



## **BID DOCUMENT**

**REQUEST FOR PROPOSAL FOR SELECTION OF SYSTEM INTEGRATOR  
FOR  
Implementation of Comprehensive IT Governance Solution for Tea Board of India  
VOLUME II**

**Tender no. : IT/e-Gov/2013 Date: 08.06.2015**



**Tea Board of India  
(Under Ministry of Commerce & Industry, Government of India)  
14, B.T.M. Sarani, Kolkata 700 001**

## **Table of Contents**

|          |                                                                        |           |
|----------|------------------------------------------------------------------------|-----------|
| <b>1</b> | <b>Introduction .....</b>                                              | <b>5</b>  |
| <b>2</b> | <b>Implementation Framework .....</b>                                  | <b>6</b>  |
| <b>3</b> | <b>Detailed Scope of Work.....</b>                                     | <b>9</b>  |
| 3.1      | Introduction .....                                                     | 9         |
| 3.1.1    | <i>TBI Specific Requirements .....</i>                                 | <i>13</i> |
| 3.1.2    | <i>DC &amp; DR Arrangement by TBI .....</i>                            | <i>13</i> |
| 3.2      | Solution & Technology Architecture.....                                | 16        |
| 3.2.1    | <i>Overview .....</i>                                                  | <i>16</i> |
| 3.2.2    | <i>Data Digitisation .....</i>                                         | <i>26</i> |
| 3.2.3    | <i>Hardware Commissioning at TBI Offices.....</i>                      | <i>26</i> |
| 3.2.4    | <i>Licenses.....</i>                                                   | <i>26</i> |
| 3.2.5    | <i>Capacity Building / Training .....</i>                              | <i>27</i> |
| 3.2.6    | <i>Manpower requirements for Application Handholding support .....</i> | <i>28</i> |
| 3.2.7    | <i>Business Continuity Planning.....</i>                               | <i>29</i> |
| 3.3      | Scope of Services - Operation and Maintenance Phase .....              | 29        |
| 3.3.1    | <i>Overview of Post Implementation Services.....</i>                   | <i>29</i> |
| 3.3.2    | <i>Warranty Support .....</i>                                          | <i>30</i> |
| 3.3.3    | <i>Help Desk and Troubleshooting .....</i>                             | <i>31</i> |
| 3.4      | General Requirements.....                                              | 31        |
| 3.5      | Exit Management .....                                                  | 32        |
| <b>4</b> | <b>Detailed Implementation and Roll-out Plan.....</b>                  | <b>36</b> |
| <b>5</b> | <b>Annexures.....</b>                                                  | <b>37</b> |
| 5.1      | Template for Bill of Material .....                                    | 37        |
|          | <b>Form A: Bill of Material (Indicative) .....</b>                     | <b>37</b> |
| 5.2      | Indicative Minimum Specification for Bill of Material .....            | 39        |

### List of Abbreviation

| Abbreviation | Description                                                           |
|--------------|-----------------------------------------------------------------------|
| CDAC         | Centre for Development of Advanced Computing                          |
| CIC          | Central Information Commission                                        |
| CMS          | Content Management System                                             |
| CSP          | Content Service Provider                                              |
| CVC          | Central Vigilance Commission                                          |
| DA           | Dealing Assistant                                                     |
| DARPG        | Department of Administrative Reforms and Public Grievances            |
| DDTD         | Deputy Director Tea Development                                       |
| DeitY        | Department of Electronics and Information Technology                  |
| DGFT         | Directorate General of Foreign Trade                                  |
| DTP          | Director Tea Promotion                                                |
| ED           | Executive Director                                                    |
| EMD          | Earnest Money Deposit                                                 |
| FSMS         | Food Safety Management System                                         |
| FSSAI        | Food Safety and Standards Authority of India                          |
| GFR          | General Financial rules                                               |
| GoI          | Government of India                                                   |
| GoI          | Government of India                                                   |
| HACCP        | Hazard Analysis and Critical Control Points                           |
| ICT          | Information and communication Technology                              |
| ISO          | International Organization for Standardization                        |
| IT           | Information Technology                                                |
| ITC          | International Tea Committee                                           |
| MCIT         | Ministry of Communication and Information Technology                  |
| MoCI         | Ministry of Commerce and Industry                                     |
| MSA          | Master Service Agreement                                              |
| NABL         | National Accreditation Board for Testing and Calibration Laboratories |
| NEFT         | National Electronic Funds Transfer                                    |
| NeGP         | National e-Governance Plan                                            |
| NIC          | National Informatics Centre                                           |
| NOC          | No Objection Certificate                                              |
| NPI          | National Portal of India                                              |
| NPS          | New pension Scheme                                                    |
| PCC          | Per Capita Tea Consumption                                            |
| PIs          | Principle Investigators                                               |
| PRAN         | Permanent Retirement Account Number                                   |
| RFP          | Request for Proposal                                                  |
| SI           | System Integrator                                                     |
| SLA          | Service Level Agreement                                               |
| TBAS         | Tea Board Application System                                          |
| TBAS         | Tea Board Application System                                          |
| TBI          | Tea Board of India                                                    |
| TMCO         | Tea (Marketing) Control Order                                         |
| TMS          | Tea Management System                                                 |
| TRI          | Tea Research Institute                                                |
| UT           | Union Territory                                                       |

## GLOSSARY OF TERMS

The definitions of various terms that have been used in this RFP are as follows:

- **“Request for Proposal (RFP)”** means all three Volumes and its annexures and any other documents provided along with this RFP or issued during the course of the selection of bidder, seeking a set of solution(s), services(s), materials and/or any combination of them.
- **“Contract / Agreement / Contract Agreement / Master Service Agreement”** means the Agreement to be signed between the successful bidder and Tea Board of India (TBI), including all attachments, appendices, all documents incorporated by reference thereto together with any subsequent modifications, the RFP, the bid offer, the acceptance and all related correspondences, clarifications, presentations.
- **“Bidder”** means any firm offering the solution(s), service(s) and /or materials as required in the RFP. The word Bidder when used in the pre-award period shall be synonymous with parties bidding against this RFP, and when used after award of the Contract shall mean the successful party with whom the agreement is signed for rendering of services for implementation of this project.
- **“Proposal / Bid”** means the Pre-Qualification, Technical and Commercial bids submitted for this project against this RFP.
- **“TBI”** means Tea Board of India which is responsible for executing the project, carrying out the tendering.

