whereas the complete software, about 27 packages, will be installed in the Central and in Medium level offices. At all other offices, combinations of the first 3 modules will be installed. Specialized software applications (numeric modeling, pumping tests, etc.) are beyond the scope of the Software, but all the data support for them is included. The Software has to be flexible for accommodating additional modules which may be required in the future.

The types of data to be processed, compiled and stored by the Software include geographical or space oriented static or semi-static data, location oriented data and time oriented data covering equidistant and non-equidistant time series for all types of hydro-meteorological, quantity and quality data. The capabilities of the Software should include entry/editing of

all data types, entry checks and validation, comprehensive hydrogeological data processing and statistical analysis, data retrieval and reporting, data transfer (between the different office levels) and dissemination. The Software should have comprehensive graphic facilities for selection of data in a user friendly manner, production of graphical outputs of various analyses, maps and other user defined graphs on screen, as hard copy or stored as a file. The software must ensure data security and back-up facilities.

This contract will be on a “Turn Key” basis and includes the following items (for more details see Section VII - Technical Specifications):

- the Dedicated Software for Groundwater Processing Centers, modular versions to be employed at the various levels of the data processing centers in the project area. Quantities as specified in Table 2.1 - Summary Table of Requirements.
- database tools, GIS tools, Query and Report generation tools and all the run-time modules and software tools required by the Software at each office level. Quantities as required according to the number of users and the data center type as defined in Tables 2.1-2.4.
- hardware, operating systems, communications and maintenance tools required for the data processing centers operation, and transfer of data between different offices. Quantities as required according to the number of users and the data center type as defined in Tables 2.1-2.4.
- training of the end users and staff and full documentation and manuals for all the supplied items. Quantities as required according to the number of users as defined in Tables 2.5, 2.6.
- installation and implementation of the supplied items at all the sites, developing, customizing and implementing the Software, Tables 2.2.1 - 2.2.9, all according to the Project Time Schedule as defined in paragraph 2.7.
- maintenance and support for the supplied items for 4 years after the expiration of the warranty of the Pilot, based on satisfactory performance. The support must be provided by an adequate establishment having offices in India and within the project area, Tables 2.2.1 - 2.2.9.

ion □ □ □ □ I2. Summarized Requirements and Quantities

The following table lists the summarized requirements and the time schedule for installation and acceptance of batches of equipment and phased delivery of services, at the sites and the different data centers. The installation periods are measured in month from the Effective Date of Contract. Items marked (*) are deemed critical milestones for assessment of liquidated damages (see Table 2.7). The Bidder will attach with the Price Schedules the prices for future Systems upgrading and for additional sites, with regard to the addition of Application Software copy (Modules: 1, 2, 3, 4, and Complete), addition of Workstation/PC, and additional site (according to the computer package types).

Note: For clarification of the requirements see - Section VII - Technical Specifications

ion □ □ □ □ I2.1 <M> Summary Table of Requirement

State / Agency	Name/level of office	Application Software Module ²	Required number of Packages x Package Type ³	LAN
CGWB	National GW data center	C	1xA, 1xC	yes
CGWB	Regions	C	16 x B	yes
CGWB	Unit	1+2+3	9xD	no
Andhra Pradesh	State GW data center	C	1xB	yes
Andhra Pradesh	Region	1+2+3	3x D	no
Andhra Pradesh	District	1+2+3	22x2 Users (Application Software only)	no
Gujarat	State GW data center	C	1xB	yes
Gujarat	Region	1+2+3	4xD	no
Maharashtra	State GW data center	C	1xB	yes
Maharashtra	Region	1+2+3	6xD	no
Maharashtra	District	1+2+3	17xD	no
Orissa	State GW data center	C	1xB	yes
Orissa	Division	1+2+3	8xD	no
Madhya Pradesh	State GW data center + Circle	C , 1+2+3	1xB, 1xD	yes
Madhya Pradesh	Circle	1+2+3	1xD	no
Madhya Pradesh	Division	1+2+3	9xD	no
Kerala	State GW data center	C	1xB	yes
Kerala	Region	1+2+3	2xD	no
Kerala	District	1+2+3	14xD	no
Tamil Nadu	State GW data center	C	1xB	yes
Tamil Nadu	Circle	1+2+3	3xD	no

² Application Software as specified in Table 2.3 and described in the Technical Specifications

³ Computer Package type description see Table 2.4

Tamil Nadu	Region	1+2+3	10xD	no
Karnataka	State GW data center	C	1xB	yes
Karnataka	Region	1+2+3	2xD	no
Karnataka	District	1+2+3	19xD	no

ion **II.2.1 Quantities Table per State and CGWB**

State / Agency	Number of Packages by type				Software Module		LAN
	A	B	C	D	1+2+3	C	
CGWB	1	16	1	9	9	18	17
Andhra Pradesh		1		3	25	1	1
Gujarat		1		4	4	1	1
Maharashtra		1		23	23	1	1
Orissa		1		8	8	1	1
Madhya Pradesh		1		11	11	1	1
Kerala		1		16	16	1	1
Tamil Nadu		1		13	13	1	1
Karnataka		1		21	21	1	1
Total	1	24	1	108	121	26	25

ion **III.2.2 State/Agency Specific Tables of Requirement**

Note: The addresses specified here are tentative sites as currently envisaged

2.2.1 Central Ground Water Board

Office Level	Address	Application Software Module	Package Type	LAN
National Data Centre	Faridabad	C	A+C	yes
Region	Jammu	C	B	yes
Region	Chandigarah	C	B	yes
Region	Lucknow	C	B	yes
Region	Patna	C	B	yes
Region	Calcutta Nicobar	C	B	yes

Region	Guwahati	C	B	yes
Region	Bhubaneswar	C	B	yes
Region	Hyderabad	C	B	yes
Region	Chennai	C	B	yes
Region	Thiruvananthapuram	C	B	yes
Region	Bangalore	C	B	yes
Region	Nagpur	C	B	yes
Region	Bhopal	C	B	yes
Region	Raipur	C	B	yes
Region	Gandhi Nagar	C	B	yes
Region	Jaipur	C	B	yes
State Unit	Kangra	1+2+3	D	no
State Unit	Bareilly	1+2+3	D	no
State Unit	Itanagar	1+2+3	D	no
State Unit	Shillong	1+2+3	D	no
State Unit	Agartala	1+2+3	D	no
State Unit	Belgaum	1+2+3	D	no
State Unit	Pune	1+2+3	D	no
State Unit	Jodhpur	1+2+3	D	no
State Unit	Delhi	1+2+3	D	no

2.2.2 State: Andhra Pradesh

In Andhra Pradesh District offices the Application Software will be installed on existing D or C Package Computers

Office Level	Address	Application Software Module	Package Type	LAN
State GW data center	Hyderabad	C	B	yes
Region	Hyderabad	1+2+3	D	no
Region	Cuddapah	1+2+3	D	no
Region	Rajahmundry	1+2+3	D	no
District	Srikakulam	1+2+3	2 users (Application Software only)	no
District	Vizianagaram	1+2+3	2 users (Application	no

			Software only)	
District	Visakhapatnam	1+2+3	2 users (Application Software only)	no
District	Rajahmundry	1+2+3	2 users (Application Software only)	no
District	Eluru	1+2+3	2 users (Application Software only)	no
District	Vijayawada	1+2+3	2 users (Application Software only)	no
District	Guntur	1+2+3	2 users (Application Software only)	no
District	Ongole	1+2+3	2 users (Application Software only)	no
District	Nellore	1+2+3	2 users (Application Software only)	no
District	Chittoor	1+2+3	2 users (Application Software only)	no
District	Cuddapah	1+2+3	2 users (Application Software only)	no
District	Anantapur	1+2+3	2 users (Application Software only)	no
District	Kurnool	1+2+3	2 users (Application Software only)	no
District	Mahabubnagar	1+2+3	2 users (Application Software only)	no
District	Hyderabad	1+2+3	2 users (Application Software only)	no
District	SangaReddy	1+2+3	2 users (Application Software only)	no
District	Nizamabad	1+2+3	2 users (Application Software only)	no
District	Nirmal	1+2+3	2 users (Application Software only)	no
District	Karimnagar	1+2+3	2 users (Application Software only)	no
District	Khammam	1+2+3	2 users (Application Software only)	no
District	Hanumakonda	1+2+3	2 users (Application Software only)	no

District	Nalgonda	1+2+3	2 users (Application Software only)	no
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2.2.3 State: Gujarat

Office Level	Address	Application Software Module	Package Type	LAN
State data center	Gandhi Nagar	C	B	yes
Region	Ahemadabad	1+2+3	D	no
Region	Raj Kot	1+2+3	D	no
Region	BhavNagar	1+2+3	D	no
Region	Palan Pur	1+2+3	D	no

2.2.4 State: Maharashtra

Office Level	Address	Application Software Module	Package Type	LAN
State Data Center	Pune	C	B	yes
Region	Pune	1+2+3	D	no
Region	Konkan	1+2+3	D	no
Region	Nasik	1+2+3	D	no
Region	Aurangabad	1+2+3	D	no
Region	Amravati	1+2+3	D	no
Region	Nagpur	1+2+3	D	no
District	Thane	1+2+3	D	no
District	Raigad	1+2+3	D	no
District	Ratnagiri	1+2+3	D	no
District	Sindhudurg	1+2+3	D	no
District	Nasik	1+2+3	D	no
District	Dhule	1+2+3	D	no
District	Jalgaon	1+2+3	D	no
District	Ahmed Nagar	1+2+3	D	no
District	Pune	1+2+3	D	no

District	Sholapur	1+2+3	D	no
District	Kolhapur	1+2+3	D	no
District	Sangali	1+2+3	D	no
District	Satara	1+2+3	D	no
District	Aurangabad	1+2+3	D	no
District	Jalana	1+2+3	D	no
District	Beed	1+2+3	D	no
District	Parbhani	1+2+3	D	no

2.2.5 State: Orissa

Office Level	Address	Application Software Module	Package Type	LAN
State Data Center	Bhubaneswar	C	B	yes
Division	Bhubaneswar	1+2+3	D	no
Division	Cuttuck	1+2+3	D	no
Division	Keonjhar	1+2+3	D	no
Division	Bolangir	1+2+3	D	no
Division	Sambalpur	1+2+3	D	no
Division	Beharampur	1+2+3	D	no
Division	Phulbani	1+2+3	D	no
Division	Bhawanipur	1+2+3	D	no

2.2.6 State: Madhya Pradesh

Office Level	Address	Application Software Module	Package Type	LAN
Circles	Bhopal	C	B + D	yes
Circles	Raipur	1+2+3	D	no
Division	Ujjain	1+2+3	D	no
Division	Gwalior	1+2+3	D	no
Division	Sagar	1+2+3	D	no
Division	Khandawa	1+2+3	D	no
Division	Rewa	1+2+3	D	no
Division	Jabalpur	1+2+3	D	no
Division	Raipur	1+2+3	D	no
Division	Balaghat	1+2+3	D	no
Division	Bilaspur	1+2+3	D	no

2.2.7 State: Kerala

Office Level	Address	Application Software Module	Package Type	LAN
State Data Centre	Thiruvananthapuram	C	B	yes
Region	Thiruvananthapuram	1+2+3	D	no
Region	Kochi	1+2+3	D	no
Region	Kozhikode	1+2+3	D	no
District	Thiruvananthapuram	1+2+3	D	no
District	Kollam	1+2+3	D	no
District	Pattanamathittu	1+2+3	D	no
District	Alappuzha	1+2+3	D	no
District	Kottayam	1+2+3	D	no
District	Iduki	1+2+3	D	no
District	Eranakulam	1+2+3	D	no
District	Thrissur	1+2+3	D	no
District	Palakkad	1+2+3	D	no
District	Mallapuram	1+2+3	D	no

District	Kozhikode	1+2+3	D	no
District	Wayanad	1+2+3	D	no
District	Kannur	1+2+3	D	no
District	Kasargod	1+2+3	D	no

2.2.8 State: Tamil Nadu

Office Level	Address	Application Software Module	Package Type	LAN
State Data Centre	Chennai	C	B	yes
Circles	Chennai	1+2+3	D	no
Circles	Thanjavur	1+2+3	D	no
Circles	Madurai	1+2+3	D	no
Division	Chennai	1+2+3	D	no
Division	Cuddalore	1+2+3	D	no
Division	Vellore	1+2+3	D	no
Division	Thanjavur	1+2+3	D	no
Division	Tiruchy	1+2+3	D	no
Division	Salem	1+2+3	D	no
Division	Dharam puri	1+2+3	D	no
Division	Madurai	1+2+3	D	no
Division	Tirunelveli	1+2+3	D	no
Division	Karaikudi	1+2+3	D	no

