

**TENDER FOR DEVELOPMENT AND IMPLEMENTATION**

**OF**

**DATA Management Web Portal**

**INDIAN INSTITUTE OF TROPICAL METEOROLOGY,  
DR. HOMI BHABHA ROAD, PASHAN, PUNE-411008.**

**TENDER FOR DEVELOPMENT OF  
DATA MANAGEMENT WEB PORTAL  
INDIAN INSTITUTE OF TROPICAL METEOROLOGY,  
AT DR. HOMI BHABHA ROAD, PASHAN, PUNE-411008**

**TENDER NOTICE No.:** C-050.46-I

NAME OF WORK : TENDER FOR DEVELOPMENT OF  
DATA MANAGEMENT WEB PORTAL at  
Indian Institute of Tropical Meteorology,  
Dr Homi Bhabha Road, Pashan, Pune 411008.

PERIOD OF SALE OF BIDDING DOCUMENT : FROM 24.6.2013 TO 16.7.2013

TIME AND DATE OF PRE-BID CONFERENCE : DATE: 2.7.2013 TIME 11.00 HRS

LAST DATE AND TIME FOR RECEIPT OF BIDS : DATE 17.7.2013 TIME 12.30 HRS

TIME AND DATE OF OPENING OF TECHNICAL BIDS : DATE 17.7.2013 TIME 15.00 HRS

PLACE OF OPENING OF TECHNICAL BIDS : INDIAN INSTITUTE OF TROPICAL METEOROLOGY, DR.HOMI BHABHA ROAD, PASHAN, PUNE-411008

OFFICER INVITING BIDS : DIRECTOR, INDIAN INSTITUTE OF TROPICAL METEOROLOGY

COMPLICATION PERIOD : Six Months form the date of receipt of L.O.I.

**Salient Features**

Name of Work	A. Design, development and implementation of Data management Web Portal  B. Supply of necessary softwares and hardware servers for running the System*
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Period of Completion	Six months from the date of Letter of Intent (LOI)
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Tender documents can be purchased from the office of Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, NCL post, Pashan Pune – 411008 .INDIA

A	Cost of Tender Documents (Non – Refundable)	Rs. 500/- (Rupees One Thousand only) by Demand Draft drawn from any Nationalized or Scheduled Banks in India payable at Pune in favor of Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, NCL post, Pashan Pune – 411008 .INDIA
B	Period of Issue of Tender Documents	10.00 TO 15.30 HRS
C	Earnest Money Deposit (EMD)	Rs.4.00/- lakhs by Demand Draft, drawn from any Nationalized or Scheduled Banks in India payable at Pune in favour of The (or) By Irrevocable Bank Guarantee from any Nationalized or Scheduled Banks in India.
D	Pre-Bid Meeting	2.7.2013 TIME 11.00 HOURS
E	Last date for submission of bids	17.7.2013 TIME 12.30 HRS <ul style="list-style-type: none"> <li>Bids to be submitted on or before the mentioned time and date at “PERSONNEL SECTION” (Dispatch) Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, NCL post, Pashan Pune – 411008 .INDIA</li> </ul>
F	Opening of Technical bid	17.7.2013 TIME 13.30 HRS

Only one set of document will be issued. Cost of tender document is mandatory to pay at the time of submission, even in case you have downloaded it from IITM website.

The Director, Indian Institute of Tropical Meteorology, reserves the right to accept/reject any one /all the tenders without assigning any reason thereof.

\* The necessary disk storage for data is not necessary to quote since this is available at IITM.

COMPUTER ENGINEER

FOR DIRECTOR

## ANNEXURES

ANNEXURE I: BOQ format and Commercial bid format

ANNEXURE II: Scope of work and deliverables

ANNEXURE III: Bank Guarantee proforma

INDIAN INSTITUTE OF TROPICAL METEOROLOGY PUNE 411 008 (INDIA)

GENERAL TERMS & CONDITIONS

TENDER NOTICE No.: C-050.28-I

- 1) The Tenderers are requested to give detailed sealed tender in their own forms in two Bids i.e.

**Part-I Technical Bid. Part-II  
Commercial Bid**

Both the bids addressed to

**The Director,  
Indian Institute of Tropical Meteorology,  
Dr. Homi Bhabha Road, NCL Post,  
Pashan, Pune – 411 008, INDIA.**

- 2) You have to submit two separate bids in two separate envelopes and you may keep both the bid envelopes in an envelope for sending to us.