## 1 Introduction

- I. Tea Board of India, is committed to serve all its stakeholders with the following vision & mission:

Vision:

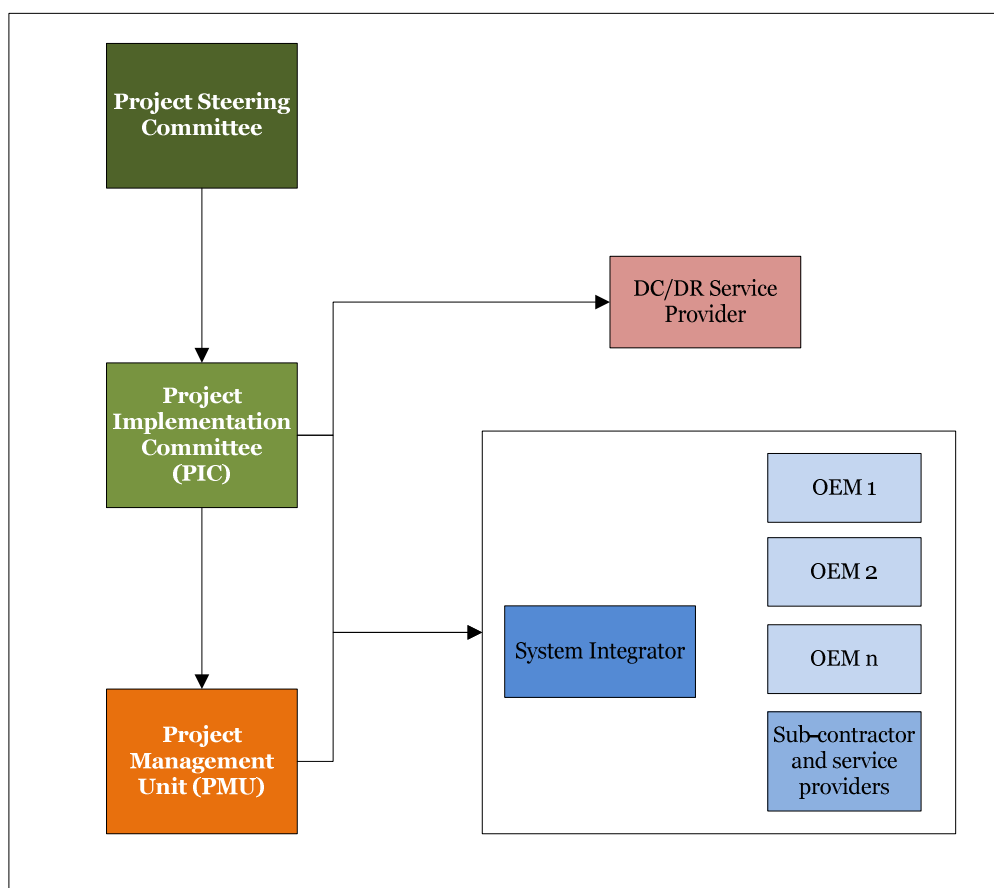
*“To serve all stakeholders using the best practices of Information Technology for fulfilling the responsibilities prescribed as per Tea Act.”*

Mission:

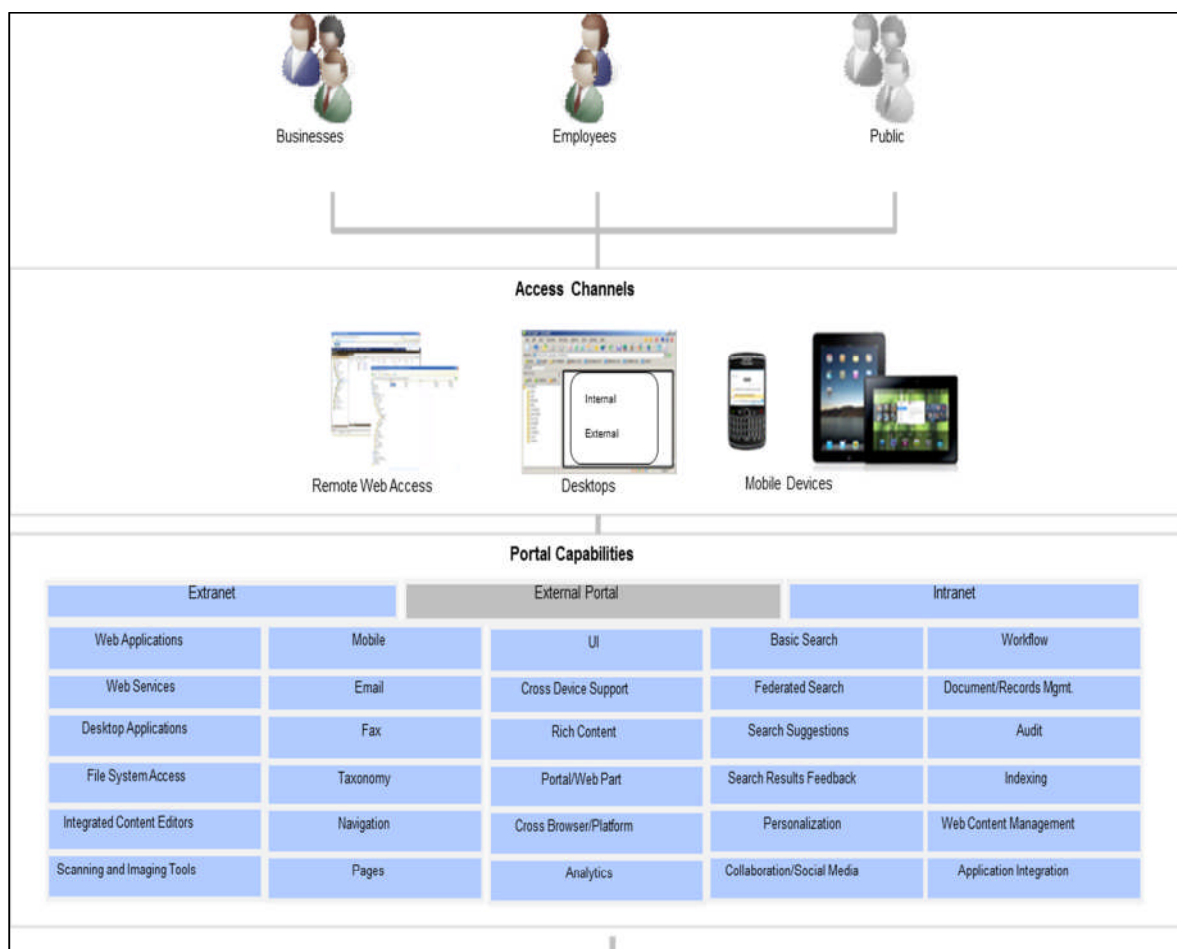
- *Setup a paperless transaction of all deliverables from Regulatory to implementation of Subsidy Schemes.*
  - *Develop a system with clearly defined role and goals for each employee of Tea Board.*
  - *Establish a Performance Monitoring System for all activities (domestic / international) undertaken by Tea Board.*
  - *Develop a user friendly e-platform for all stakeholders in Tea Industry.*
- II. In this regard Tea Board envisages to implement a Comprehensive IT Governance Solution - TBAS to realize its vision and mission. This includes delivery of citizen, business, employee and government facing services offered by the Tea Board of India.
- III. Tea Board plans to implement the TBAS solution in cloud enabled data centre of any State/PSU/Department/Govt. Undertakings. The services will be extended to all the offices of Tea Board of India and all the stakeholders.

## 2 Implementation Framework

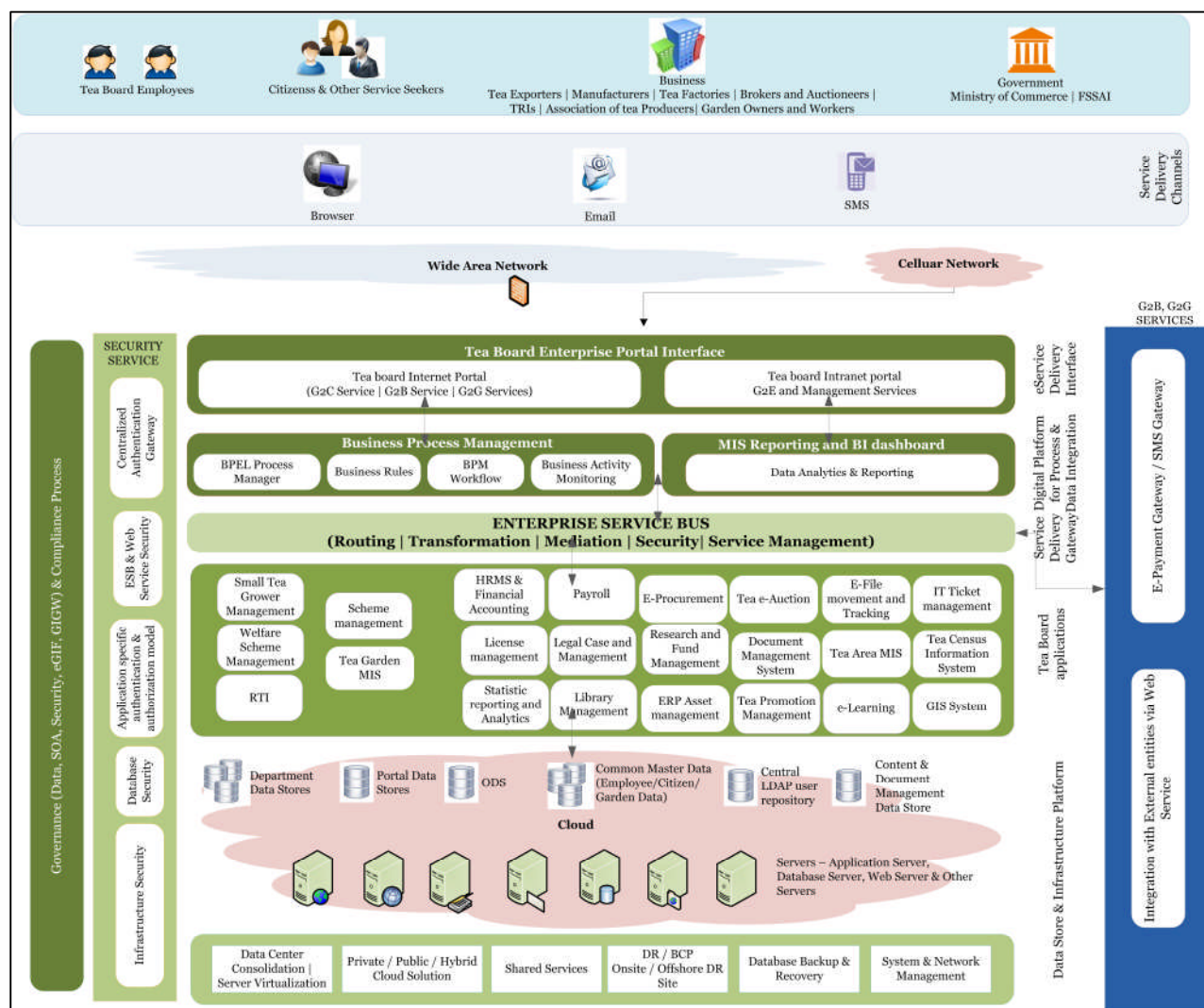
- I. Tea Board Application System (TBAS) project shall be implemented across the offices of Tea Board and for all the stakeholders of Tea Board India.
- II. There shall be a Project Steering Committee headed by the Chairman, Tea Board or a person from Tea Board nominated by the Chairman, Tea Board and committee members selected by Chairman, Tea Board. The steering committee shall be the highest body for the management and governance for the TBAS project. There shall be a Project Implementation Committee (PIC) consisting of the members nominated by the Chairman of Tea Board and this unit shall monitor and manage the progress of the TBAS project along with the responsibility of highlighting and solving administrative issues or any other relevant issues raised by the bidder and accepted by this PIC. Further this PIC shall recommend its observation and advise the steering committee for taking various decisions pertaining to this project. A project Management Unit (PMU) shall be available to assist, monitor, review, assess, advise for the successful implementation of the TBAS project. PMU shall monitor and evaluate the SI's work by its recommendation and present the same to PIC or steering committee as required from time to time. The diagram illustrating the key stakeholders is shown below:



- III. TBAS project aims to deliver all the services as listed in the scope of services section in this document by means of electronic means or by IT enabled services. The detail scope is given in section 3 of this volume of the RFP.
- IV. The TBAS portal and application are envisaged to be accessed by multiple channels. The diagram provided below explains the access channels required for the successful implementation of this project.



- V. The application software will be hosted in the cloud enabled government Data Centre; the selection and infrastructure services will be arranged and provided by the Tea Board. Integration and scalability facility shall be available in the proposed solution and service of the bidder through mandatory adherence to technical specifications and e-Governance standards, besides facility to use MSDG/Payment Gateway etc. Compliance to latest Unicode standard for local language content/data encoding is also mandatory. The Integrated Framework shall be treated as part of this RFP and shall be followed with appropriate modifications, required by the Board.
- VI. Two key aspects of the implementation are Business Process Re-engineering (BPR) and creation of databases based on e-Governance standards for the purposes of ensuring interoperability. BPR is intended to enable process simplification and significant value addition. Tea Board as part of its e-Governance initiative has undertaken the BPR activity and the same may be provided to the successful bidder, after entering into an agreement for this project. However the bidder after studying the BPR document, is free to suggest simplification to the processes if necessary and feasible.
- VII. The solution architecture of the TBAS project envisages a centralised application and database and with the option of integration and interoperability with required gateways and applications as required. The diagram provided below explains the envisaged solution architecture for the implementation of TBAS project however the bidders can propose better or improved solution architecture as part of their response to this bid.



- VIII. Further TBAS shall be integrated with a mobile service delivery gateway and Aadhaar initiative of the Unique Identification Authority of India. Localisation of the application will be carried out as per the requirement of the Board in terms of local language and other needs.
- IX. The TBAS project envisages centralised architecture with common application software for each of the identified services for all the offices and stakeholders as applicable.
- X. Integration with other government institutions or application shall be enabled, through mandatory adherence to technical specifications and e-Governance and localization standards. The detailed guidelines in this regard have been issued by Department of Electronics and Information Technology (DeitY) Government of India.

### 3 Detailed Scope of Work

***TBI reserves the right to add/edit the Scope of Work/quantity of any item in this RFP and related Annexure(s) in this RFP. Accordingly total contract value may change on the basis of the rates defined in the financial proposal. Actual payments will be made on invoices claimed by the successful bidder and based on the actual delivery of services/goods. It is to be noted that the quantities mentioned in this document and the Annexure(s) are only indicative.***

Scope of work for the selected bidder will be:

1. Requirement Gathering for Citizen & Business Centric services (Licensing and subsidy disbursement services) and Statistics
2. Delivery regional hardware (desktops, network scanners, firewall, networking equipment etc.) at HO and regional offices
3. Procurement, Configuration, Installation commissioning and Testing of regional hardware (including OS and system software) and peripherals at Head Office/Zonal/Regional/Sub-Regional Offices
4. Solution Architecture and Design for Citizen and Business Centric services (Licensing and Subsidy Disbursement Services)
5. Requirement gathering for all other services
6. Solution Architecture and Design for all other services
7. Application development for Citizen and Business Centric services (Licensing and Subsidy Disbursement Services, Statistics activities)
8. Application development for all other services
9. Final UAT & Acceptance & Data Migration for Citizen and Business Centric services
10. Final UAT & Acceptance & Data Migration for all other services
11. Data Digitization
12. Final integration testing
13. Training
14. Third party Audit & Go-Live
15. Procurement, customization and integration of other applications as may be required.
16. During the UAT and roll-out stage the SI would deploy manpower for user handholding in the identified offices of TBI.
17. Centralized User Helpdesk
18. Providing documentation of the TBAS Project at all relevant stages. (TBI will be the sole owner of the documents.)
19. O&M of all associated hardware and network equipment for a period of 3 years post implementation/Go Live.