2.2.9 State: Karnataka

Office Level	Address	Application Software Module ⁴	Package Type	LAN
State Data Center	Bangalore	C	B	yes
Region	Bellary	1+2+3	D	no
Region	Mysore	1+2+3	D	no
District	Bangalore	1+2+3	D	no
District	Belgaum	1+2+3	D	no
District	Bellary	1+2+3	D	no
District	Bidar	1+2+3	D	no
District	Bijapur	1+2+3	D	no
District	Chikkamagalur	1+2+3	D	no
District	Coorg	1+2+3	D	no
District	Gulbarga	1+2+3	D	no
District	Hassan	1+2+3	D	no
District	Kolar	1+2+3	D	no
District	Mandya	1+2+3	D	no
District	Mysore	1+2+3	D	no
District	North Kannara	1+2+3	D	no
District	Raichur	1+2+3	D	no
District	Shimoga	1+2+3	D	no
District	South Kanara	1+2+3	D	no
District	Tumkur	1+2+3	D	no
District	Dharwad	1+2+3	D	no
District	Mangalore	1+2+3	D	no

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⁴ Application Software description as in the Technical Specifications
28 November, 2002

2.3 <M>Application Software Package Type

(according to the Functionality Model, see Section VII - Technical Specifications)

Package	Module
C	Complete Software Package
1	Basic Module
2	Water Balance and Resource Assessment Module
3	Basic GIS Module
4	Advanced GIS Module

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2.4.1 Computer Package Type

Package Type	Number of Users
A	8
B	5
C	2
D	2

2.4.2 <M:HW> Computer hardware per Package Type For Minimum Hardware Specifications see paragraph 5

Item No.	Equipment	Package Type A	Package Type B	Package Type C	Package Type D
1	Server + Raid disk	1	1		
2	Personal Computer ⁵	8	5	2	2
3	Backup Tape Unit	1	1		
4	Laser Printer HP LaserJet or equivalent	2 (1 B&W, 1 Color)	2 (1 B&W 1 Color)	1 (B&W)	1 (B&W)
5	Printer (Inkjet or similar)	8	5	1	1
6	Plotter (A0 Colour)	1	1		
7	Digitizer (A0 Flat Bed)	1	1		
8	Plotter (A3)				1

⁵ All the proposed PCs should be able to operate the proposed software (see minimum requirement in Hardware Specification Section VII)

9	Digitizer(A3)				
10	Scanner (A0)				
11	Scanner (A3)	1	1		
12	CD - ROM (SCSI \geq x8)	1	1	1	1
13	Cables & connectors	as required	as required	as required	as required
14	Network Hubs, Cables, Connectors, Etc.	as required	as required		
15	Network Cards (Ethernet)	as required	as required		
16	Leased/Dial line external Modem (V34 and V42 bis, Sync/Async) + Cable	2	2	1	1
17	UPS (KVA as required)	as required	as required	as required	as required

2.4.3 <M:SW> Software per Package Type⁶

Item No.	Software Item	Package Type A	Package Type B	Package Type C	Package Type D
1	Application Software	1	1	1	1
2	Database, GIS & software Tools	1	1	1	1
3	Operating and Network Systems, Administration and Management Tools	As required	As required	As required (no LAN)	As required (no LAN)
4	Office Software	1	1	1	1

2.4.4 <M:SW> Office Software

	Software Item	Package Type A (users)	Package Type B (users)	Package Type C (users)	Package Type D (users)
	MS-Office	8	5	2	2
	Anti-virus software	9	6	2	2

ion VII.2.5 Training (see Technical Specifications)

A minimum of 5 training days per end-user and 15 days for maintenance staff is envisaged, this will be taken into account in the Contract Price evaluation.

⁶ Application software items according to the Functionality Model described in the Technical Specifications and number of users per package type

	Package Type	Users	Staff
	Package Type A	8	2
	Package Type B	5	1
	Package Type C	2	
	Package Type D	2	

ion **VIII.2.6 Manuals, Documentation and File Conversion**

- a) Manuals and Documentation as required according to the Technical Specifications in English.
- b) File Conversion - A minimum of 20 sites, 100 MB data volume per site will be taken into account for Contract Price evaluation.

ion **I2.7 Project Time Schedule**

(for further details see Technical Specifications)

Milestones which will be considered as critical are:

- * **Successful conclusion of the Pilot after finalizing and stabilizing: - eight (8) months after the Effective Date of the Contract, by which time the Application Software is substantially completed (not less than 90%) and the software is ready for Full-scale Implementation**
- * **The end of the Full-scale Implementation eighteen (18) months after the Effective Date of the Contract**

STEP	Month (Date Complete)																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18 *
Effective Date of Contract																		
Project Plan																		
Procurement of Pilot Hardware & Software																		
Construction of Infrastructure for Pilot																		
Installation of Pilot Hardware and Software																		
Installation of the Pilot Communications																		
Application Software Final Design																		
Software Developing & Customizing																		
First Stage Application Acceptance Tests																		
Pilot Users Training																		
Pilot (Application Software Acceptance)																		
Finalizing and Stabilizing																		
Full-scale Implementation																		
Hardware & Software Procurement																		
Construction of Infrastructure																		
Installation of Hardware and Software																		
Installation of the Communication																		
Installation of the software & training																		

Section VII Technical Specifications

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ion □□□□ISection VII - Technical Specifications

Specification Conventions

Technical specifications of the products offered by the Bidder shall comply with the requirements stated in this Section. The specifications are classified as follows:

- <M> Mandatory specifications which must all be satisfied for a bid to be considered qualified
- <P> Preferred
- <HW> Hardware specifications
- <SW> Software specifications
- <O> Optional
- <I>Information

1 <I> Introduction

The Hydrology Project (HP) aims to establish a hydrological information system (HIS) at Agency, State and National level for hydro-meteorological, surface water and groundwater quantity and quality data. The systems comprise the infrastructure, the human resources and the activities involved in data acquisition, processing, validation, storage and dissemination. The physical infrastructure components of the system include observation networks, laboratories and data centers equipped with databases and tools for data entry, processing and retrieval, whereas the human resources comprise well-trained staff with a variety of skills who operate and execute the activities involved in the system.

The establishment of a demand-oriented and reliable HIS, which by definition is compatible both between agencies and disciplines, requires upgrading and expansion of the physical infrastructure and adoption of standard tools, techniques and procedures. The HIS envisaged, includes a state data center and data processing centers at the professional agencies. The state data center is a storage facility for reliable data sets that are processed, validated and authenticated at the data processing centers. As such, the processing centers are required to include a comprehensive hardware and software system that will be able to accommodate all the storage as required, and the processing involved.

2 Application Software

2.1 <I> Objectives

The Hydrology Project plans to develop interactive computerized data banks within CWC, CGWB, and the state agencies responsible for surface water and groundwater hydrological data collection. Thus each agency will maintain and have responsibility for data banking system for the data it collects.

The Software for GW Data Processing Centers is expected to facilitate data entry, processing, validation and dissemination of mostly periodic reports, under an integrated software environment that comprises a database, GIS, functions and application tools. Much specialized processing would be carried out elsewhere,

but the dedicated software should provide all required support in terms of data output. The system needs to have a modular structure adjustable to the functions carried out at the different levels; a comprehensive package at central offices and headquarters and a limited package for lower level centers controlling directly the monitoring system. The software will have open architecture using internationally available commercial packages.

2.2 <I> Approach

Data entry, processing, validation and dissemination under the HIS are supposed to be carried out and controlled at the GW data processing center through a dedicated software system. The requirements for such a software are determined by the type and amount of data, by the processing procedures and by the information required by users (State, Central and private sector). A list of requirements and specifications had been made reflecting the data users needs. It became evident that the participants share the opinion that provision should be made to facilitate water balance and resource assessment following given norms and methodologies (Ground Water Estimation Committee, GEC, 1984 and its 1997 update). Although data acquisition under HP does not involve all the components required for such estimates, direct and mostly indirect information is routinely collected by the GW agencies and employed in periodic development and water resources assessment reports. Therefore, the following “Requirements and Specifications for Dedicated Software” include support for these activities as well as provide all required support in terms of data output. For further details see “Guidelines for Ground Water Data Processing for Resource Evaluation” annexed to this section.

The present document displays the requirements and specifications for a comprehensive software package to be installed in Central and State GW data processing centers and at headquarters and regional offices of CGWB. The comprehensive package will have open architecture using international available commercial packages without any proprietary tools. The user interface is to be developed by well known languages and tools. The software will follow a modern approach that embraces an integrated software environment with standard compatible components and operation procedures. As selected components of the package would be installed at different data processing centers, a modular structure of the package is required.

2.3 <I> Users & Working Environment

The dedicated software package will be used by the national groundwater agency, the Central Ground Water Board (CGWB) and the groundwater departments in the states of Gujarat, Madhya Pradesh, Orissa, Andhra Pradesh, Maharashtra, Tamil Nadu, Karnataka and Kerala.

The CGWB is a national agency which operates through a regional offices network located in each states which is coordinated by a national center and headquarters. By and large, all the activities of the CGWB in the different states are conducted from their regional offices. In some states the regional offices operations are split between two regions and in some supplemented by unit offices which run assigned activities over their jurisdiction.

The State Groundwater Departments are agencies operating within their state jurisdiction through a network of 8-22 district offices coordinated by 2-4 regional centers and a state headquarters office. Different designation for these offices is used in different states

Both the CGWB and the state GW agencies are involved in routine and specific operations which fall mostly under similar categories, though with different emphasis and scale, as follows:

- monitoring of water levels & quality,
- exploration
- construction of wells
- testing aquifers for hydraulic parameters
- computation of water balance
- resource and development assessment
- water quality studies
- special projects and applied research
- preparation of hydrogeological atlases

While the state agencies are state oriented and maintain to a certain degree also jurisdiction functions related to water management and development, the CGWB focus on national and inter-regional water resource exploration and development issues. Both agencies disseminate the information gathered to decision makers and users, in the form of periodic and special reports comprising raw data, graphs and maps, analyses and interpretations.

The professional staff who operates the monitoring systems and conducts all other functions comprise mostly hydrogeologists and some engineers and chemists, all at M.Sc. and Ph.D. level and with varying experience. The bulk of the users of the software at the GW Processing Centers will be derived from this personnel who, at this stage, have mostly limited exposure to computerized work. At agencies headquarters and at the regional offices of CGWB, users will be complemented with computer oriented professionals with expertise in system analysis, networks, GIS, etc. The number of users at each of the processing centers is estimated to range between 6-14 at state and CGWB headquarters, 4-6 at the regional offices of CGWB and state regional offices and 2-3 at the state district and CGWB unit offices.

For the number of users see Schedule of Requirements

2.4 <I> Functionality Model

The routine activities which are conducted by the GW agencies and need to be catered by the Dedicated Software package include analogous functions at all the different offices. Annual reports issued on district, region and state level, on the hydrogeological conditions (yearbook type of information) and on the water resources and development status, require identical capabilities. However, as budget and institutional constraints may limit the possibilities, the functionality model will follow in different modules which may be used separately or lumped together. **The Basic Module is mandatory in all configuration; it is proposed that the Basic Module and the Water Resources Module together with the Basic GIS**

Module will form the configuration at the district, unit and state regional centers, and the complete software package will be installed at the state headquarters and CGWB regional and headquarters offices. Additional modules catering other important activities such as pumping tests, geophysical exploration, and numeric modeling could be developed in a later stage and linked to the Dedicated software package (but are not part of this tender).

2.4.1 <M> Basic Module

This module is required to facilitate systematic handling and documentation of all data generated from the field by the GW agencies and data from other sources, to cater the basic computerization of monitoring and exploration well data, validation of the data, storage and transfer of reliable data sets, processing of data along conventional procedures and periodic report production of yearbook format. Specifically, the functions included in this module comprise the following:

- data entry/editing of data collected from observation and exploration wells and all other data types as described in 2.5.3. The data entry screens should be analogous with the data entry software (HIS-GW/DES, on Access) which has been developed for the project
- transformation of geographical grid (Long.-Lat.) values to linear (UTM) values
- import data from standard database software and spread sheets with historical data and all other data types as described in paragraph 2.5.9
- import/download data from digital water level recorders
- complete data validation as described in paragraph 2.5.5
- generation of location and contour maps (automatic and with manual editing), hydrographs, X-Y plots, borehole logs, well assembly, water quality basic processing and presentation, etc.
- statistic as described in paragraph 2.5.6
- generation of periodic customized yearbook reports, which include text, tables, maps and graphs

2.4.2 <M> Water Balance and Resource Assessment Module

This module is required to cater the water balance computations and the GW resource assessments currently conducted by the agencies along with the methodologies detailed in Ground Water Estimation Methodology (GEC, Ministry of Irrigation, GoI, 1984 and its latest 1997 modification) and suggested enhancements (paragraph 2.5.7). The data support for this module will be fully catered by the Basic Module. However, refinement and enhancement of data input will be catered by the basic GIS module (2.4.3) through manipulation of layer-wise information from maps and database to yield combined spatial derivatives. As methodology involved in these calculations is subject to modifications, the development of this module need to provide a sequence of independent calculation which may be linked manually. The development of this module will be guided by experts on this issue. The main components of these computations include the following items:

- calculation of monsoon recharge according to ad-hoc norms (normal monsoon rainfall x area x infiltration factor). Different norms are used

for different geological rock formations and refinement may be introduced over different ground slope categories

- calculation of the monsoon recharge and stage of development from water balance of the monsoon period
- validation of the spatial distribution of the specific yield of water balance of the dry period

Detailed Guidelines for execution of such water balance and resource estimation, employing the modules and GIS tools envisaged to be customized under the present software package, is annexed to the tender documents.