One envelope will contain only the **TECHNICAL DETAILS** of the Project.

Another envelope will contain only the financial bid in which price, maintenance, AMC, CMC, etc. and any other information, which has financial implications, will only be given.

- 3) Please indicate page nos. on your quotation ex. If the quotation is containing 25 Pages, please indicate as 1/25, 2/25, 3/25 -----25/25.

- 4) The main envelope, which will contain both the bids, should be super scribed with our tender enquiry No.----- due on -----.

- 5) The technical bids will be opened on the specified due date in the presence of tenderers who wish to be present & the financial bids of only those bidders will be opened whose technical bid is found suitable by us. Technical bid should contain BOQ per format given in Annexure I without prices. Detailed BOQ of hardware servers and software's should also be part of technical bid.

- 6) The Date and Time of opening for Part-II (Commercial Bid) will be intimated only to pre-qualified and technically acceptable Tenderers for the item at a later date.

Tenders addressed to the Director, Indian Institute of Tropical Meteorology, Pune 411008 are to be submitted for each item in duplicate in double cover, under two bids system. Superscribed with Tender No..... for purchase of **“Data Web Portal” – Qty 01 Set** due on .....

- 7) This tender is **not transferable**.

- 8) Fax / E-mail / Telegraphic / Telex tenders will not be considered.

- 9) The Hardware and Software's are required for **IITM, Pune**. Installation and Training is to be provided to the concerned scientists / personnel of IITM, Pune.
- 10) Cost of the items should be mentioned clearly in the Commercial Bid (Part-II) only. The optional and any other essential items / services required for the maintenance of the project for the next five years should also be specified in the offer separately.
- 11) Indicate the names of the Indian reputed Organizations where you have executed similar projects and may attach the satisfactory performance report of the equipment from user Organization.
- a) If you have executed identical or similar projects to other Institutes under Ministry of Earth Sciences and Ministry of Science & Technology, the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.
- b) Based on the above information IITM will have its option to obtain details of the project, their performance, after sales services etc. for evaluation of the tender, directly from the concerned Labs. /Scientists etc.
- 12) Details of services rendered by you as well as after-sales services offered by you are to be made clear in the tender.
- 13) The Tenderer's conditions printed on the tender or otherwise sent along with the tender shall not be binding on IITM.
- 14) The vendor should have appropriate facilities and trained personnel for supply, installation, commissioning and warranty-maintenance of the softwares and hardwares to be supplied. Detailed information in this regard may be furnished.
- 15) **Delivery Period:** As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to.
- 16) Supply means "Supply, Installation, Commissioning and satisfactory demonstration of the whole system and training". If any charges extra for Installation, Commissioning and training, the same should be specified in the commercial offer.
- 17) Kindly attach a copy of your latest DGS&D, New Delhi registration Certificate under the compulsory Scheme of Ministry of Finance regarding the registration of Indian Agent of foreign supplier wherever it is applicable.
- 18) a) The Tenderer is required to furnish the Permanent Account Number (PAN) Allotted by the Income Tax Department. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration' etc. should also be provided in Technical Bid for Indian Agents.
- b) A copy of latest Income Tax Clearance Certificate from Income Tax Department (INDIA) for Indian Agents.

19)The software should be supplied with source code, logic diagrams, detailed documents and the manuals including functional and operational details for the entire source code. should be complete in all respects to operate the system without any problem.

20)Tender must clearly indicate the features offered unit price, VAT tax, transport, transit insurance, installation charges. Institute cannot furnish any concessional certificate for exemption or reduction in VAT tax or any other duty / tax except mentioned above.

21) The vendor should mention the price of all the component of the project and the duties / taxes to be paid such as customs duty / excise duty / Service tax/ VAT taxes etc. separately.

22) Payment terms:

a) Successful bidder should provide performance security deposit in the form of DD/ bank guarantee of 10% order value from nationalized bank valid till the period of completion, within 15 days of signing the an agreement of Rs.1000/- stamp paper value as per clauses agreed by the two parties. This security deposit shall be forfeited in case of violation of the contract agreement.

b) For the Data web portal software .