#### 3.1 Introduction

- I. Tea Board Application System (TBAS) project shall be implemented across all the offices of Tea Board and for all the stakeholders of Tea Board India.
- II. The TBAS project is envisaged to be implemented in two phases. In the first phase all the Licensing and Subsidy disbursement services along with statistics activities will be implemented and in the second phase rest of all the services as per the scope of work shall be implemented. The bidder shall implement any related or depended activity or modules that required to be implemented/digitized/migrated/developed to achieve the implementation phases.
- III. Indicative List of offices of Tea Board of India:

| Type of office          | Number of offices | Office location                                              |
|-------------------------|-------------------|--------------------------------------------------------------|
| Headquarter             | 1                 | Kolkata                                                      |
|                         |                   |                                                              |
| Zonal Offices           | 2                 | Guwahati                                                     |
|                         |                   | Coonoor                                                      |
|                         |                   |                                                              |
| Regional offices        | 13                | New Delhi                                                    |
|                         |                   | Mumbai                                                       |
|                         |                   | Palampur                                                     |
|                         |                   | Kurseong                                                     |
|                         |                   | Jalpaiguri                                                   |
|                         |                   | Siliguri                                                     |
|                         |                   | Guwahati                                                     |
|                         |                   | Silchar                                                      |
|                         |                   | Dibrugarh<br>(RO & Small Tea Grower Development Directorate) |
|                         |                   | Tejpur                                                       |
|                         |                   | Agartala                                                     |
|                         |                   | Coimbatore                                                   |
|                         |                   | Kochi                                                        |
|                         |                   |                                                              |
| Sub-Regional<br>offices | 4                 | Gudalur                                                      |
|                         |                   | Itanagar                                                     |
|                         |                   | Kotagiri                                                     |
|                         |                   | Kumily                                                       |
|                         |                   |                                                              |

| Type of office | Number of offices | Office location |
|----------------|-------------------|-----------------|
| Field Offices  | 74                |                 |

| List of Field Offices |                              |     |                          |
|-----------------------|------------------------------|-----|--------------------------|
| #                     | Field Offices                | #   | Field Offices            |
| 1.                    | Aizal                        | 39. | Kil Kotagiri, Tamil Nadu |
| 2.                    | Almora, Uttarakhand          | 40. | Kishanganj, Bihar        |
| 3.                    | Amguri, Assam                | 41. | Kotagiri, Tamil Nadu     |
| 4.                    | Aravenu, Tamil Nadu          | 42. | Lahoal, Assam            |
| 5.                    | Baracola, Tamil Nadu         | 43. | Lakhimpur, Assam         |
| 6.                    | Baite, Mozoram               | 44. | Ledo, Assam              |
| 7.                    | Bidhannagar, West Bengal     | 45. | Makum, Assam             |
| 8.                    | Biswanath Charali, Assam     | 46. | Malbazar, West Bengal    |
| 9.                    | Bongaogaon, Assam            | 47. | Manjoor, Tamil Nadu      |
| 10.                   | Borpathar, Assam             | 48. | Margherita, Assam        |
| 11.                   | Chabua, Assam                | 49. | Mariani, Assam           |
| 12.                   | Chopra, West Bengal          | 50. | Mayanaguri, West Bengal  |
| 13.                   | Darjeeling, West Bengal      | 51. | Mekhliganj, West Bengal  |
| 14.                   | Devarsholla, Tamil Nadu      | 52. | Nagrakata, West Bengal   |
| 15.                   | Dhekiajului, Assam           | 53. | Naharkatia, Assam        |
| 16.                   | Dhuliajan, Assam             | 54. | Namsai, Assam            |
| 17.                   | Digboy, Margherita           | 55. | Numalighar, Assam        |
| 18.                   | Digboy, Assam                | 56. | Ooty, Tamil Nadu         |
| 19.                   | Dimapur, Assam               | 57. | Phansidewa, West Bengal  |
| 20.                   | Diphu, Assam                 | 58. | Rajganj, West Bengal     |
| 21.                   | Doom Dooma, Assam            | 59. | Rajgarh, Assam           |
| 22.                   | Dwarbund, Assam              | 60. | Rupai Siding, Assam      |
| 23.                   | Elappara                     | 61. | Sapekhati, Assam         |
| 24.                   | Gogamikh, Assam              | 62. | Selas, Tamil Nadu        |
| 25.                   | Gohpur, Assam                | 63. | Silchar, Assam           |
| 26.                   | Golaghat, Assam              | 64. | Sivsagar, Assam          |
| 27.                   | Gourisagar, Assam            | 65. | Sonapur, West Bengal     |
| 28.                   | Islampur, West Bengal        | 66. | Sonari, West Bengal      |
| 29.                   | Jalpaiguri, West Bengal      | 67. | Talap, Assam             |
| 30.                   | Janai(Dhemaji), Assam        | 68. | Thakurganj, Bihar        |
| 31.                   | Kgguchi, Tamil Nadu          | 69. | Thumanatty, Tamil Nadu   |
| 32.                   | Kailashahar, Tripura         | 70. | Tiloinagar, Assam        |
| 33.                   | Kalibar, Assam               | 71. | Tinsukia, Assam          |
| 34.                   | Kamalpur, Tripura            | 72. | Titabar, Assam           |
| 35.                   | Kattappana, Kerala           | 73. | Umnsning, Meghalaya      |
| 36.                   | Kharupetia (Udalguri), Assam | 74. | Valparai, Tamil Nadu     |
| 37.                   | Khowang, Assam               | 75. | Yedapalli, Tamil Nadu    |
| 38.                   | Kondah                       | 76. |                          |