2.4.3 <M> Basic GIS module

Much of the processing requirement at the GW processing centers include layer-wise data collection, processing, interpretation and dissemination in the form of cross sections and maps. The basic GIS module needs to be able to support the following requirements:

- import and export of maps and cross sections processed through the advanced GIS module (paragraph 2.4.4)
- preparation of contour maps and manual editing capabilities
- manipulation of layer-wise information from original/manually edited contour and thematic maps and database (from the Basic module 2.4.1) to yield combined spatial derivatives (such as water table fluctuation and specific yield maps, change in water storage and quality parameters, slope and rock formations) and permit basic numerical computations like interpolation, differentiation and integration
- calculation of area between contour lines according to given value range, mapped units (such as rock formations, crops), or manually specified area
- preparation of slope/gradient maps from contour maps (topographic maps, water table, paragraph 2.5.6)
- well log presentation along specified cross section lines (paragraph 2.5.6) for the preparation of hydrogeological cross section
- computation of spatial average rainfall from point data (para. 2.5.7)

2.4.4 <M> Advanced GIS module

The advanced GIS module should include all the features included in the basic GIS module and also all the features mentioned in paragraph 2.5.6. Specifically this module need to provide support and facilitate entry and adoption of thematic maps and cater for the integration and manipulation of data derived from such maps with the data collected and stored in the database along the following:

- map entry in the form of scanning, digitizing or import of conventional files
- raster to vector conversion
- integrated map generation by posting information on base maps
- generation 2D and 3D subsurface drawing using data stored in database

- preparation and manipulation of spatial and layer-wise information for specialized modeling software

2.5 Software Requirements

See Section VI - Schedule of Requirements

2.5.1 <P> General Requirements

The items addressed under this heading present general requirements for software and hardware and are not specifically related to GW issues. They describe the working environment, the hardware and the software platforms and support, as follows:

- **Overall use** - well known software and international performance record
- **<M>Capacity** - the software is to satisfy the actual data volume requirements (see Paragraphs 3 and 7)
- **Serviceability** - good documentation and vendor support
- **<M>Drivers for peripherals** - built-in standard drivers for peripherals such as standard scanners, digitizers, printers and plotters
- **<M>Automatic data loading** - flexible software interface for standard hydrogeological equipment used for GW at least for digital water level recorders (DWLR), the collected data is to be automatically loaded into the system
- **<M>Addition of user modules** - include standard, user-friendly, software interface for addition of user-developed modules
- **<M>Initiation & integration of external software** - include a screen menu for initiation of standard procedures and external software processing such as SPSS, EXCEL, or GIS software (ArcInfo, Intergraph, etc.)
- **<P>Screen presentation** - user-friendly, easy to work with, self explanatory and uniform screen format, based on standard GUI (graphic user interface) presentation
- **<P>Ease of use** - easy to learn, easy to customize and adjustable to the agency's needs
- **<P>Open and portable (database and hardware platform independent)** - porting between hardware platforms and working with various databases and software tools
- **Reliability, availability** - reliable software, smooth performance (no "hang-ups" and no need to boot every time when something is "stuck")
- **Flexible & modular system** - modular-built software system, easily adapted to different environments, flexible to changes or addition of new functions and features
- **Performance** - satisfactory and adequate response times for users (interactive and batch processing) at low resources use, no need for costly equipment
- **Client server** - the Application Software will be built as a client server multi-user application
- **Uniformity** - the software system is to be uniform and standard in all the data centers, for all types of users

- **On-line Help** - to be supplied as integral part of the software system
- **<M>Security** - the software is to maintain data integrity and prevent unauthorized access
- **Scalability** - The software will be scalable so as to accommodate the different data center types according to the Functionality Model.

2.5.2 <M> Database Requirements (for further details see Paragraph 3.3)

The requirements listed under this heading relate in general to database software that need to be of a well known, state-of-the-art type and used intensively, world-wide. As such, it should provide stable, secure and robust working environment for users, and an easy database and software maintainable system for staff. The software system will be based on and include:

- **Client/Server** - Client Server Architecture
- **<P>Easy maintenance** - easy to use maintenance tools by office personnel (no need for system specialist)
- **Administration and management functions:**
 - ⇒ creating and managing validation tables
 - ⇒ creating and managing user authority table
 - ⇒ creating and managing database tables
 - ⇒ managing tools for the database system such as backup/restore procedures
 - ⇒ database periodic and special updating procedures
- **Data Security** - the software system must have modules for user's authorization and authentication, as to enable data access for authorized users only. The software must support the following data security functions:
 - ⇒ user identification and authentication, by USERID and password
 - ⇒ the password will contain alpha-numeric characters. change of password will be made by the user
 - ⇒ the user authorization table has to be kept encrypted
 - ⇒ the USERID will be revoked after erroneous trials (number to be decided by the system administrator)
 - ⇒ access privileges will include read, write, delete, update and special supervisory privilege
 - ⇒ the security level will include data fields as well as data records
- **Activity logging** - activity logging modules for auditing purposes, which will include: user-ID, log-in/log-out date & time and activities (read, write, delete, update)
- **Commitment** for Internet connection through Database Web Server if required in the future (WEB Server **not** to be included)
-

2.5.3 <M> Types of Data and Accessory Tables

The database component of the software package is required to store and accommodate all the data collected by the GW agencies through their monitoring, exploration and water supply activities and also all relevant data collected from other sources. Following is a list of data types and accessory tables to be used in the GW data processing centers that must be supported and maintained as integral part of the software system:

- **Space oriented data** - spatial data such as

- ⇒ contour maps in raster and vector format
- ⇒ remote sensing data in raster format
- ⇒ thematic maps (toposheets, land use, seasonal crop, etc.)
- **Location oriented time-independent data** - well data such as
 - ⇒ administration data and remarks
 - ⇒ well site description
 - ⇒ identification name and code
 - ⇒ location geographic coordinates
 - ⇒ altitude (MSL) and reference point for water level measurement
 - ⇒ well assembly
 - ⇒ aquifer data
 - ⇒ well log lithology and geophysical data
 - ⇒ rock formations and hydrostratigraphic units
 - ⇒ well performance and hydraulics
- **Location oriented time-dependent data** - time-series data such as
 - ⇒ depth to water table
 - ⇒ water quality parameters, including physical, inorganic, organic and microbiological elements and compounds
 - ⇒ rainfall (location, depth)
 - ⇒ GW abstractions (direct gauging)
 - ⇒ pumping test data
- **Resource and draft related data** - data used for indirect assessment procedures (paragraphs 2.5.7 and 2.4), that are collected annually or seasonally and are updated routinely. Such data include:
 - ⇒ area of seasonal and permanent surface water bodies (ponds, tanks, canals) and water logged area
 - ⇒ area of canal command and seasonal irrigation
 - ⇒ amount of seasonal water supplied for irrigation and its source
 - ⇒ types of production wells (structures), their capacity and their number per unit area, river and canal sections, running days
- **Accessory tables**
 - ⇒ codes for lithological descriptions
 - ⇒ codes for geologic formations, aquifers and geomorphic units description
 - ⇒ tables/figures of the GEC 97 norms
 - ⇒ codes and “standards” tables for water quality
 - ⇒ crop - water requirement relationships (norms, subject to modifications)
 - ⇒ infiltration and specific yield - soil/rock type relationships (fixed data and norms, subject to modifications)
 - ⇒ validation tables and parameters (see 2.5.5)
 - ⇒ any other tables required for data entry or manipulation of GW data

2.5.4 <M> Data Entry Editing and Manipulation

The software system will include data entry screens and menus for all types of data mentioned above and will support data manipulation as follows:

- **<P>Data entry screens and formats** - uniform and user friendly data entry screens and formats for hydrogeological data which will include GUI presentation

- The data entry screens should be analogous with the Data Entry Software (on Access) which has been developed for HP
- **Data entry for digital data** - data entry for digital data originated by external equipment such as DWLR, to be loaded and integrated into the system
- **Accessory tables support** - editing and managing accessory tables
- **Conversion to standard coordinates** - conversion of locations to standard coordinate system
- **Data conversion** - data conversion and calibration between different units and different methods such as conversion between non-metric and metric systems (to be adopted as standard) Fahrenheit and Celsius degrees, etc.
- **Interactive Raster to vector conversion** - raster to vector and vector to raster conversion module. <P> both **automatic** and **interactive** conversions
- **Map editing** - map editing, rotating, zooming, digitizing, curve-tracing and modification
- **Data editing** - editing of all the above mentioned data types

2.5.5 <M> Data Validation and Correction

Subsequent to the data acquisition and field validation, hydrogeological data need to be further validated through specific protocols to be included into the dedicated software along three validation categories:

- **Primary validation** - designed to ensure that entries which are clearly wrong are rejected at the data entry stage. Typical checks include
 - ⇒ day number above 31
 - ⇒ non-numeric character in a numeric field
 - ⇒ depth to the water table larger than depth of well
 - ⇒ inconsistency between numeric values and designated units
 - ⇒ inconsistency between storativity values and type of aquifer
 - ⇒ inconsistency between lithological code and geological rock formation
 - ⇒ inconsistency between locations and altitudes from surveying and toposheets
 - ⇒ non balanced chemical analysis
 - ⇒ total dissolved solids (TDS) smaller than any single major ion concentration
- **Secondary validation** - involves checking the internal consistency of a single record and requires the checking of entered values against preset absolute or statistically determined limits and ensuring continuity between one batch of data and the next. Typical checks in this category will include
 - ⇒ value exceeding previous average seasonal values by $\pm x$ times standard deviation
 - ⇒ water level values beyond minimum and maximum fluctuations
 - ⇒ pH values beyond 4 and 10
- **Hydrogeological validation** - involves comparing one record with others, either of the same variable for different observation wells (spatial configurations, superimposed hydrographs, correlation

matrices) or for interrelated variables at the same or adjacent observation sites (such as water-table/rainfall).

Validation and correction should be facilitated through procedures for:

- integrity/consistency checks and data entry checks, according to parameters or functions pre-defined and customized into the system
- automatic and optional validation - automatic validation and data integrity checks when entering data and also optional periodic checks of the complete database data, according to selected validation protocols and parameters
- suspected data - production of listings of suspected values with the reason of suspicion. The system will accept valid data or query data but not reject or correct them automatically. Data exceeding given validation margins should be marked by “Warning” and “Suspect” tags
- checking and reporting of missing values or “blank” fields, enabling data correction/filling-in missing data through interpolation (time/spatial) techniques, regression techniques, or other conventional methods

2.5.6 Specific Functions and Data Analysis

The software system will include and enable statistics, GIS and other functions required by the users and will support at least the following items:

- Statistical functions
 - ⇒ <M>basic statistics including mean, variance and standard deviation
 - ⇒ <M>time-series analysis (auto/cross correlogram, trend and harmonic analyses)
 - ⇒ <M>regression analysis (linear and non-linear, univariate and multivariate) and analysis of residues
 - ⇒ <M>moving average
 - ⇒ <M>Kriging/ Co-Kriging
 - ⇒ <M>grainsize analysis (frequency distributions and probability curves)
 - ⇒ <P>distribution tests
 - ⇒ <P>trend surface analysis
 - ⇒ <P>spline function
 - ⇒ <P>tests of hypothesis
 - ⇒ <P>principal component analysis
 - ⇒ <P>discriminatory analysis
- <M>**GIS function** - tools for 2 & 3D data processing of geological and hydrogeological surface/subsurface data, topographic and other thematic maps, processing and manipulations between space oriented data (mapped information) and location oriented data. Specifically, tools for:
 - ⇒ layer-wise data manipulations and crossing of maps, rotating maps, panning, zooming in and out, saving and restoring of views, drawing and plotting overviews
 - ⇒ production of contour maps for water-level (depth, water-table and fluctuations), quality parameters, aquifer lithology and hydraulic characteristic, etc. Enable manual editing of maps

- ⇒ production of slope/gradient maps from contour maps, gradients normal and along manually drawn lines or digitized boundaries
- ⇒ calculation of area between contour lines according to given value range, mapped units (such as rock formations, crops), or manually specified area
- ⇒ composite well log presentation
- ⇒ cross sections along specified lines and tolerance on maps (presenting well logs at proportional distances for manual and semi-automatic correlation of hydrogeological data)
- ⇒ <P>modules for digital images processing of remote sensing data
- ⇒ <P>tools for creating OLE map objects for linking to other applications
- <M>**Location of data** - locating and relating different data types, such as image data and text data
- <P>**Special output** - production of output for common specialized groundwater/quality software for numeric modeling of water flow and solute transport, chemical equilibrium, mass balance, pumping tests, etc.

2.5.7 <M> **Groundwater Balance, Resource and Development Assessment**

Periodic groundwater balance, and resource and development assessments are routine activities undertaken by all the GW participating agencies (paragraph 2.4.2). The software system is required to include a specific module that will support all procedures and calculations involved in such activities, as follows:

- **Water balance computation** - calculation of water balance and resource assessment following given norms and methodologies practiced currently in India (Ground Water Estimation Committee, GEC, 1984, 1997) and the annexed suggested enhancements. The main components to be included are:
 - ⇒ change in groundwater storage volume
 - ⇒ computation of areal rainfall from point rainfall
 - ⇒ recharge from rainfall
 - ⇒ recharge from canals
 - ⇒ recharge from irrigated fields
 - ⇒ recharge from submerged lands
 - ⇒ gross groundwater draft (direct abstraction figures and indirect assessments)
 - ⇒ unrecoverable (unaccountable) groundwater losses
 - ⇒ subsurface inflows and outflows
- **Stage of groundwater development** - manipulation of the water balance components and given norms along the methodologies practiced currently in India (Ground Water Estimation Committee, GEC, 1984, and recent modifications - 1997) and the suggested enhancements.