- i. 10 % on acceptance of SRS.
- ii. 30 % on Acceptance of Minimum four modules.
- iii. 50 % on successful completion of entire project, going live and Acceptance
- iv. Comprehensive AMC and other Data related Service charges like data migration, data entry etc will be paid quarterly basis.
- v. 10% shall be made after receipt of Bank Guarantee from Indian nationalized bank for 10% of the total order value, to be valid for entire period of warranty including extension if any. If no Bank Guarantee is given, the balance 10% will be paid after acceptance of the project and assessing, after sales service during warranty period i.e. payment after warranty period including extensions if any.

c) For commercial Software licenses and hardware's required for running the system:

- i. 80% payment shall be made against delivery,
- ii. 10% payment shall be released after completion of installation, commissioning and on acceptance tests
- iii. 10% shall be made after receipt of Bank Guarantee from Indian nationalized bank for 10% of the order value, to be valid for entire period of warranty including extension if any. If no Bank Guarantee is given, the balance 10% will be paid after assessing, after sales service during warranty period i.e. payment after warranty period including extensions if any.

d)No advance can be paid.

- 23)The prices quoted should be firm and irrevocable and not subject to any change whatsoever, even due to increase fluctuation in the foreign exchange rates and excise duty.
- 24)The Tenderer has to state in detail the Electrical Power/UPS requirements, floor Space, head room, foundation needed and also to state whether Air-conditioned environment is needed to house the hardware system and to run the tests. i.e. pre-installation facilities required for installation may please be intimated in the technical bid.
- 25)**INSTALLATION:** Bidder shall be responsible for installation / demonstration wherever applicable and for after sales service during the period of project and thereafter.
- 26)Acceptance tests to be prescribed later will be carried out after installation/deployment and all the modules will be taken over only after successful completion of the acceptance tests.
- 27)The tenders must be clearly written or typed without any cancellations / corrections or overwriting.
- 28)The tenders will be received in the Institute strictly till the date and time given and shall be opened in presence of the tenderers or their authorized agents who wish to be present.
- 29 )IITM will not be responsible:
- a) For delayed / late quotations submitted / sent by Post / Courier etc.
  - b) For submission / delivery of quotations at wrong places other than the Office of Director, IITM, Pune,
- 30)The Technical Bid should accompany with complete project methodology, Bar Chart for completion of project, estimated Man Hours and relevant Technical Literature/Brochures with Warranty Terms.
- 31)The tender / quotation / offer submitted by you should be valid for a minimum period of **One Hundred Eighty (180) days** from the date of opening the tender.
- 32)The quotation should be only in Indian Rupees.
- 33)IITM will not provide any accommodation/transportation for the Engineers/ Representatives during project period for discussions, development, Installation, Commissioning and Demonstration Work. It is the absolute responsibility of the successful bidder to make their own arrangements.
- 34)**WARRANTY/GUARANTEE:**
- (a) The entire system should have warranty of at least two years and the necessary hardware/software should have warranty of three years. Warranty/licensing of hardware/software will start on successful acceptance of the entire system of Data web portal site.
  - (b) The Project work should be guaranteed for trouble free performance during entire project period. Supplier shall finally warrant that all the software, equipment and components supplied under the project shall be best and of the first quality according to the specifications and shall be free from the defects (even concealed fault, deficiency in the design and development). The defects, if any, during the guarantee period are to be rectified free of charge by arranging additional efforts wherever and whatever necessary. Further, the technical specifications and requirements may also be verified.
  - (c) **SLA and UPTIME**



The Service Level Agreement should ensure 99% uptime of the application for the whole calendar year including Holidays, Additional Maintenance downtime of 01 day (Non Working Maximum up to 12 hours) will be allowed per Month, Unplanned Downtime of the Application due to reasons not accountable by IITM will be penalized at the rate of Rs. 1000/- per hour of downtime. The Amount shall be deducted from any money due or which may become due to the Vendor. The SLA shall be applicable during warranty period .

- 35)Details of onsite warranty, vendor that shall maintain during warranty and undertake Comprehensive Maintenance Contract (CMC) beyond warranty shall be given in the offer.
- 36)The supply of support required is to be guaranteed at least for a period of 10 years after the Acceptance of Project.
- 37)No sub-contracting will be allowed for installation or maintaining SYSTEM during the project period.
- 38)You have to quote rates for AMC / CMC, if any, only in commercial bid.
- 39)Any upgrade in Operating System (OS) and associated other software during the project period should be supplied free of charge.
- 40)Discount offered should be mentioned clearly in the commercial bid only.