Following are the indicative activities to be carried out by the selected Bidder:

1. Preparation of Detailed Project Plan in line with the overall plan provided in the RFP. The same should be prepared in consultation with Tea Board of India (TBI).
2. Providing manpower with required skills on IT systems like desktop/laptops and systems
3. Procure the desktops, network scanners/printers, switch, router, networking equipment, system software etc., install the same at TBI offices. (Refer to the “Hardware distribution list” provided in the RFP).
4. Procure, install, commission, operate and maintain:
  - a. Requisite hardware & system software at Tea Board of India (TBI)’s HQ, selected Data Centre and other locations as per the requirements mentioned in this RFP
  - b. Meet the defined SLAs for the performance of the system
5. Addressing technology obsolescence by appropriate upgradation, replacement and / or replenishment of systems deployed at various locations (HQ and other locations).
6. Insure the entire hardware against the infrastructure deployed at various locations for the entire duration of the contract against vandalism, theft, fire and lightening.
7. Keep all system software i.e. OS, antivirus, office applications etc., for Servers, PCs etc. at Data Centre and various locations, up to date by installing regular updates/patches.
8. Rectification of system software problems due to crashing or malfunctioning of the OS, RDBMS or front end within the time limits to meet the SLAs as defined in RFP.
9. Develop / customize, deploy and maintain the requisite Software Solution as per the requirements at appropriate locations.
10. Provide necessary support for the resolution of bugs, patches & updates of the software solution.
11. Provide necessary manpower for managing the Change Requests and support and maintenance.
12. Design and develop various manuals (as per CMM Level 5 guidelines) like User manual, Trouble Shooting manual etc. for the system.
13. Provide computer basic skills training and advanced training on application modules to the staff members and stakeholders of the TBI.
14. Suggest and Maintain the business continuity.
15. Deploy requisite manpower and infrastructure for the digitization of the existing data.
16. Deploy the required manpower to manage the operations.
17. Ensuring the SLAs for downtime of system, software development/customization, procurement and delivery of hardware & networking equipment, errors in data entry as defined in this RFP are met.
18. Management and quality control of all services and infrastructure.
19. Any other services which is required for the successful execution of the project.
20. Take regular backup.
21. Generation of MIS reports as per the requirements of Tea Board of India (TBI).
22. Generation of the report for the monitoring of SLAs.
23. Meet the defined Technical Specifications for the IT Infrastructure including Hardware and networking equipment keeping in mind the application and future requirements of the Board.
24. To set up a two seated helpdesk at TBI premises with all the required infrastructures like (resource, systems, log book/tool, connectivity, toll free numbers etc.)

**Note: A detailed Functional Requirement Specification (FRS) Report is provided as annexure to this RFP separately and the same should be treated as part the whole RFP and form a part of the MSA. All the functionalities mentioned in the Annexure (FRS) will be the scope of the SI to include those in to the developed application and services to be provided under the agreement for TBAS project.**

### 3.1.1 TBI Specific Requirements

#### I. Key Migration/Integration Requirements

The following table provides a snapshot of the existing systems at TBI and which are considered to be migrated/integrated with the TBAS project. The volume given in this table is indicative in nature.

| Sl. No. | Application Name                                                                                                           | Back end details | Data to be migrated                                                                                 |
|---------|----------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------|
| 1.      | Online Checking of Import and Export Data                                                                                  | C++/SQL          | Less than 20 GB in MS excel, doc, pdf, mdb, gif, tif, jpeg, etc. format and Oracle 8, SQL data base |
| 2.      | INFAST                                                                                                                     | .net/SQL         |                                                                                                     |
| 3.      | TMS                                                                                                                        | .net/SQL         |                                                                                                     |
| 4.      | Biometric Attendance System<br>(Integration only for Head office as of now and can be extended to other offices in future) | Proprietary      |                                                                                                     |
| 5.      | Form E Submission                                                                                                          | .net/SQL         |                                                                                                     |
| 6.      | Licensing data                                                                                                             | Oracle 8         |                                                                                                     |
| 7.      | Datavane system                                                                                                            | .net/SQL         |                                                                                                     |

#### II. Integration & Interfacing Requirement

The TBAS Portal and Application shall be open for integration with other Government Applications with platform and technology independent facility in TBAS. Further the proposed application should have integration facility with MSDG/Payment Gateways and further getting and effecting the data received through any integration in the TBAS database.

### 3.1.2 DC & DR Arrangement by TBI

Indicative arrangement for DC & DR:

1. As a part of the bid response the SI has to provide the configuration that they propose for each VM in terms of vCPUs, RAM and Storage.
2. An indicative VM configuration for the server instances at DC and DR is provided below.