For further details see “Guidelines for Ground Water Data Processing for Resource Evaluation” annexed to this section.

2.5.8 <M> **Queries and Reports**

Requirements for new types of queries and reports are common to every operational processing center. The software system should therefore, include simple standard tools for generation of queries and production of reports by experts, and facilitate application of pre-designed queries and report options by users, as follows:

- **SQL query generator** (required in the Complete Package only) - standard SQL query generator tool, integrated into the software enabling initiation of dynamic queries for data stored in the database. The generated query script to be saved in the database for later use
- **Report generator** (required in the Complete Package only) - standard report generator tool for dynamic report production by data selection
- **Tools and modules:**
 - ⇒ GIS generation tools for single and composite contour and thematic maps
 - ⇒ generation tools for time series graphic plots (single, several and composite)
 - ⇒ presentation tools for single and composite well logs, including lithology, geophysics, hydrostratigraphy, well assembly, etc.
 - ⇒ presentation tools for hydrogeological cross-sections/fence diagrams
 - ⇒ presentation tools for conventional groundwater quality diagrams such as Piper, Wilcox/USSL, Stiff, Schoeller
 - ⇒ presentation tools for common 2 and 3D graphs
 - ⇒ presentation tools for single or combined text, numeric, graphic and picture illustrations
 - ⇒ basic pre-designed queries & reports
 - ⇒ display of all text information in the database by selecting and searching criteria such as: locations and other codes (well ID, etc.), date, time and other key information
 - ⇒ map retrieval through specific location, coordinates, well code or any other location-oriented data in the database, and vice-versa: data retrieval which relate to maps, partial maps and contour maps
 - ⇒ Pre-designed periodic reports for monthly reports and yearbooks including: well information, summary information for wells, aquifers, etc.
 - ⇒ Pre-designed detailed reports for specific information selected by key information such as well ID/well type, location, etc.
 - ⇒ Pre-designed detailed reports for water quality analysis by selection criteria such as lab ID, sample ID, element/parameter, date, etc.

2.5.9 <M> Importing and Exporting Files

Most of the computerized data available today reside in data files of various data structures, database systems and spreadsheet. In order to integrate all the data into one comprehensive standard database, the software system should include interface for export/import of files, and integration of external data. The Bidder may be required to provide also the actual data integration as part of the implementation process. The software system will enable:

- **File export & import** - importing and exporting of standard ASCII data files. Converting and integrating the data into the system. Data input and output to be structured according to needs
- **DWLR data import** - importing and integrating of DWLR field data files
- **HIS Storage Database files** - export/import of special, HIS structured files to be loaded into, or extracted from the state data centers and data processing centers (the structure will be supplied to the vendor)
- **Integration of Data** - integration of data files into the system will be made according to selected validation/conversion protocols and parameters
- **Support of files** - the files supported by the system will include at least: EXCEL, QuatroPro, LOTUS, MS-Access and dBASE
- **Map integration** - integration of scanned and digitized maps, satellite images, and adoption of thematic maps. The system will support standard map structure like TIFF (standard format for maps) and other commonly used formats
- **File transfer** - user friendly file transfer module (from and into the database). The file transfer process must ensure integrity of data and process completion checks

3 Technology

3.1 <M> Hardware Platforms and Peripheral Equipment

(see Schedule of requirements for equipment type and quantities)

Support of commonly used hardware platforms such as: standard PCs, standard Servers and standard workstations of well-known and established vendors. The Bidder will include the hardware platforms and all peripheral equipment required for the use of the Systems. In case there are discrepancies between the Schedule of Requirements and the proposed equipment, the Bidder will list the differences. The specifications for hardware will include functional description of the proposed items. The requirements for the equipment will take into account the CPU, disk space, memory, and other features required for operating, and on-line keeping, and archiving of data including creation and saving of various maps (as evaluated by the Bidder according to the Tables And Diagrams - paragraph 7 and the Bidder's experience). The Bidder will suggest sustainable archiving methods and tools.

Server and PC/Workstation - The proposed equipment will include the requirement for on-line keeping of data for 4 years, in the State Data Centers and CGWB National Data Center and Regional offices, for the other data centers on-line data for 1 year (for data volume see GW Monitoring Network Table). At National Data Center all Historic Data from CGWB and States will be stored and maintained. The Bidder will specify:

- producer, brand name and model
- CPU
- central memory
- disk space
- redundancy

- backup unit
- other features

For the proposed peripherals (printers, plotters, scanners, etc.):

- producer, brand name and model
- technical features

3.1.1 <M>Minimum Hardware Specification Requirements

The Bidder will Propose the required equipment according to Table 2.4 in the Schedule of Requirements and according to the requirements in the Technical Specifications, so as to provide adequate performance, but not less than the minimum requirements specified here. It is preferable that the software will operate on PC platform.

3.1.1.1 PERSONAL COMPUTER, PENTIUM TYPE

Specifications:

CPU type	Pentium II, 233 MHz
internal memory	64 Mbytes EDO RAM or SDRAM
cache memory	512 Kbytes
hard disk	2.5 Gbyte ATA HDU
slots	4 PCI, 3 ISA
integrated PCI bus	64 bit graphics accelerator PCI bus master EIDE onboard
Network card	32 bit PCI Ethernet card
FDD	1 1.44 MB FDD
parallel port	1 EPP / ECP, bi-directional
serial port	2 fast serial ports
mouse port	bus mouse port
video controller PCI	64 bit graphics controller with 2 Mbytes (upgradable to 8 Mbytes) VRAM

Components to be supplied along side:

17" Colour monitor, max. 1600 x 1200 pixels
Windows 95 key board
mouse, MS supported, preferably a bus-mouse
mouse pad

Operating system and software:

(operating system and software to be of the latest release)
MS-Windows 95 on CD-ROM
MS-Office97 professional, including WORD, EXCEL, ACCESS,
PowerPoint

Virus protection software for Windows95 (McAfee, Norton or Dr. Solomon), including site licence with up-grade provision
Manuals for all software and operating system

Manuals

Technical manuals of all hardware & software, including PC and peripherals, must be part of the delivery. Also all software manuals of the operating system, utilities and applications software must be part of the delivery as well the installation software.

Performance

For the server and for the more demanding functions and usage of GIS, a faster processor, and additional memory, disk space and other hardware items may be required. Where vast amounts of data may have to be stored, e.g. maps, than the HDU specifications may be required to be expanded accordingly. The bidder should consider proposing a 'SCSI ultra' if required. In addition intensive use of detailed graphics may requires a larger display, e.g. 21", maximum resolution and video RAM size may have to be increased accordingly (for the state HQ or CGWB centre) .

3.1.1.2 COMMUNICATIONS:

- V42, V.34 (1996) 33.6 kbps modem and cable with connectors to telephone line
- 16/32 bit PCI internal LAN Ethernet adapter 10/100
- Network Hubs.
- The network should be capable of expanding to accommodate future growth as follows: addition of extra communication links, processing power growth of network nodes, addition of new network nodes, networks connectivity (LAN to LAN and PC to LAN connectivity)
- possibility for future network upgrade to advanced technology/protocol (such as ATM)
- Cables - at least Cat. V, AT&T or equivalent

3.1.1.3 LASER PRINTER, B/W, DESKTOP:

Specifications:

Type	HP LaserJet 5 or equivalent
printing speed	12 ppm
printing resolution	600 * 600 dpi
buffer capacity	4 Mbytes, expendable to 8 Mbytes
printer language	Windows compatible, enhanced PCL 5
fonts	minimum 20, and scaleable fonts
interface	parallel and LAN interface
paper size	A4, letter, executive, Legal size paper
paper tray capacity	200 sheets, 2 Input Trays
paper types	plain paper, envelopes, transparencies
power supply	220 V, 50 Hz

3.1.1.4 INKJET PRINTER, COLOUR, A4 SIZE:

Specifications:

printing speed	Black 4 ppm, Colour 2 ppm
printing resolution	B/W 600 * 600 dpi Colour 300 * 300 dpi
buffer capacity	min. 64 Kbytes
printer language	Windows compatible
fonts	minimum 20 graphics, 14 character sets,
scaleable	
interface	parallel

paper size	A4, letter, executive
paper tray capacity	100 sheets plain paper
paper types	plain paper, envelopes, transparencies
power supply	220 V, 50 Hz

3.1.1.5 OTHER EQUIPMENT:

HIGH-END PLOTTER

Type	HP DesignJet 750C+ or equivalent (High end plotter)
Standards	Postscript Level 2
Memory	64 MB upgrade above base
Format	A0
Interface	Parallel

LOW-VOLUME PLOTTER

Type	HP DesignJet 350C or equivalent
Standards	Postscript Level 2
Memory	32 MB upgrade above base
Format	A3
Interface	Parallel

DIGITIZING TABLET (LARGE)

Size	A0
Tablet Resolution	+/-0.0001" or better
Cursor Type	High Precision, >12 buttons, with cross-hair sight
Cursor Resolution	+/-0.0001" or better
Configuration	Tablet with adjustable stand/base

DIGITIZING TABLET (SMALL)

Size	A3
Tablet Resolution	+/-0.01" or better
Cursor Type	High precision, >12 buttons, with cross-hair sight
Cursor Resolution	+/-0.01" or better

SCANNER (LARGE)

Size	A0
Type	True color (24-bit)
Resolution	>800 dpi in hardware
Software	Full function software
Additional Compatibility	Must be compatible with scanning component of GIS software as proposed

SCANNER (SMALL)

Size	A3
Type	Desktop, flatbed, true color (24-bit)
Resolution	>800 dpi in hardware
Software	Full function software provided by manufacturer

CD ROM, 16 to 24X speed, either internal or external

BACKUP UNIT - for routine back-up: a standard and reliable tape drive with tapes for archiving: a CD-Recorder with recordable CD-ROM discs, or other equipment and method suggested by the Bidder

UN-INTERRUPTABLE POWER SUPPLY (UPS) for undisturbed operation of computer equipment during power failures

All computers and 2 printers for Package Type A, B or 1 printer for Package Type C, D must be supported by a UPS protected power supply.

The capacity of the UPS should be related to the load, the duration of power interruptions and the effective battery recharge time between power interruptions. The UPS capacity should be chosen large enough to sustain the power surges.

The UPS over load capacity should be larger than the maximum surge load at switch-on of all connected equipment.

UPS Specifications:

type on line, true sine wave output
capacity 1 KVA
input voltage 170 to 270 V, 50 Hz +/- 5%
output 220 V +/- 2%, 50 Hz
backup time 30 minutes, with Maintenance Free batteries
DC voltage 48 V
inverter efficiency > 85%

features:

- fast correction for load changes
- surge protection
- low noise operation
- trickle and boost charge for batteries
- protection against battery reverse polarity
- battery over-charge protection
- battery discharge protection
- protection for short circuit, over and under voltage

3.2 <M> Operating Systems (See Application Software for further details)

The Operating Systems and tools will be based on standard working environment and operating systems, of Client/Server architecture, of the leading vendors in the market. The Bidder will specify the Operating Systems supported by the proposed software, proposing the operating and maintenance tools required for operation, and maintenance of each type of the data centers.

The bidder will specify the proposed:

- Operating System name and version
- System Management Tools
- System Administration Tools

3.3 <M> Database Tools (See Application Software for further details)

The proposal will include all the database features and tools required for the users, according to the Functionality Model. The database and tools are to be Scaleable and open, and as such fit to all the working environment as well as adaptable for future changes in hardware and software platforms.

Database Features and Functions:

<M>standard, well known and established databases, such as: Oracle, Informix, Sybase, DB2, Ingress, etc.

<M>Support of large objects (maps)

<M>The required database features for the application software operations

<O>Database Replication or similar feature

<M>Data Integrity and Reliability

<M>Data Security

<M>Scalability

<M>Required Maintenance Tools

<P>Open & Portable

<P>Spatial Features

<P>Internet commitment for future Internet connection

<M>World Standards Support (SQL, ODBC, etc.)

<M>Windows support

<M>Support of standard languages such as: Visual Basic, C, C++, etc.

The Bidder will specify:

- proposed database version and functional description
- proposed database features and tools
- proposed database management and administration tools for each data center type
- Proposed Database Market Share

3.4 <M>GIS Tools (See Application Software for further details)

The GIS tools will be standard and commonly used tools of the leading vendors in the market. The GIS tools are to be Scaleable and open, and as such fit to all common working environment, as well as adaptable for future changes in hardware and software platforms.