**41)The Tenderers are requested to quote for Educational Institutional Prices for commercial Softwares and Hardwares considered in the project, since we are eligible for the same.**

- 42)This Institute is an autonomous scientific research organization under the Ministry of Earth Sciences and is a recognized centre for studies leading to M.Sc. and Ph.D. of the University of Pune and various other Universities. As such, all possible concessions / discounts / rebates applicable for educational Institutions may be given.
- 43)a) The Earnest Money Deposit of **Rs.4,00,000/- (Rs. 4 Lakhs only)** must be paid / sent along with your technical bid in the form of a Demand Draft, Banker cheque or Bank Guarantee (from a Indian Nationalized Bank only) drawn in favour of The Director, Indian Institute of Tropical Meteorology, Pune payable at Pune, otherwise your technical & financial bids will not be considered. The Earnest Money of successful bidder will be returned only after receipt of performance security deposit of 10% valid till installation, commissioning, satisfactory demonstration and on acceptance of the equipment by the user Scientist / HOD as per the terms of our purchase order. If the successful bidder fails to fulfill the contractual obligations before the due date, his security deposit will be forfeited.

The Earnest Money of the unsuccessful bidder whose technical bid has not been found suitable will be returned within **FORTY FIVE DAYS** after receipt of Technical Committee recommendations.

- b) Those who are registered with Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation or the concerned Ministry / Department need not to furnish EMD along with their bids.
- c) Though EMD has to be submitted by Demand Draft, Banker's Cheque or Bank Guarantee, we prefer to have Bank Guarantee for easy return to the bidders once a decision is taken by IITM. (Specimen of Bank Guarantee is enclosed at Annexure III).

- d) Tenders not accompanied with Demand Draft / Bank Guarantee towards "Earnest Money Deposit" will summarily be rejected.
- 44)a) Tenders, which are submitted without following the Two-Bid Offer System, will summarily be rejected.
- b) Unsigned Tenders will also be rejected.
- c) Part and incomplete tenders are liable to be rejected.
- 45)If the Vendor fails to Supply, Install and Commission the system as per specifications mentioned in the order within the due date, the vendor is liable to pay liquidated damages of one percent value of the Purchase Order awarded, per every week delay subject to a maximum of 20% for every week beyond the due date and such money will be deducted from any money due or which may become due to the Vendor.
- 46)Goods should not be dispatched until the Vendor receives a firm order.
- 47)The purpose of certain specific conditions is to get or procure best Equipment / service etc. for IITM. The opinion of Technical Committee shall be guiding factor for Technical short listing.
- 48)In the event the Company proposes for amalgamation, acquisition or sale of its business to any firm during the contract period, the Buyer/Successor of the Principal Company are liable for execution of the contract and also fulfillment of contractual obligations i.e. supply, installation, commissioning, warranty, maintenance/replacement of spares accessories etc. with the same cost / ordered value while submitting your bid, you may confirm this condition.
- 49)Conditional Offers will not be considered.
- 50)All disputes are subject to exclusive jurisdiction of Competent Court and Forum in Pune, India only.
- 51)The Director, Indian Institute of Tropical Meteorology, Pune 411 008, India reserves the right to accept any tender in full or in part or to reject the lowest or any or all tenders without assigning any reason.**
- 52)In case of any dispute regarding part-shipment, non-compliance of any feature etc., The Director, Indian Institute of Tropical Meteorology, Pune will be the final authority to decide the appropriate action and it will be binding on the Vendor.

## Eligibility criteria for companies for Technical Evaluation

1. The vendor must be a Company registered under Indian Company Act, 1956..
2. Vendor should be ISO 9001 and also SEI CMM certified at the time of bidding.
3. The vendor must have a minimum average turnover of Rs.50/- lakhs, during last three years consecutively. Attested & Audited copies of the Company's Annual Reports are to be attached along with the bid.
4. The Bidder must be original Developer of the software solution and should provide required certificates / documentation establishing that bidder is original developer of software . No Bid will be accepted from Dealers / Distributors.
5. The vendor should have successfully executed at least three orders of similar nature and scope in the last five years for any Public Sector Undertaking / Government Departments / Reputed Private Sectors.
6. Vendor should have enough experience in handling large amount of scientific data/earth science data and plotting, extracting techniques. Proof of satisfactory services for the above works from the user shall be attached in original in the prescribed format. Vendor must be in a position to demonstrate his capability to the evaluation committee with documentary evidence in support of their claims.
7. Vendors should provide a list of on-going Application Development Projects with contact person details. The Bidder should also provide their major client list with Tel. Nos, contact name, etc. and credentials of the company.
8. Vendors should have well established support center in Pune with trained / certified manpower in maintaining the application.
9. Sales Tax Registration & PAN Copies to be submitted along with tender document.
10. The vendor must have the sufficient number of technical experts with knowledge and understanding the work. Details of staff who will work on this project with their qualifications and experience should be provided.
11. Bidder should not have been black listed by any State or Central Government in India.