**Indicative VM configuration****Note: Bidders are free to propose the sizing of the VMs as per their solution.**

| For DC | Server Type        | VM configuration                           | Total Additional Storage | Minimum Indicative Number of servers |
|--------|--------------------|--------------------------------------------|--------------------------|--------------------------------------|
|        | Application Server | 1 VM with 8vCPU, 32GB RAM and 60GB Storage | 2000 GB                  | 2                                    |
|        | Database Server    | 1 VM with 8vCPU, 32GB RAM and 60GB Storage | 2000 GB                  | 2                                    |
|        | Web Server         | 1 VM with 8vCPU, 32GB RAM and 60GB Storage | -                        | 2                                    |
|        | Staging Server     | 1 VM with 8vCPU, 32GB RAM and 60GB Storage | -                        | 2                                    |
|        | Management Server  | 1 VM with 8vCPU, 32GB RAM and 60GB Storage | -                        | 1                                    |
|        | Back Up server     | 1 VM with 8vCPU, 32GB RAM and 60GB Storage | -                        | 1                                    |

| For DR<br>(DR will run at 50% capacity of the DC) | Server Type        | VM configuration                           | Total Additional Storage | Minimum Indicative Number of servers |
|---------------------------------------------------|--------------------|--------------------------------------------|--------------------------|--------------------------------------|
|                                                   | Application Server | 1 VM with 4vCPU, 32GB RAM and 60GB Storage | 2000 GB                  | 1                                    |
|                                                   | Database Server    | 1 VM with 4vCPU, 32GB RAM and 60GB Storage | 2000 GB                  | 1                                    |
|                                                   | Web Server         | 1 VM with 4vCPU, 32GB RAM and 60GB Storage | -                        | 1                                    |

3. TBI has requested for some allocation from the government cloud. The Virtualization technology is bare-metal based on **VMWare**. SI has to ensure that the proposed solution functions on the VM environment already available with the cloud operator.
4. TBI will send a request to the cloud data center operator for providing the actual VM configuration as proposed by the selected bidder during their bid response.
5. The cloud data center operator will configure the VM as per the request of the selected bidder.
6. The SI has to install the proposed OS and provide the virtual machines to TBI. The proposed OS should be either RHEL 6.x or Windows Server latest edition.
7. The maintenance, further configuration and the scaling of the VM during contract period would be the SI's responsibility.

TBI will Host the application in a government cloud enabled DC, the probable offerings from the government cloud are listed below.

1. Provide 99.5% uptime.
2. The NOC (network operation centre) of cloud data centre may provide managed services
3. The Cloud services should be accessible via internet and private connectivity like Leased line and MPLS links
4. The self-service portal provided by the cloud environment may automate for network provisioning including the VLAN and IP subnets, load balancer provisioning, firewall ACL rules provisioning, server provisioning etc.
5. A dashboard may be provided for complete automation of the orchestration, administration, provisioning, management, features that may be provided are :
  - a. Easy-to-use interface: The simple, flexible web-based user interface
  - b. Granular control of resources: ability to configure servers, supporting the customization of CPU, memory and storage on servers
  - c. Granular Network Management: Provision, Addition and change of IP address, coupled with firewall management with global IP address translation, inbound/outbound policy creation and management, Load balancer management, etc.
  - d. Role-based Access Control (RBAC): Granular administrator permissions controlling the activities of each administrator like Network administrator, Server administrator etc.
  - e. Server Anti-affinity: May have the capability to allow users to define anti-affinity rules for their servers to ensure application availability even if more than 1 physical blade is down
  - f. Separate dedicated physical layer-2 VLAN provision with firewall ACLs at IP and port level between the VLANs and for every network segment created by client.
  - g. May provision for deploying Web/App/DB tiers in separate security zones with ACL control between them.
6. Cloud Servers will support popular operating systems including Linux, Microsoft Windows

The cloud environment may provide built-in security like IDS / IPS, DDoS mitigation, firewall and load-balancer should be provided by the cloud platform

Note: The development environment will not be provided by TBI. Only the staging environment will be provide by TBI from the cloud enabled DC.

## 3.2 Solution & Technology Architecture

### 3.2.1 Overview

- I. A centralized architecture (servers and processing at single and central location) has been proposed for the TBAS project. All requests from internal and external users will be sent to this system, located in a central place for processing. All users will access the application through local or remote terminals using a browser (through internet for external users and through internet or VPN for internal users).
- II. The overall technology solution shall be based upon the most relevant and suitable architecture standards including standards for Service Oriented Architecture (SOA), XML services & necessary protocols for internet applications, Cloud Data Centre standards etc.
- III. The design should include integration with existing IT infrastructure selected under cloud enabled SDC/NIC/Government Data Centre and any other Project for the implementation of TBAS Project. TBAS Application developed should be integrated with SMS Gateway, Payment Gateway etc. Requirement for these should be included in the FRS, SRS and Design.
- IV. A cloud enabled data centre of state/central government or PSU will be provided by Tea Board of India and the application will be hosted at the same.

#### 3.2.1.1 System Study and Design

- I. The FRS will be developed by the SI by referring to the Annexure FRS already prepared by TBI. The SI shall carry out a detailed systems study to refine the Functional Requirements Specifications and formulate the System and Software Requirements Specifications documents incorporating the functional specifications mentioned in the Annexure FRS.
- II. The SI should prepare a detailed document on the implementation of TBAS Application with respect to configuration, extension and integration as per the requirements of the Tea Board.
- III. As part of the System Study, the SI shall be responsible for Preparation of a comprehensive System Study document by studying the legislation, business processes and organization design of the Tea Board of India.
- IV. The selected Bidder shall perform the detailed assessment of the functional requirements (including localization framework) and MIS requirements and prepare a new FRS report, as part of the System Study document incorporating the list of additional features that shall result in further improvement in the overall application performance for consideration of the TBI.

**A. Project Documentation:** The SI shall create and maintain all project documents that shall be passed on to the Tea Board as deliverables as per the agreed project timelines. The documents created by the SI will be reviewed and approved by TBI.

Project documents include but are not limited to the following:

1. Detailed Project Plan
  - a. Detailed System Study Report
  - b. List of Services, Service Definitions, Service Levels,
  - c. Updated/vetted FRS
  - d. SRS document
  - e. HLD documents
2. TBAS Application architecture documents.
3. ER diagrams and other data modelling documents.
4. Logical and physical database design.