The Bidder will specify:

- the Proposed GIS functional description
- list of GIS Application features and tools proposed for each data center type according to the Functionality Model (Basic and Advanced GIS Modules)
- list of GIS administration tools proposed for each data center

3.5 <M> Development Tools & Programming Languages (See Application Software for further details)

The development tools are to be based on standard application development tools and languages of the leading vendors in the market and industry standards such as C, C++ , Visual Basic or other much used and well established programming languages and/or 4GL (4 Generation Languages) tools such as: Developer2000, Power Builder, Delphi etc.

The Bidder will specify:

- Application Development tools and languages description proposed version/ release
- additional products - specify all additional runtime products name versions (if required) and system dependencies

3.6 <M>Data Security

The Bidder will specify the data security standards supported by the software system (and all database, GIS, tools and features), which will be supplied as part of the software. The data security features should comply with those described in paragraph 2.5.

3.7 Communications and Environment (See Application Software for further details on data transport, files export and import)

3.7.1 <I> Topology

The data centers will be based on Local Area Network environment in the larger offices, and stand alone stations at the smaller offices. A local database will be established in each of the data centers, which will contain the local data (of the district or region area - see paragraph 7 - Data Flow Diagrams).

3.7.2 <M> Data Center Layout and Environment Specifications

The Bidder will provide layout diagrams for each data center type, according to the Functionality Model and number of users.

The Bidder will specify the environmental and infrastructure specifications and requirements (which will include Power and conditioning requirements, cabling standards, and other environmental and infrastructure requirements).

3.7.3 <M>Communication software and hardware

Data will be transported periodically from lower level to higher level office (district to regional, regional to state, etc.). Processed data and maps will be transported periodically from higher level to lower level offices. The data transport will be conducted through standard communication means (dedicated or dial-up lines, or NICNET of National Informatics Centre (NIC)), where such means are available, or by other means (such as: floppy disk, tape, etc.) where communication lines are not available.

3.7.3.1 Local Area Network (LAN)

The Bidder will specify:

- proposed network operating system and administration tools
- proposed file transfer module description
- network protocols proposed and supported
- network security features and standards
- network equipment proposed including cables and connectors, network adapters, etc., which are required for within the data centers (brand name, model, features, etc.)

3.7.3.2 Wide Area Network (WAN)

Communication between data centers will include communication through simple Dial-Up lines, for transfer of files between the data centers, and remote login.

The Bidder will specify:

- the software requirements, name and version, functional description
- communication equipment: modems, cables etc., brand name, model, functional description
- <O> Remote Network Administration and Software Distribution tools (to be specified sportily for future acquisition)

3.8 <M> Year 2000 Compliance

The software system and all the proposed software tools should be “Year 2000” compliant: all the dates fields and date calculations will include 4 digit year. The historical existing data which is of the “two digit” year structure will be converted to full 4 digit year, by the software in the importing process.

4 <M> Application Software Demonstration (DEMO)

The Bidder will demonstrate its software and tools by constructing a working prototype (DEMO) of the proposed software system. The Purchaser will supply field data to be used in the DEMO. The DEMO will be based solely on the proposed software and hardware tools and include the following items:

- Construction of Demo Database containing tables for Well data, Time Series data, and maps
 - Import/Export MS-Access files (will be supplied by the Purchaser), into and out of the DEMO database (the exported files will be of standard ASCII structure)
 - Demonstration of GIS tools and its integration with the database, manipulation of contour maps based on the database data and imported thematic maps
 - Search and selection of well data and time-series data, and relating text data and maps
 - Data Entry and Editing
 - Demonstration of the GW features and functions supported by the software
- The Bidder will be evaluated by its demonstration - see Section III - Bid Data Sheet

5 <M> Implementation

(see Section V - Special conditions of Contract for further details)

5.1 System Final Designing, Development & Customization

The software development and customization, will be conducted by the Bidder along the Project Steps and milestones and according to the Project Plan. Each step will be monitored tested and approved by the Purchaser. The final system's design will be authorized by the Purchaser before start of customization and development. The Software System will be tested and approved by the Purchaser (or Purchaser representative), according to acceptance tests. If requested by the Purchaser the software development will be conducted at the Purchaser's site and in that case the Purchaser will supply the facilities for the software development at the pilot site comprising of the items as proposed, the supplier is responsible for supplying and installing the additional software or hardware tools, if required (such as: Application Development Tools, etc.).

5.2 Application Software Acceptance Tests

The acceptance tests for the software, will be defined by the Bidder (as part of the software customization and development), agreed and approved by the Purchaser, and conducted at the Purchaser (or Purchaser representative) premises. For each test, acceptance criteria will be specified. The tests will include all the necessary tests of the software, and will continue to the Purchaser's satisfaction and approval. The acceptance test will include testing all the screen and menus functions of the supplied software; for each processing function the expected results will be checked, and performance bench-marking will be conducted (as suggested by the Bidder and agreed upon by the Purchaser). The test results will be handed to the Bidder who will modify the software accordingly, to be tested again. The Bidder will supply a testing specifications for all the items supplied. The first version of the software will be authorized by the Purchaser before the Pilot implementation during the Pilot modifications will be made by the Supplier, if required, and the software will be tested till the software is ready for full-scale installation.

The main functions for acceptance tests will include:

- Data entry
- Data validation
- Data processing
- Map creation and manipulation between imported maps and data

- Reports production
- Data and maps importing and exporting
- Data transport
- Data conversion and processing
- Database management, software configuration, and administration
- Response-time benchmarks
- Error handling (for hardware and software malfunctioning)

The testing environment will be specified by the Bidder

5.3 Pilot

5.3.1 Pilot Implementation

The Bidder will install the hardware and communications, configure customize and install the standard, general purpose and application software, assist the Purchaser in the conduction of the acceptance tests, and supervise the implementation process of the Information System, at the pilot site(s), as specified in the Time Schedule.

5.4 Full-scale Implementation (in all the states and agencies sites)

The Bidder will install the hardware and communications, configure customize and install the standard, general purpose and application software, assist the Purchaser in the conduction of the acceptance tests, and supervise the implementation process of the Information System, at the project site(s) during the Full-scale implementation, as specified in the Time Schedule.

6 Miscellaneous

(see Section V - Special conditions of Contract and Section VI - Schedule of Requirements for further details)

6.1 <M> Performance

The proposed software system will have adequate response-time for all the operations: for On-line users and for batch processing. The Bidder is responsible for providing solution for response time issues. It is recognized that response-time is dependent on the hardware as well as on the software. Hence the proposing Bidder will assist to his best knowledge in all issues on this subject.

6.2 <M>Documentation & Manuals

6.2.1 Documentation and Help

The Information Systems will be supplied with all the documents and manuals, required to operate, maintain and configure the systems at the user's specific environment. The documents will be in English and include at least:

- Application Software general description and diagrams. List of modules included, and a description for each module, specifying inputs and outputs and module dependencies. Data dictionary, database and data tables and files, description, structure and data flow diagrams

- Application Software user's guide - containing all the screen and menus, explaining each function and the use of it.
- <P>Application Software "on-line" help as an integral part of the software system, to be used by the users at operation time.
- error handling and trouble-shooting - guides and error handling specifications for all error encountered
- Information Systems maintenance guides and maintenance procedures - containing all the information required to operate and maintain the systems by the data center staff (for hardware, software and communications)

6.2.2 Manuals

The Bidder will include the specific manuals for the items proposed. These will be in English and include at least:

- software, hardware and communications manual & user guides
- software manual & user guides and other relevant documents to the GIS tools and database tools used by the software
- software manual & user guides and other relevant documents, for development tools and programming languages which are required to operate the system
- messages & codes manuals (for error handling) for all the proposed items

6.3 <M> Training

Training of users and staff will be provided by the Bidder for all the tools supplied. The training will take place in India, the place of training is to be decided by the Purchaser (the Bidder may be required to provide the training facilities in its premises). The training program: subjects and schedule will be specified by the Bidder and approved by the Purchaser. The training will be conducted along the implementation process according to the Time schedule. After the implementation completion, training will be conducted (by the Bidder), whenever necessary for new staff, as will be agreed and specified in the Contract.

The training will include:

- Training the application software users. The training will take place before and during the implementation
- Training of the data center staff - for the use of all the proposed items

6.4 <M> Service & support

6.4.1 Software Support

Service and support will be provided by the Bidder for all the proposed items. The Bidder has to prove his ability to provide service and support, in all the participating states for the support duration specified, and according to the requirements. The supporting company is to be locally-based, well-established company. The system must be sustainable in the Indian environment, both in hardware and software terms. The Bidder should be able to provide sufficient and efficient supporting technicians which have experience in software and hardware support. The Bidder will provide traceable information of the supporting staff experience, and support center locations.

The support and service for the software and hardware will include:

- installation and customization of the software system (all items supplied) in all the participating state and agencies sites
- software & hardware support by phone - the supporting company will establish “help desk” services for the Purchaser (preferable in each of the states)
- software & hardware support at the site whenever required, at the local data centers including replacement parts of malfunctioning hardware and communication equipment
- providing and installing required software modifications for problems caused by software “bugs” and other software problems
- installation and customization of new version of database, GIS and software tools (as proposed)
- adaptation of the Application Software for new versions of database tools, operating systems, and hardware platforms when required
- installing new Application Software versions
- developing new features when required by the Purchaser
- advising the users about working environment and performance issues
- general integration and coordination between the various suppliers
- service response time:
 - ⇒ “hot-line” - telephone service within 2 hours
 - ⇒ “on-call” - expert at the site within 48 hours
 - ⇒ emergency “per-call” - expert at the site within 8 hours

6.5 <M> Project Steps & Responsibilities

The following steps will be conducted according to the Time Schedule (see Schedule of Requirements)

- 6.5.1 Construction of adequate data centers, working environment and infrastructure at the pilot sites - By the Purchaser according to the Bidder specifications
- 6.5.2 Installation of the hardware and software tools at the pilot sites - By the Bidder
- 6.5.3 Installation of the communication software and hardware at the pilot environment. By the Bidder

- 6.5.4 Software Final Design according to specifications - By the Bidder and approved by the Purchaser. The designing process will be conducted at the Purchaser premises (if required), will be approved by the Purchaser and include final definitions for:
- data input and output format, field structure, units, range of values, etc.
 - validation procedures & parameters
 - processing functions
 - queries & reports contents & formats
 - all other technical aspects (item by item)
- 6.5.5 Customization, software development (at the Purchaser premises - if required), and installing the first version of the software at the pilot sites, including all software tools to be used in the various data centers - By the Bidder
- 6.5.6 Application Software Acceptance tests will be conducted by the Purchaser, in cooperation with the Bidder at the Purchaser premises. During the tests, modifications to the software will be made by the Bidder according to the Purchaser requirements.

6.5.7 Pilot Implementation

- 6.5.7.1 Pilot will be conducted by the Purchaser's end users, using real data at the pilot site(s). During and at the end of the pilot, the required modifications and final adaptation will be made at the Purchaser premises - By the Bidder and tested and approved by the Purchaser which will certify the Acceptance of the Application Software.
- 6.5.7.2 Finalizing and stabilizing the software - By the Bidder.
Supervising the pilot operations - By the Purchaser

6.5.8 Full-scale Implementation

The process of implementation will continue in the states and agencies after the successful conclusion of the pilot, and Acceptance of the Application Software according to a Project Plan prepared by the Bidder and approved by the Purchaser. Installing of the hardware and software, configuring and customizing the application software, acceptance testing, stabilizing the operations in the data centers will be conducted by the Bidder. Supervision and approval - by the Purchaser.

7 <I> Tables and Diagrams

Groundwater Monitoring Network

(The number of wells and collection frequency are as per the current plan)

Groundwater Monitoring Network							
State	SGW Wells			CGWB Wells			Total
	MM	DWLR	Total	MM	DWLR	Total	
Orissa	1925	375	2300	1031	200	1231	3531
Andhra Pradesh	3029	350	3379	994	165	1159	4538
Tamil Nadu	1848	735	2583	585	318	903	3486
Karnataka	990	800	1790	330	305	635	2425
Maharashtra	3420	700	4120	1353	150	1503	5623
Gujarat	2472	362	2834	977	140	1117	3951
Madhya Pradesh	4150	565	4715	1223	265	1488	6203
Kerala	269	300	569	611	155	766	1335
Other States				8000			8000
Total	18103	4187	22290	15104	1698	8802	39092

GW Time series data collection frequency per well			
Collection type	Times per day	Days per year	Total
WL SGW (MM)		2-4	2-4 *
WL CGWB (MM)		4	4
WL (DWLR)	4	365	1460
Water Quality		1-2	1-2

SGW - State Ground Water Department

CGWB - Central Ground Water Board

WL - Water Level

MM - Manual Measurements

DWLR - Digital automatic Water Level Recorder

* Presently in the state of Tamil Nadu - water level is measured monthly (12 times a year)

Data Flow Diagrams

ion □□□□I8. Bid Format

All proposal shall follow the below listed format to facilitate evaluation and comparison of bids and proposals:

ion □□□□I8.1 Technical Sections

8.1.1 Management Overview

- Qualification, eligibility, business documentation and information
- summary of the proposed technical and service solution etc.

8.1.2 Application Software

- functional description (capabilities, performance, etc.) of each software module according to the Functionality Model (see Technical Specifications)
- user interface and user friendliness
- integration of database and GIS tools
- integration of external files
- other information (as per the Technical Specifications)
- resource use (memory, disk space, restrictions, etc.)
- Application Software development plan and schedule
- etc.