### **FORMAT of Technical BOQ and for Commercial Bid**

Vendors should submit the BOQ in the following for format. Commercial rates are to be left blank in the technical bid, but other details like, description of item or services, quantities..etc are to be duly filled and submitted along with technical bid.

Commercial rates are to be quoted in INR and are to be submitted only with commercial bid. All the applicable taxes are to be considered while quoting taxes. Evaluation will be done on Total Cost of Ownership for 5 years.

SI No	Description	Quantity (No of items, Set, etc)	Unit Rate in INR (cost per item)	Taxes (Tax detail s)	Total in INR (Unit rate x Quantity + taxes)
1	Data portal Software cost with development, deployment, commissioning, with one year warranty including onsite support after complete acceptance	01 (set)			
2.	Commercial Software's required for the system with three years license (give details)	01 (set)			
3.	Hardware servers required for the system with three years warranty-maintenance (give detailed BOQ)	01 (set)			
4.	Onsite Engineer Support charges for Four years after Warranty period (give year-wise breakup).	01 (set)			
5.	Comprehensive AMC Charges for Second year	01 (set)			
6.	Comprehensive AMC Charges for third year	01 (set)			
7.	Comprehensive AMC Charges for Fourth year	01 (set)			
8.	Comprehensive AMC Charges for Fifth year	01 (set)			

	<b>Total Cost of the entire Solution/Project</b>	

Please note:

1. Storage disc capacity for data storage is already available at IITM. vendors need not quote for this.
2. Hardwares and Commercial Softwares running the system are to be quoted for three years warranty, support and updates.
3. Detailed BOQ of Hardware and Software for system being quoted is to be attached separately.
4. Year wise break up details have to be given for the item no. 4. (Charges for 2<sup>nd</sup> year, 3<sup>rd</sup> year, 4<sup>th</sup> year, 5<sup>th</sup> year separately. Please note that 1<sup>st</sup> year warranty includes onsite engineer support.

Optional Prices to be Quoted:

- a. Monthly Charges for Additional one Onsite Support Engineer (Per person Per month) including taxes.
- b. Monthly charges for Data Entry (Per person Per month) including taxes.
- c. Monthly charges for Data Migration (Per person per month) including taxes.
- d. **For any additional modules after signing the SRS**

## **Detailed description and Technical Specifications**

### **ABOUT IITM**

IITM is country's premiere research Institute to generate scientific knowledge in the field of meteorology and atmospheric sciences that has potential application in various fields such as agriculture, economics, health, water resources, transportation, communications, etc. It functions as a national centre for basic and applied research in monsoon science. For more information please visit IITM website @ <http://www.tropmet.res.in>.

## **Software requirement details**

### **Scope of Software Requirement Specifications (SRS)**

The SRS is a specification of a particular software product that performs required functions. The IEEE Std. 830-1984 and IEEE Std. 830-1993 are followed to write SRS. All the functional area of a proposed system for which SRS to be prepared is described which includes input, processing logic and output specifications. The SRS document describes in details the screen contents corresponding to each for the functions in the proposed system, processing logic for the functions in the system and also the contents for all type of reports, documents, registers required to be generated in the proposed system. The essential part of a SRS document are listed below:

#### **1. Introduction**

- Purpose
- Intended Audience
- Scope
- Definitions and abbreviations
- References
- Overview

#### **2. Overall Description of Proposed System**

- Organizational Setup
- Existing Manual System
- User Characteristics
- General constraints
- Assumptions
- Data Collection and Dissemination
- Functions of the proposed system

#### **3. Specific Requirements of Proposed System**

- Functional Requirements (Functional Specifications)
- External Interface Requirements
- Performance Requirements
- Presentation Requirements
- Quality Requirements
- Attributes
- Other Requirements

#### **4. Deliverables**

- Systems Flow Charts
- Database design
- Data Dictionary
- Methodology for migrating the existing data to database
- Input forms/Screens
- Output report formats
- Screens for queries
- Codification
- Design Methodology
- Inter System linkages/interfaces
- Security and Backup considerations
- Data logger for each transaction for DBA's reference

**Note: The list is not exhaustive and subject to change.**

These parts are arranged in an out line that can serve as an example for writing an SRS. A SRS document is outcome of the analysis phase. It defines the functionality to be provided by the system at different levels and provides the basis for designing the system to be developed.