8.1.3 Computer Hardware

- hardware configurations, performance, compatibility, expandability and growth potential
- reliability, response time, MTBF, certification of capacity to handle required data volumes
- etc.

8.1.4 Peripherals (Printers, Digitizers, Plotters, etc.)

- capacities, standards, industry ratings
- accuracy, reliability, ease of use.
- etc.

8.1.5 System Software and Tools

- operating systems proposed and supported, standards, industry ratings
- Database and tools proposed and supported, standards, industry ratings
- GIS tools proposed and supported, standards, industry ratings
- expandability, adaptability, flexibility for all items
- etc.

8.1.6 Communication Networks

- network operating systems and management tools
- communication network equipment
- capacities, standards, security, network management
- expandability, adaptability, flexibility
- etc.

8.1.7 Site & Environment Specifications

- power and cooling requirements, cabling, UPS/stabilizers, dust and humidity control
- office requirements
- etc.

8.1.8 Documentation and Manuals

- list of Technical documentation
- list of Application Software User Guide
- list of Operating Systems, Database & GIS Software Maintenance Guides
- list of Computer Hardware Maintenance Guides

8.1.9 Training Plan

- Training Schedule
- Training Facilities and instructors' credentials
- etc.

8.1.10 Implementation, Maintenance, Service and Support

- Support staff experience
- Service & support plan and support center description (“hot-line”, “on-site”, etc.)
- support centers location, number and description of support staff per location

8.1.11 Project Plan & Time Schedule

- Project staffing
- Installation, acceptance tests
- Implementation schedule
- etc.

ion **II 8.2 Supplier and Technical References and Qualifications**

- Names and contact information for the required operational reference sites
- Brief description of similar projects in reference sites
- Software vendor experience
- Maintenance & Support experience (software & hardware)

ion □ □ □ □ **III8.3 Item-by-Item Tables**

The following tables must be filled by the Bidder for each Software and Computer Package. The tables should include all the tools and features proposed. The bidder will supply with the documents the following tables on a floppy disk in “MS-Word 6” or “WordPerfect 5.1” format.

Software Table (for all proposed software tools)

Item Number	Software Module (1,2,3,4.C) ⁷	Software Tool	Version	Vendor	Warranty Period	Stand Alone (mark X)	LAN (mark X)
1.							
2.							
etc.							

Computer Package⁸ Table

The Bidder will fill the table for all the hardware and communication equipment proposed for each computer package

Item	Brand Name	Model	Vendor	MTBF & Down - time	Other Technical Information Speed/Size/Capacity	Warranty Period	Computer Package
Server/ Workstation /PC							
CPU							
Clock Speed							
Cache							
Memory size							
Bus							
Monitor							
Hard Disk							
Mother board/Slots							
Floppy Disk							
Floppy Disk							
Keyboard							

⁷ Application software items according to the Functionality Model described in the Technical Specifications and number of users per package type

⁸ Computer Package type description see Table 2.4 in Section VI - Schedule of Requirements

Ethernet Card							
Cables							
Modems							
Printers (speed, font, feed, etc.)							
Plotters							
Digitizers							
Scanners							
Backup Unit							
CD-ROM							
HUB							
UPS							

Miscellaneous Table

	Item Name
Manuals (specify)	
Training modules (specify)	
Other (specify)	

Application Software Availability Table

(The availability of mandatory items will be taken into account in the first stage bid evaluation)

The Bidder must fill all the Application Software functions and features (according to Section VII - Technical Specifications). Fill X for proposed items. For availability of functions fill: A, D or C, according to the following:

A - Available feature or function, there is no need for modifications

D - non-available feature or function, which should be developed

C - modifications and adaptations is required to existing functions or features

In case the function is available only in part, the Bidder will specify what part is available and what is to be developed or modified. The headings are according to the Technical Specifications.

Headings (in Bold) which are marked as <M> - Mandatory or <P> - Preferred, applies to the whole paragraph unless otherwise specified.

Function or Feature Name	Proposed	Availability
2.5.1 <M> General Requirements		
Drivers for peripherals (scanners, digitizers, printers, plotters)		
Automatic data loading (for DWLR)		
Interface for the addition of user modules		
Initiation & integration of external software		
Client server and multi-user		
On-line Help		
2.5.2 <M> Database & Data Security		
<P>Spatial Feature		
Administration and management functions:		
creating and managing validation and accessory tables		
creating and managing user authority table		
Data Security :		
USERID and Password		
password of alpha-numeric characters		
change of password by the user		
encrypted user authorization table		
USERID revoking (number decided by administrator)		
access privileges: read, write, delete, update, supervisory		
the security for data fields and data records		

Activity logging: user-ID, log-in/log-out date & time and activities (read, write, delete, update)		
2.5.3 <M> Types of Data and Accessory Tables		
Space oriented data		
contour maps		
remote sensing data in raster format		
thematic maps (toposheets, land use, seasonal crop, etc.)		
Location oriented time-independent data		
administration data and remarks		
well site description		
identification name and code		
location geographic coordinates		
altitude (MSL) and reference point for water level measurement		
well assembly		
aquifer data		
well log lithology and geophysical data		
rock formations and hydrostratigraphic units		
well performance and hydraulics		
Location oriented time-series data		
depth to water table		
water quality parameters, including physical, inorganic, organic and microbiological elements and compounds		
rainfall (location, depth)		
GW abstractions (direct gauging)		
pumping test data		
Resource and draft related data		
area of seasonal and permanent surface water bodies (ponds, tanks, canals) and water logged area		
area of canal command and seasonal irrigation		
amount of seasonal water supplied for irrigation and its source		

types of production wells (structures), their capacity and their number per unit area, river and canal sections, running days		
Accessory tables :		
codes for lithological descriptions		
codes for geologic formations, aquifers and geomorphic units description		
tables/figures of the GEC 97 norms		
codes and “standards” tables for water quality		
crop - water requirement relationships (norms, subject to modifications)		
infiltration and specific yield - soil/rock type relationships (fixed data and norms, subject to modifications)		
validation tables and parameters		
2.5.4 <M> Data Entry, Editing and Manipulation		
Screens analogous with the Data Entry Software (in ACCESS)		
DWLR Data integration		
Accessory tables editing		
Conversion to standard coordinates		
Data conversion (units)		
Interactive Raster/ vector conversion -		
<P> both automatic and interactive conversions Map editing		
Data editing and saving for all type of input and processed data		
2.5.5 <M> Data Validation and Correction		
Primary validation :		
day number above 31		
numeric checking		
depth to the water table		
inconsistency between units		

inconsistency between storativity values and type of		
--	--	--

aquifer		
inconsistency between lithological code and geological rock formation		
inconstancy between locations and altitudes from surveying and toposheets		
non balanced chemical analysis		
total dissolved solids (TDS) smaller than any single major ion concentration		
Secondary validation :		
value exceeding previous average seasonal values by \pm x times standard deviation		
water level values beyond minimum and maximum fluctuations		
pH values beyond 4 and 10		
Hydrogeological validation :		
integrity/consistency checks and data entry checks		
automatic and optional validation		
listings and marking suspected data		
checking and reporting and filling of missing values or "blank" fields		
2.5.6 Specific Functions and Data Analysis		
Statistical functions :		
<M>basic statistics: mean, variance, standard deviation		
<M>time-series analysis (auto/cross correlogram, trend and harmonic analyses)		
<M>regression analysis (linear and non-linear, univariate and multivariate) and analysis of residues		
<M>moving average		
<M>Kriging/ Co-Kriging		
<M>grainsize analysis		
<P>distribution tests		
<P>trend surface analysis		
<P>spline function		
<P>tests of hypothesis		

<P>principal component analysis		
<P>discriminatory analysis		
<M>GIS function - tools for 2 & 3D :		
layer-wise data manipulations and crossing of maps, rotating maps, panning, zooming in and out, saving and restoring of views, drawing and plotting overviews		
production of contour maps		
production of slope/gradient maps from contour maps		
calculation of area between contour lines		
composite well log presentation		
cross sections along specified lines and tolerance on maps		
<P>modules for digital images processing of remote sensing data		
<P>tools for creating OLE map objects		
<M>Location & relating data		
<P> output for common specialized groundwater/quality software		
2.5.7 <M> Groundwater Balance, Resource and Development Assessment		
Water balance computation (GEC, 1984, 1997) and enhancements.		
change in groundwater storage volume		
computation of areal rainfall from point rainfall		
recharge from rainfall		
recharge from canals		
recharge from irrigated fields		
recharge from submerged lands		
gross groundwater draft (direct abstraction figures and indirect assessments)		
unrecoverable (unaccountable) groundwater losses		
subsurface inflows and outflows		
Stage of groundwater development GEC, 1984, 1997) and enhancements.		

2.5.8 <M> Queries and Reports		
SQL query generator for Complete Package only		
Report generator for Complete Package only		
Tools and modules:		
GIS generation tools for single and composite contour and thematic maps		
generation tools for time series graphic plots (single, several and composite)		
presentation tools for single and composite well logs, including lithology, geophysics, hydrostratigraphy, well assembly, etc.		
presentation tools for hydrogeological cross-sections/fence diagrams		
presentation tools for conventional groundwater quality diagrams such as Piper, Wilcox/USSL, Stiff, Schoeller		
presentation tools for common 2 and 3D graphs		
presentation tools for single or combined text, numeric, graphic and picture illustrations		
Basic pre-designed queries & reports :		
display of all text by selecting and searching criteria		
map & data retrieval through specific location, coordinates, well code, or any other data		
monthly & yearbooks Pre-designed reports		
Pre-designed detailed reports for specific information selected by key		
water quality Pre-designed detailed reports by selection criteria		
2.5.9 <M> Importing and Exporting Files		
File export & import standard ASCII data files		
DWLR data import		
HIS Storage Database files		
Integration of Data & files		
Support of files: EXCEL, QuatroPro, LOTUS, MS-Access and dBASE		
Map integration		

File transfer		
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ion **IV8.4** **Brochures and Product Literature**
all relevant material in English

ion **V8.5** **Guidelines to Groundwater Data Processing - see annex on page 185**

SECTION VIII. SAMPLE FORMS

Table of Sample Forms

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ion □ □ □ □ **II**

ion □ □ □ □ **II Section VIII. Sample Forms**

Notes for the Bidders on the Sample Forms

The Bidder shall complete and submit with its bid the appropriate Bid Form (for Option A or B) and the required Price Schedules and in accordance with the requirements included in the Bidding Documents.

The Bidder should provide the Bid Security, either in the form included hereafter or in another form acceptable to the Purchaser, pursuant to the Bid Data Sheet.

The Contract Form, when it is finalized at the time of Contract award, should incorporate any corrections or modifications to the accepted bid resulting from price corrections, or quantity variations pursuant to the Bid Data Sheet. The Price Schedule and Schedule of Requirements are deemed to form part of the Contract should be modified accordingly.

The Performance Security and Bank Guarantee for Advanced Payment forms should not be completed by the bidders at the time of their bid preparation. Only the successful Bidder will be required to provide performance security and bank guarantee for advance payment in accordance with one of the forms indicated herein or in another form acceptable to the Purchaser and pursuant to GCC Clause 7 and SCC Clause 6, respectively.

The Producer's Authorization form should be completed by the producer, as specified.

ion □ □ □ □ **III.1. Bid Forms and Price Schedules**

ion □ □ □ □ **VI.1.1 Bid Form - Two Stage Bidding, First Stage Bid**

Date: _____
Loan No. _____
IFB No. _____

To: *[name and address of the Purchaser]*

Gentlemen and/or Ladies:

Having examined the Bidding Documents including Addenda Nos. *[Insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to produce, deliver, install, support and maintain the *[description of the Information systems]* (the "Information Systems") in full conformity with the said Bidding Documents, and certify that the proposed Information Systems have their origin in eligible source countries as defined in the Bidding Documents.

We undertake, if invited by you to do so, to attend a Clarification Meeting at our own expense and at a place of your choosing for purposes of the reviewing our first stage bid and duly noting all changes which you may require thereto. We further undertake, upon receiving your written instructions, to proceed with the preparation of our second stage bid in accordance with the requirements of the Bidding Documents.

We agree to abide by this first stage bid for a period of: *[number]* days from the date fixed for first stage bid submission in the Bid Data Sheet, and it shall remain binding upon us, Provided we are invited to attend a Clarification Meeting before the expiration of this period.

We undertake, if our second stage bid is accepted, to deliver the Information Systems in accordance with the delivery schedule specified in the Schedule of Requirements. If our second stage bid is accepted, we will obtain the guarantee of a bank in sum equivalent to *[percent]* percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

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

Dated this _____ day of _____ 19 _____

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of _____

ion □□□□ **VII Sample Letter of Invitation (Second Stage Bids)**

(Letterhead of the Purchaser)

Date: _____
Loan No. _____
IFB No. _____

To: *[Name and address of the Bidder]*

Dear Ladies and/or Gentlemen,

- 1 We hereby inform you that you are invited to submit a sealed second stage bid for the execution and completion of the cited contract for which you submitted a first stage bid on *[date of submission of first stage bid]*, which was reviewed during the clarification meeting(s) held on *[date(s)]* and has been found technically responsive.
- 2 Your second stage bid should include an updated technical and commercial bid [or accepted alternative bid] based on *[attached amendment/addenda, if any]*⁹ and on the modifications, if any, listed in the “Changes Required Pursuant to the First Stage Evaluation” Annex to the Memorandum of the Clarification Meeting(s) held with you on *[date(s)]*¹⁰
- 3 Second stage bids shall be *submitted [time, date and address for second stage bid submission]* and will be opened in the presence of the Bidder’s representatives who choose to attend at *[time, date and address for second stage bid opening]*.¹¹
- 4 Second stage bids shall remain valid for *[number of days]*¹² after the date of bid opening prescribed above.
- 5 All second stage bids must be accompanied by a bid security in the amount of *[fixed amount in local currency]* or the equivalent of 40,000 US\$ in a freely convertible currency in one of the following forms:
 - 5.1 a bank guarantee or irrevocable letter of credit issued directly by a reputable bank, in the form provided in the bidding documents
 - 5.2 a cashier’s or certified check.
- 6 In the comparison of evaluated bids, the Purchaser will grant a margin of preference to hardware and other equipment manufactured in the Purchaser’s country, in accordance with the procedures outlined in the bidding documents.
- 7 *[If bidders were prequalified, include any update requirement from the information provided for prequalification.]*¹³

⁹ Amendments shall be common to all bidders invited to submit a second stage bid.

¹⁰ Copy of the respective Annex may be attached to the letter to the corresponding Bidder.

¹¹ The dates of bid submission and bid opening should be the same, and the time should also be the same or immediately thereafter.

¹² The period should be sufficient to permit completion of the second stage bid evaluation, review of the recommended selection by the Bank, obtainment of approval and notification of aware. A realistic period (e.g., sixty [60] days) should be specified in order to avoid the need for extension.

8 Please confirm receipt of this letter immediately in writing by cable, fax or telex. If you do not intend to bid, we should appreciate being so notified again in writing at your earliest opportunity.

Yours truly,

Authorized signature: _____

Name and title: _____

Purchaser: _____

ENCLOSURE [Amendments/addenda, if any, and Memorandum of “Changes Required Pursuant to First Stage Evaluation”]

¹³ Information to be updated may be specified, such as an updated financial situation, new contractual commitments or current litigation.

ion □ □ □ □ **VIII.1.2 Bid Form - Two Stage Bidding, Second Stage Bid**

Date: _____
Loan No. _____
IFB No. _____

To: *[name and address of the Purchaser]*

Gentlemen and/or Ladies:

Having examined the Bidding Documents including Addenda Nos. *[Insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to produce, deliver, install, support and maintain *[description of the Information Systems]* in full conformity with the said Bidding Documents, for the sum of *[total bid amount in words and figures, by currency if appropriate]* or such other sums as may be determined in accordance with the Contract..

We undertake, if our Second Stage Bid is accepted, to install the systems in accordance with the schedule specified in Schedule of Requirements.

If our Second Stage Bid is accepted, we will provide an Advance Payment Security and a Performance Security in the form and in the amounts, and within the times stipulated in the Bidding Documents.

We agree to abide by this second stage bid for a period of *[number]* days from the date fixed for Second Stage Bid submission as specified in the Bid Data Sheet, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

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

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and Address of Agent	Amount and Currency	Purpose of Commission or Gratuity

(if none, state "none")

Dated this _____ day of _____ 19 _____

[signature] *[in the capacity of]*
 Duly authorized to sign Bid for and on behalf of _____

ion □ □ □ □ I1.3 Price Schedules

**Schedule 1. Products Offered From Abroad Price Schedule¹⁴ (23.2 (a) of ITB)
To be filled for each state and CGWB**

Name of Bidder _____

IFB NO. _____

Page ____ of ____

Item No.	Product Description	Country of Origin	Product Producer	Partner or Subcontractor responsible for Supply, and installation	Quantity	Currency	Unit price CIP named place of destination ¹⁵ <i>[specify which]</i>	Agency Commission (% of CIP Price)	Total CIP price ¹⁶
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) = [(6) x (8)]+(9)
	Products, except for Application Software Development and Adaptation: Subtotal								
	Application Software Development and Adaptation: Subtotal								
	Services, except for Recurrent Services: Subtotal								
	Complete System Integration: Subtotal								
	Training Costs: Subtotal								
	Conversion Services: Subtotal								
	TOTALS								

Signature of the Bidder _____

Note: all items, with the exception of any software, may be subjected to application of Domestic Preference in accordance with ITB Clause 24/35

¹⁴ A separate copy of the form should be used for each different currency quoted, in accordance with the ITB Clause 11/24. The Form is indicative only and should be filled according to the Schedule of Requirements.

¹⁵ Specify in accordance with ITB Clause 10/23 and the related provisions in the Bid Data Sheet, for the point(s) of entry or the place(s) of destination identified in the Schedule of Requirements.

¹⁶ In case of discrepancy between unit price and total, the unit price shall prevail. In case of discrepancy between subtotals and the total, the subtotal shall prevail.

Schedule 2. Products Offered From India Price Schedule (23.2 (b) of ITB)

To be filled for each state and CGWB

Name of Bidder _____

IFB NO. _____

Page ____ of ____

Item No.	Product Description	Country of Origin	Product Producer	Partner or Subcontractor responsible for Supply and installation	Quantity	Currency *	Unit price EXW ¹⁴ per item	Total Price EXW per item ¹⁵	Total sales & other taxes payable ¹⁶ if Contract is awarded	Cost of local labour, raw materials & components in the costs as % of ex-factory price
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) = (6) x (8)	(10)	(11)
	Products, except for Application Software Development and Adaptation: Subtotal									
	Application Software Development and Adaptation: Subtotal									
	Services, except for Recurrent Services: Subtotal									
	Complete System									

¹⁴ Currencies to be used in accordance with the Instruction to Bidders. The EXW unit price shall include customs duties and sales and other taxes already paid or payable on the components used in the production of the items, or the customs duties and sales and other taxes paid on previously imported items. These factors should not be entered separately.

¹⁵ In case of discrepancy between unit price and total, the unit price shall prevail. In case of discrepancy between subtotals and the total, the subtotal shall prevail

¹⁶ Specify according to the Instruction to Bidders and the related provisions in the Bid Data Sheet.

* Specify in accordance with ITB Clause 24

	Integration: Subtotal									
	Training Costs: Subtotal									
	Conversion Services: Subtotal									
	TOTALS									

Note: The form should be filled according to the Schedule of requirements

Signature of the Bidder _____

**Schedule 3. Service Price Schedule (prior to Maintenance) (23.2 (c) of ITB)
To be filled for each state and CGWB**

Name of Bidder _____

IFB NO. _____

Page ____ of ____

Item No.	Service Description	Country of Origin	Partner or Subcontractor responsible for Service Delivery	Quantity	Currency	Unit price ¹⁷	Unit price ¹⁷	Total Price ¹⁹	Total Price ¹⁹
						Foreign Currency component (_____) ¹⁸ (7)	Local Currency component (_____) ¹⁸ (8)	Foreign Currency (_____) ¹⁸ (9)=(5)x(7)	Local Currency (_____) ¹⁸ (10) = (5) x (8)
	Products, except for Application Software Development and Adaptation: Subtotal								
	Application Software Development and Adaptation: subtotal								
	Services, except for Recurrent Services: Subtotal								
	Complete System Integration: Subtotal								
	Training Costs: Subtotal								
	Conversion Services:								

¹⁷ Service prices include all taxes payable by the Bidder thereon.

¹⁸ Specify currency, quoted in accordance with Instruction to Bidders and related provisions in the Bid Data Sheet. A separate copy of the form should be used for each different foreign currency quoted

¹⁹ In case of discrepancy between unit price and total, the unit price shall prevail. Similarly, subtotal shall prevail over totals.

	Subtotal								
	TOTALS								

The Form should be filled according to the Schedule of Requirements

Signature of the Bidder _____

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Schedule 4. Inland Delivery Price Schedule (23.2 (e) of ITB)
To be filled for each state and CGWB

Name of Bidder _____ IFB NO. _____ Page ____ of ____

Item No.	Delivery Description (products, site(s), etc.)	Quantity	Unit price ²⁰	Total Price ²¹
			Local Currency component (_____) ²²	Delivery Price (_____) ²²
	Foreign Products (CIP/DAF): Delivery Batch #1 Delivery Batch #2 Subtotal			
	Locally Supplied Products (EXW): Delivery Batch #1 Delivery Batch #2 Subtotal			
	TOTALS			

Signature of the Bidder _____

²⁰ Specify according to the Instruction to Bidders and the related provisions in the Bid Data Sheet for all products quoted EXW or CIP/DAF point of entry.

²¹ In case of discrepancy between unit price and total, the unit price shall prevail. Similarly, subtotal shall prevail over totals.

²² Specify currency, quoted in accordance with Instruction to Bidders and related provisions in the Bid Data Sheet.

ion □□□□I2. **Price Schedule for Annual Maintenance & Repair Costs After Warranty Period** (23.2 (d) of ITB)

To be filled for each state and CGWB
 (prices during Maintenance Period of *[number]* years)

Name of Bidder _____ IFB NO. _____ Page _____ of _____

Item No.	Item Description	Quantity	Annual Maintenance & Repair costs for each unit		Maintenance Charges for 4 years	
			Indian Rupees	Foreign Currency (specify)	Indian Rupees	Foreign Currency (specify)

Note: In case of discrepancy between unit price and total price, the unit price shall prevail.

Signature of the Bidder: _____

ion □□□□II3. Bid Price Summary Form

To be filled for each state and CGWB and additional form for the Total Contract Price

Name of Bidder _____

IFB NO. _____

Page _____ of _____

	Foreign Currency #1		Foreign Currency #2		Foreign Currency #3		Indian Rupees
	amount	currency	amount	currency	amount	currency	
Product Price Total, CIP/DAF point of entry							
Product Price Total, CIP Place of Destination							
EXW Product Price Total							
Total Sales & other Taxes on EXW Products							
Total Inland Delivery							
Service Price Total							
Subtotal:							
Recurrent Costs Total, Foreign Currency							
Recurrent Costs Total, Local supply/Currency							
Total Recurrent Costs:							
Total Bid Price:							

Note: Bidders should complete the table by extracting the Price and Recurrent Costs totals, in different currencies as applicable, from the Price and Recurrent Costs Schedules

Signature of the Bidder _____

ion □ □ □ □ I4. Bid Security Form

Whereas *[name of the Bidder]* (herein after called “the Bidder”) has submitted its bid dated *[date of submission of bid]* for the supply of *[name and/or description of the systems]* (hereinafter called “the Bid”).

KNOW ALL PEOPLE by these presents that we *[name of bank]* of *[name of country]*, having our registered office at *[address of bank]* (hereinafter called “the Bank”), are bound unto *[name of Purchaser]* (hereinafter called “the Purchaser”) in the sum of for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this _____ day of _____ 19 _____.

THE CONDITIONS of this obligation are:

- 1 If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
- 2 If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
 - 2.1 fails or refuses to execute the Contract Form, if required; or
 - 2.2 fails or refuses to furnish the performance security, in accordance with the Instruction to Bidders;

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

This guarantee will remain in force up to and including forty five (45) days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

[duly authorized signature of the Bank]

Note: Bid Security should be in the currency of the bid or in US\$ only

ion □□□□ **II5. Form of Contract Agreement**

THIS AGREEMENT made the _____ day of _____ 19____ between
[name of Purchaser] of *[country of Purchaser]* (hereinafter called “the Purchaser”) of the
one part and *[name of Supplier]* of *[city and country of Supplier]* (hereinafter called “the
Supplier”) of the other part:

WHEREAS the Purchaser invited bids for certain products and ancillary services,
viz., *[brief description of the Information Systems]* and has accepted a bid by the Supplier for
the supply of those products and services in the sum of *[contract price in words and
figures]* (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH as follows:

- 1 In this Agreement words and expressions shall have the same meanings as are
respectively assigned to them in the Conditions of Contract referred to.
- 2 The following documents shall be deemed to form and be read and constructed
as part of this Agreement, viz.:
 - 2.1 the Schedule of requirements;
 - 2.2 the Technical Specifications;
 - 2.3 the Special Conditions of Contract;
 - 2.4 the General Conditions of Contract;
 - 2.5 the Purchaser’s Notification of Award of Contract;
 - 2.6 the Supplier’s Bid.
- 3 In consideration of the payments to be made by the Purchaser to the Supplier
as hereinafter mentioned, the Supplier hereby covenants with the purchaser to
provide the products and services and to remedy defects therein in conformity
in all respects with the provisions of the Contract.
- 4 The Purchaser hereby covenants to pay the Supplier in consideration of the
provision of the products and services and the remedying of defects therein,
the Contract Price or such other sum as may become payable under the
provisions of the Contract at the times and in the manner prescribed by the
Contract.

In WITNESS whereof the parties hereto have caused this Agreement to be executed
in accordance with their respective laws the day and the year first above written.