## **Scope of Application Software Development**

- 1 Preparation of System Design Document based on SRS Document as per Industry norms
- 2 Programming
- 3 Testing
- 4 Data entry and validation of the Legacy data
- 5 Implementation
- 6 Integration with Legacy data
- 7 Backup and restoration plan for system and data
- 8 Maintenance and upgradation of the software for five years after acceptance.
- 9 Documentation (Soft and Hard)
  - a. System manual
  - b. Technical manual
  - c. Operational manual
  - d. Source code
- 10 Training both user level and administrative level
- 11 Handing over (It includes the period of technical support after the acceptance of application software.) etc.

**NOTE: The list is not exhaustive and subject to change.**

## Scope of work and deliverables

### I. Overview

Data management Web portal is required for management, selection, extraction and visualization of Meteorological Data at the Institute. The website is mostly for internal use but some data can be for public or for authentic users. The necessary disk storage is not necessary to quote since this is available at IITM.

IITM has in general, collection of following data sets –

- Data generated by ocean, atmospheric and coupled Models.
- Instrument generated data like RS-RW pilot balloon data.
- Long-term and short-term projects generated data like CAIPEEX, HAPCL, IGOC projects which will be continuously added in future.
- Model analysis results data sets.
- Data acquired from different services for specific request.
- Data downloaded from different sources / sites as per requirement by scientists.

The data sets are in many different varieties, different formats, and different locations within IITM.

### Requirement of data management portal

The requirement is to prepare a comprehensive website which will archive and consolidate all the data sets in a systematic manner, provide easy access to users by selecting and visualizing the data online. On the spot plotting selected parameters of plot, contour plot etc should be available. The data web portal should provide description of data, source of data, facility for multiple selections, disclaimer agreement to be agreed, facility get registered with userid and password etc. It should also include analysis tools using a standard library package.

Example website for this kind of data management for guidelines:

<http://iridl.ldeo.columbia.edu/>

Data portal should also have different access privileges for uploading / downloading particular data sets for specific period. Data servers generating instrument can directly be linked to the web portal and latest data can be made available on authentications.

## II. Information about data sets

In general two types of data sets are available at present::

### 1. Observational data:

At present total size of this data set may be about 10 TB which will keep on increasing.

Following are few categories of observational data sets:

1. CAIPEEX project data  
(Cloud and Aerosol Interaction and Precipitation Enhancement Experiment)

At specific location over India, specialized aircraft ascents were conducted for measuring cloud characteristics and for cloud seeding in this project from 2009-2011.

Cloud parameters data was generated in csv text files from 2009-2011. Some of the data has been converted to NetCDF. These datasets have files with 30-40 parameter and also have files with hundreds of parameters. The data should be converted to NetCDF and accessibility location-wise, parameter-wise etc is required.

2. IGOC, HAPCL

Ground based observations using various instruments installed near to Hyderabad and near Mahabaleshwar.

3. Radar observations:

X-band RADAR is also located at Mahabaleshwar from which binary data of 16 parameters, with size of about 160 GB per day is getting generated which operates during pre-monsoon and monsoon seasons. This data is acquired in BUFR format and getting converted to NetCDF.

4. Radio sonde data- pilot balloon ascent observational data of ASCII format is generated whenever the event is conducted.
5. Few other data sets and historic data sets may be included. Later.

### 2. Model generated data

Data generated by running atmospheric/ocean/coupled models. These data sets are usually in NetCDF/GRIB format, are multidimensional- can be upto 5-6 dimensions, gridded into lat-lon grid. High resolution data files can have file size in terabytes.

Files can also be parameterwise, periodical, modelwise or one file can have several parameters in multidimension.

Data sets are usually identified by file-names which are self-descriptive.