Signed, sealed, and delivered by the _____

said *[name of representative]* (for the Purchaser) _____

in the presence of *[name of witness]* _____

Signed, sealed, and delivered by the _____

said *[name of representative]* (for the Supplier) _____

in the presence of *[name of witness]* _____

ion □□□□ **III6. Performance Security Form**

To: *[name of Purchaser]*

WHEREAS *[name of Supplier]* (hereinafter called “the Supplier”) has undertaken, in pursuance of Contract No. *[Reference number of the Contract]* dated _____ 19____ to supply *[description on Information Systems]* (hereinafter called “the Contract”).

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

AND WHEREAS we have agreed to give the Supplier a guarantee:

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

This guarantee is valid until the _____ day of _____ 19_____.

Signature and seal of the Guarantors

[address]

[date]

ion **IV7. Bank Guarantee Form for Advance Payment**

To: *[name of Purchaser]*
[name of Contract]

Gentlemen and/or Ladies:

In accordance with the payment provision included in the Special Conditions of Contract, which amends Clause 8 of the General Conditions of Contract to provide for advance payment, *[name and address of Supplier]* (hereinafter called “the Supplier”) shall deposit with the Purchaser a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract in an amount of *[amount of guarantee in figures and words]*.

We, the *[bank or financial institution]*, as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Purchaser on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount not exceeding *[amount of guarantee in figures and words]*.

We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between the Purchaser and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until *[date]*.

Yours truly,

Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[Date]

ion **V8. Producer’s Authorization Form**

[see clause 12 of the Instruction to Bidders for Single Stage Bidding, or Clause 10 of the Instruction to Bidders for Two Stage Bidding]

To: *[name of Purchaser]*

WHEREAS *[name of the Producer]* who are established and reputable producers of *[name and/or description of the products]* having production facilities at *[address of factory]*

do hereby authorize *[name and address of Agent]* to submit a bid, and subsequently negotiate and sign the Contract with you against IFB No. *[Reference of the Invitation to Bid]* for the above products produced by us.

We hereby extend our full guarantee and warranty as per Clause 7 of the General Conditions of Contract for the products offered for supply by the above firm against this Invitation for Bids and duly authorize said firm to act on our behalf in fulfilling all installation, technical support and maintenance obligations required by the Contract.

[Signature for and on behalf of Producer]

Note 1: This letter of authority must be on the letterhead of the Producer, must be signed by a person competent and having the power of attorney to bind the Producer, and must be included by the Bidder in its Bid.

Note 2: The Bidder shall furnish with the bidding documents completed Producer's Authorization Forms at least for the following categories of products:

- (a) All personal computers (workstations) and servers;
- (b) Application software, Database tools, GIS tools

ion □ □ □ □ **I**

ion □□□□I9. Performance Statement Form

[see clause 10 of the Instruction to Bidders for Two Stage Bidding and in the Bid Data Sheet]

Proforma for Performance Statement (for a period of last five years)

Name of Bidder _____ IFB NO. _____ Page ____ of ____

Name of Firm _____

Order Placed By (full address of Purchaser)	Order No. and Date	Description and Quantity of ordered equipment and/or application software packages	Value of order	Date of completion of delivery		Remarks indicating reasons for late delivery, if any	has the Project been satisfactorily functioning? (attach a certificate from the Purchaser/Consignee)
				As per Contract	Actual Date		

Signature and seal of the Bidder _____

ion **II10. Proforma of Certificate for Issue by the Purchaser after Installation of Systems**

(see SCC Clause 13)

No.: _____

Date: _____

M/s. _____

Sub: Certificate of System Installation

1. This is to certify that the System as detailed below has/have been installed and tested by us and is operating along and with respect of the requirement of the Contract.

a) Contract No. _____ dated _____
b) Description of the Installation (Hardware equipment, Software) _____

c) Quantities _____

d) Site Address _____

e) Name of Data Center Manager _____

f) Date of Installation Completion _____

2. This is to Certify that the System (as detailed in part 1) has been test and Accepted. The tests details as follows:

a) Hardware / Communications Test Date _____

b) System Software test complete _____

c) Database & GIS Software test complete _____

d) Application Software test complete _____

e) Names of testing persons _____

3. If systems not Accepted state the reason and Attach Form No. 11

Signature of Supplier Project Manager _____ Date _____

Signature of Purchaser Project Manager _____ Date _____

ion **III11. Modification/Replacement Requirement Form (attached to form 10)**

To be Issued by the Purchaser

(see SCC Clause 13)

No.: _____

Date: _____

Contract No. _____ dated _____

Description of the required modifications and / or replacements

1. Hardware: _____

2. Standard/System Software: _____

3. Communications: _____

4. Application Software: _____

5. Other (specify): _____

Signature and name of Site Manager _____

Date _____

ion □ □ □ □ **III12. Format for Qualification Application**

All the bidders submitting their bids against this bid for any or all items must submit the qualification application along with the information in the following formats together with the relevant documentation:

**FINANCIAL BUSINESS AND TECHNICAL CAPABILITY
FORMAT - A**

Name and address of Bidder:

Phone:

Telex:

Fax:

1. Latest Balance Sheet filed with -----on----- (attach audited copies of annual account of past five years. Indigenous bidders to attach copy of accounts audited under section 44 AB of Income Tax Act. In case the accounts are not required to be audited, the information in this statement should be attested by a Chartered Accountant or Manager of a reputable Bank.

2. Latest Profit & Loss Statement from -----to----- filed with -----on----- (Attach an audited copy)

3. Financial position (in respective currency)

- a) Cash & Bank balances
- b) Fixed Assets Gross and Net
- c) Current Assets
- d) Current Liabilities
 - Bank cash credit
 - Loans
 - Other (including sundry creditors)
- e) Provisions
- f) Contingent Liability (include claims not acknowledged, pl. specify)
- g) Inventories
- h) Share Capital
 - Free Reserves
 - Other reserves (Please specify)
- i) Terms loans from financial institute & Banks
- j) Working Capital
- k) Net worth
- l) Debtors & advances considered
 - goods more than 6 months
 - Less than 6 months

1. Total Liabilities

- a) Current Ratio
 - Current Assets to Current liabilities
- b) Acid Test Ratio
- c) Total liability to Net worth

2. Net Sales (in respective currency)

- a) Current period

- b) During the last financial year
 - c) During the year before last financial year
3. Net Profit before Tax
- a) Current Period
 - b) During last financial year
 - c) During the year before the last financial year

The profit and loss statements have been certified through ----- by -----

4. Bidder's Financial arrangements (check appropriate item)
- a) Own Resources
 - b) Bank Credits
 - c) Other (specify)
5. Certificate of Financial Soundness from bankers of Bidders.
6. Income Tax clearance. Please enclose copies of following documents:
- a) Details of Income Tax registration; and
 - b) Last Income Tax clearance certificate

7. SALES:

Category	Value of current orders to be executed in respective currency	Value anticipated sales for next financial year in respective currency
A. Govt. Department		
B. Commercial		

11. Licensed capacity to manufacture

Description of equipment	Size capacity	Licensed capacity	No. of Units Manufactured		
			Cur. year	Last year	2nd last year

12. List, if any of bidder's rate contract with the following organizations:

	Organization	Yes/No	If yes, date contract finalized
a.	Directorate General of Supplies and Disposal, Govt. of India		
b.	Central Equipment Stores Purchase Organization for state Government		
c.	Others		

13. Describe Quality Control Organization, if any, and give the organization Chart.

- a) Are goods offered subject to batch test, random sampling or full 100% test for quality?
- b) Are tests carried out by factory employees or by a separate agency?
- c) Are independent Quality Control Organization checks made and certificates issued?

**CAPABILITY STATEMENT OF PERSONNEL, EQUIPMENT, PLANT AND
PAST PERFORMANCE
FORMAT - B**

1. Name and address of Bidder: Phone:
 2. Classification) 1) Manufacturer
 Circle what is applicable 2) Authorized Agent
3) Dealer
4) Other, specify
3. Plant
 a) Location
 b) Description, Type and size of building
 c) Is property on lease or free hold? If on lease indicate date of expiry of lease in each case.
4. a) Type of equipment manufactured and supplied during the last 2 years

Name of equipment	Capacity /size	Nos. manufactured	Projects to which supplies are made	No. of orders on hand

- b) Type of equipment manufactured, supplied installed and commissioned during last years.

Name of equipment	Capacity /size	Nos. manufactured	Projects to which supplied, installed and commissioned	No. of orders on hand

5. a) Type of equipment supplied during last years other than those covered under 4 above.

Name Of Equipment	Capacity /Size And Model	Nos. Manufacturers And Country Of Origin	Total Nos. Supplied In India	Projects To Which Supplies Are Made	No. Of Orders On Hand

- b) Type of equipment supplied, installed and commissioned during last years other than those covered under 4 above.

Name Of Equipment	Capacity /Size And Model	Nos. Manufacturers And Country Of Origin	Total Nos. Supplied In India	Projects to which supplied, installed and commissioned	No. Of Orders On Hand

6. Plant Facilities:

- | | Sq. Meter | Remarks |
|--|-----------|---------|
| a) Space available for manufacture | _____ | |
| b) Space available for storage | _____ | |
| c) Space available for inspection items offered | _____ | |
| d) Space available for storage items offered | _____ | |
| e) are building fire resistant? | Yes/No | |
| f) Are premises approved by Municipal fire production | _____ | |
| g) Are buildings under Municipal fire production | _____ | |
| h) Are power and fuel supply adequate to meet production requirements? | _____ | |
| i) Are adequate transportation facilities available? | _____ | |
| j) Are safety measures adequate for performance of proposed contract? | _____ | |
| k) Are adequate material handling available? | _____ | |

7. Details of testing facilities available

- a. List testing equipment available
- b. give details of tests which can be carried out on items offered.
- c. details of testing organization available.

8. personnel/Organization:

- a. Production
- b. Marketing
- c. Installation and Commissioning
- d. Service
- e. Spare parts
- f. Administrative

9. Nearest service center to buyer:

Location _____ Phone _____

10. Details of organization at Service Center

- a. No. of skilled employees _____
- b. No. of unskilled employees _____
- c. No. of engineering employees _____
- d. No. of administrative employees _____
- e. list of special repair/workshop facility available _____
- f. The storage space available for spare parts _____

- g. Value of minimum stock of spares available at all the service centers in respective currency _____
- h. List of the models types by number of equipment serviced by the center in the last 2 years

11. Name of two buyers to whom similar equipment are supplied installed and commissioned in the past and to whom reference may be made by the Purchaser regarding the bidder's technical an delivery ability:

- 1. _____
- 2. _____

12. List of components usually subcontracted _____

13. Schedules for furnishing technical data and certified drawings after receipt of orders

14. Workload as percentage of total capacity for the current and forthcoming financial year on quarterly basis _____

15. Number of weeks required to prepare a bid proposal _____

ion □ □ □ □ I13. Service Support Details Form

GCC Clause 32 and SCC 13

Nearest Service Center

Pack No,	Destination	Location		Capacity / size				
		Phone No.	Fax:	Status of office working days and hours	Number of Software Engineers	Number of Hardware staff	Value of min. stock available at all times	List of models & types of equipment serviced in last 2 years

Signature and seal of the Bidder _____ Date _____

ion □ □ □ □ **I14. Declaration regarding Deemed Export Benefits Form**

Bidder's Name and Address: _____

To: _____ (name of the Purchaser)

Dear Sir:

1. We confirm that we are solely responsible for obtaining deemed export benefits which we have considered in our bid and in case of failure to receive such benefits, Purchaser will not compensate us.
2. We are furnishing below the information required by the Purchaser for issue of Project Authority / Payment certificate in terms of Export and Import Policy of the Government of India:

A)

- i) Value of import content of supply to be made by the Bidder
Rs. _____ exchange rate one US\$ = RS. _____

B)

- i) Name of the subcontractor, if any, _____
and whose name is to be included in the main Contract _____
- ii) Description, quantity and value of the goods to be supplied by the above subcontractor:
Description _____
Quantity _____
Value (RS.) _____
- iii) Value of import content of supply to be made by the subcontractor:
Rs. _____ exchange rate one US\$ = RS. _____

(The requirements listed above are as per current Export and Import Policy of Government of India. These may be modified, if necessary, in terms of the Export and Import Policy in force.)

Date: _____ (Signature) _____

Place: _____ (Printed Name) _____

(Designation) _____

(Common Seal) _____

ion □□□□I **Section IX. Eligibility for the Provision of
Products and Services in Bank-Financed
Procurement**

Public Information Center
As of January 1995

For the information of borrowers and bidders, and with reference to paragraph 1.6, footnote 9, of *Guidelines: Procurement under IBRD Loans and IDA Credits*, dated January 1995, set forth below is a list of countries from which bidders, products, and services are not eligible to participate in procurement financed by the bank or IDA³.

- Andorra
- Cuba
- Democratic People's Republic of Korea (North Korea)
- Liechtenstein
- Monaco
- Nauro
- San Marino
- Tuvalu

In addition, bidders, products, and services from other countries or territories may be declared ineligible by provision in the Bidding Documents if the borrower's country has excluded them by law, official regulation, or act of compliance meeting the requirements of paragraph 1.8(a) of *Guidelines: Procurement under IBRD Loans and IDA Credits*.

³ Any question regarding this list should be addressed to the Chief, Procurement Policy and Coordination Unit, World Bank Operations Policy Department.

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