### III. Detailed scope of work and deliverables:

Prepare a state of art web site for data access, extraction, analysis and visualization and also data archival /management server for IITM for accessible to internal as well as for outside users on authentication. Some part of the data can be accessible to public.

1. Archive all the data sets, prepare metadata and convert the data into common standard formats like NetCDF or HDF for efficient access and minimizing access time for data downloading, analysis, plotting and animation.
2. Design and implement multiple databases and import the data parameters the into system. The data sets are into files of containing several parameters in one file can be a single parameter with varying location, time period etc. The data can 1 D, 2D, 3D ..upto 6 dimensions like latitude, longitude, level, time....etc.
3. Data should be accessible:
  1. By time - year, month, date, hour etc
  2. By parameter- like pressure, temperature, relative humidity
  3. By level- atmospheric pressure level for upper air data sets
  4. By location/region- latitude longitude grid for gridded data and by station name/number for station data.
  5. Facility to select a rectangular region/ named region on the global map using mouse pointer, facility to display/edit corresponding latitude, longitude of selected region should be available.
  6. By category of data
  7. By project
  8. By model

This list is not exhaustive- can expand .

4. Plot the selected data sets into options like XY, time series, vertical profile, contour plot, shaded contour, 3D etc using different plot options.
5. The software should also have interfaces to a data analysis language and visualization tools like *Ingrid*, *NCL* for online analysis and plotting.
6. Data downloading of selected data in by choice of formats like ASCII, NetCDF, source format of the specific data should be possible.
7. The data server should have provision to integrate future upcoming data sets till next five years. Periodically new data should be automatically incorporated.

8. For providing specific data on request, registration by form filling with a certificate of agreement should be available and user-id, password should be generated for the user.
9. Data access policies will be laid by the Institute separately for each data set. They can be based on IP address range, user id etc.
10. Search tool by a given parameter name, period, project, model, location etc should be available.
11. Website should have various features as those available on the sample website given above.
12. The website should run efficiently on all the common web browsers.
13. Recurring updations:  
Data will keep generating by upcoming projects in future. The software should have capability to dynamically include future data sets, import the data into database and also update the front-end access web pages, with the corresponding data.

#### **IV. Technical Terms and Conditions:**

1. The application should developed using open-source technology and entire source code should be supplied to IITM. The code should include relevant comments lines giving information about the functions and actions performed by the segments of code.

Opensource technology should be used for most of the modules like application software, RDBMS, content management etc.

1. Supply and Installation of hardware's and any commercial software's required for such data portal with three year warranty. Server administration of the web portal server for the entire contract period including post-warranty period.
2. Providing onsite support for data portal Software and its related issues for during the entire period of contract.
3. Providing onsite, on systems training to all concerned users at periodic intervals.
4. To ensure that the application will run with a 99% uptime and Service Level Agreement (SLA) with penalty clause.

5. Development and deployment of any intermediate patches, customization and bug fixes for the Data Portal application etc.
  
6. Liasoning with various sections of IITM in seeking, consolidating and converting of data to necessary format for the Data portal.

**BANK GUARANTEE**

B.G. No.

Date :

Amount :

Valid till :

Claim Period up to :

THIS DEED OF GUARANTEE IS MADE THIS \_\_\_\_\_  
between the Director. Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road,  
Pashan, Pune – 411 008, hereinafter called the “DIRECTOR” (which expression shall,  
unless excluded by or repugnant to the context, include his successor and assignees) of  
the one part and \_\_\_\_\_  
\_\_\_\_\_Branch, \_\_\_\_\_ hereinafter called the ‘Bank’ (which  
expression shall, unless excluded by or repugnant to the context, include his successors  
and assignees) of the other part.

AND WHEREAS the Director accepted a tender of M/s. \_\_\_\_\_  
\_\_\_\_\_ hereinafter called the CONTRACTOR to supply, Install &  
Commissioning of \_\_\_\_\_  
\_\_\_\_\_ to the Director as per contract No. :  
\_\_\_\_\_ dated \_\_\_\_\_ hereinafter referred to as the  
said contract.

AND WHEREAS the said contract provided that the Contractor shall furnish Bank  
Guarantee to the extent of \_\_\_\_\_ percent of the value of the  
contract as and by way of security for the due observance and performance of the terms  
& conditions of the contract.



AN WHEREAS at the request of the Contractor the Bank has agreed to execute these presents.

NOW this deed witnessed and it is hereby agreed and declared by and between the parties hereto as follows:

1. The bank hereby irrevocably and unconditionally guarantees to the Director that the Contractor shall render all necessary and efficient services which may be required to be rendered by the contractor in connection with and/or for the performance of the said contract and further guarantees that the goods which shall be supplied by the Contractor under the said contract shall be actually performing the work required of it to the satisfaction of the Director and shall be free from any defects arising from faulty materials, designs and workmanship, such as corrosion of the equipment, inadequate quantity of materials, inadequate contract protection, deficiencies in circuit design and/or contractor failing and / or otherwise, whatsoever, and in the event of the goods failing or neglecting to render necessary services as aforesaid and/or proving not free from deficiencies or defects as herein before mentioned and in the said contract and particularly warranty clause mentioned therein, the Bank shall indemnify and keep the Director indemnified to the extent of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) against any loss or damage that may be caused to or suffered by the Director, by reason of any breach by the Contractor of any of the aforesaid terms and conditions and the Bank further undertakes to pay to the Director, such sum not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) on demand and without DEMUR in the event of the Contractor's failure to perform and discharge the aforesaid several duties and obligations on his part to be observed and performed under the said contract and/or deficiencies and defects in the satisfactory performance of the goods and equipment.

2. The decision of the Director as to whether the contractor has failed to or neglected to perform or discharge his duties and obligations as aforesaid and or whether the goods are free from deficiencies and defects and are capable of performing the work required and as to the amount payable to the Director by the Bank herein shall be final and binding on the Bank.

3. The liability of the bank under this Guarantee shall be as of Principal Debtor.

4. The Guarantee herein contained shall remain in full force and effect during the period that would be taken for performance of the aforesaid terms of the said contract and it shall continue to be enforceable till **12 months** after the equipments have been taken over, all the dues of the Director that the terms and conditions of the contract have been fully and properly carried out by the said contractor and a 'NO DEMAND CERTIFICATE' submitted to this effect by the Contractor.

5. The Bank further agrees that the Guarantee herein contained shall remain in full force and effect for a period of **ONE YEAR** from the date hereof and also that the extension of this Guarantee will be provided further that if any claim accrues or arises against the Bank before the expiry of the said **ONE YEAR** or any extension thereof, the same shall be enforced after the said period of **ONE YEAR** or any extension thereof.

6. The Guarantee herein contained shall not be affected by may change in the constitution of the Contractor or the Bank and shall be continuing one.

7. The Director has fullest liberty, without affecting the Guarantee to postpone for any time and from time to time any of the powers exercisable by him against the Contractor, and either to enforce or forebear any of the terms and conditions of the said contract and the Bank shall not be released from its liability under this Guarantee by any exercise by the Director of the liberty with reference to the matter referred aforesaid or by reason of time being given to the Contractor or by any other matter of thing whatsoever which under the law relating to sureties shall but for this provision have the effect of so releasing the Bank from its such liability.

8. The bank undertakes not a revoke this Guarantee during its currency except with the previous consent of Director in writing.

NOTWITHSTANDING anything contained hereinbefore, our liability under this Guarantee is restricted to Rs. \_\_\_\_\_(Rupees \_\_\_\_\_). Our Guarantee shall remain in force until \_\_\_\_\_ unless a suit or action to enforce and we shall be relieved and discharged from all liability thereunder.

IN WITNESS WHEREOF the parties have executed these presents the day and year therein above writing.

Signature and Seal of the Bank

**Model Bank Guarantee Format for Performance Security**

B.G. No.  
Date :  
Amount :  
Valid till :  
Claim Period up to :

To  
The Director  
Indian Institute of Tropical Meteorology  
Pune – 411 008

WHEREAS.....  
Name and address of the supplier) (hereinafter called “the supplier”) has undertaken, in  
pursuance of contract No.....dated.....  
to supply (description of goods and services) (herein after 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 scheduled commercial recognized  
by you for the sum specified therein as security for compliance with its obligations in  
accordance with the contract ;

And WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW 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 to show grounds or reasons  
for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debit from the  
supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms  
of the contract to be performed there under or of any of the contract documents which  
may be made between you 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.

The guarantee shall be valid unit the .....day of .....20

(Signature of the authorized officer of the Bank)

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Name and designation of the Officer

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Seal, name & address of the Bank and address of the Branch