5. Data dictionary and data definitions.
6. Application component design including component deployment views, control flows, etc.
  - a. LLD documents
7. Application flows and logic.
8. GUI design (screen design, navigation, etc.).
  - a. All Test Plans
9. Requirements Traceability Matrix
10. SLA and Performance Monitoring Plan.
11. Design of real-time tools/dashboards for monitoring Transaction volumes and for generating real-time MIS
12. Training and Knowledge Transfer Plans.
13. Issue Logs.
14. Maintenance Plans - Software, Hardware & Firmware, Network equipment
15. SLA reports

The SI shall submit a list of deliverables that they shall submit based on the methodology they propose. The SI shall prepare the formats/templates for each of the deliverables upfront based upon industry standards and the same will be approved by the TBI prior to its use for deliverables.

All project documents are to be kept up-to-date during the course of the project. The SI shall maintain a log of the internal review of all the deliverables submitted. Soft copy and hardcopy of logs and deliverables shall be submitted to Nodal Officer on regular basis and when demanded by Tea Board.

#### **3.2.1.2 Preparation of Software Requirements Specifications (SRS)**

As part of the preparation of SRS the selected SI shall be responsible for preparing and submitting detailed requirement specification documents as per IEEE or equivalent standards which meets all the Business, Functional and Technical (including localization) requirements of TBI. The SI shall prepare the SRS documents and have it reviewed and approved by the TBI.

The SI is required to update the FRS / SRS as and when any enhancements / modifications are made to the TBAS application till the duration of the Contract.

#### **3.2.1.3 Preparation of TBAS Project Plan**

The SI shall prepare a comprehensive TBAS implementation and deployment plan in consultation with the TBI. This implementation document shall also comprise of

- I. Application Trainings to be provided to the departmental officials at different stages of the project
- II. Procurement, deployment and commissioning of required hardware and software
- III. Deployment of applications

Further, SI will also prepare detailed work plan and estimate the timelines and resources required for configuration, customization, extension, integration, and commissioning of the TBAS software as per the requirements of the Tea Board. All the plans and frameworks prepared by SI during the duration of the Contract shall require approval from TBI.

#### **3.2.1.4 Preparation of TBAS Application Design**

Detailed Design documents shall include:

- I. Technical Architecture Document (Application, Network, and Security)
- II. The IT infrastructure available at Tea Board shall be a part of the document.
- III. Gap infrastructure
- IV. High Level and Low Level Design.

Database architecture, including defining data structure, data dictionary, as per requirements of data storage in English, Hindi and the local language with compliance to meta data as per standards defined by DeitY, GoI.

### 3.2.1.5 Sign off Deliverable

Deliverables under the scope of this RFP will be reviewed and approved by TBI. The steering committee, Project Implementation Committee of TBI for this project will approve/sign off the deliverables submitted by the SI based on the requirement and acceptance criteria.

### 3.2.1.6 TBAS Functional Modules

TBAS Project aims at delivery of services and internal operation through the use of IT/ICT. The functional modules which are part of the scope of the SI to deliver under this project as described below and the detailed functional requirements are given in Annexure FRS which is part of this RFP.

| Department               | Sr. No. | Functions /Processes                                             |
|--------------------------|---------|------------------------------------------------------------------|
| <b>Central Licensing</b> | 1.      | Issuance of Exporter License                                     |
|                          | 2.      | Renewal of Exporter License                                      |
|                          | 3.      | Temporary to Permanent Exporter License                          |
|                          | 4.      | Issuance of Distributor License                                  |
|                          | 5.      | Issuance of Registration Cum Membership Certificate              |
|                          | 6.      | Renewal of Registration Cum Membership Certificate               |
|                          | 7.      | Issuance of Buyer Registration                                   |
|                          | 8.      | Issuance of Tea Waste License                                    |
|                          | 9.      | Renewal of Tea Waste License                                     |
|                          | 10.     | Issuance of Tea Warehouse License                                |
|                          | 11.     | Renewal of Tea Warehouse License                                 |
|                          | 12.     | Issuance of Broker License                                       |
|                          | 13.     | Renewal of Broker License                                        |
|                          | 14.     | Fresh Enlistment of Tea Testing laboratory                       |
|                          | 15.     | Renewal of Enlistment of Tea Testing laboratory                  |
|                          | 16.     | Issuance of Flavoured Tea Registration                           |
|                          | 17.     | Issuance of Certificate of Change of Ownership of Registered Tea |

| Department                 | Sr. No. | Functions /Processes                                                     |
|----------------------------|---------|--------------------------------------------------------------------------|
|                            |         | Garden                                                                   |
|                            | 18.     | Issuance of Certificate of Change of Ownership of Registered Tea Factory |
|                            | 19.     | Issuance & Renewal of Auction Organizer License                          |
|                            | 20.     | Recording Change of Office Address                                       |
|                            | 21.     | Allied Services                                                          |
| <b>Legal and Vigilance</b> | 1       | Tracking of Court Case filed against Tea Board                           |
|                            | 2       | Tracking of Court Case filed by Tea Board                                |
|                            | 3       | IPR related cases                                                        |
|                            | 4       | Monitoring of Grievances (External)                                      |
|                            | 5       | Handling Right to Information (RTI) cases                                |
|                            | 6       | Tracking Vigilance related issues                                        |
|                            | 7       | First appeal for RTI Cases                                               |
|                            | 8       | Appeal in front of CIC                                                   |
| <b>Research</b>            | 1       | Approval of Budget for TRI & UPASI                                       |
|                            | 2       | Release of Fund to Tea Research Institutes and Others                    |
|                            | 3       | Approval of Technical Proposal other than Research Project               |
|                            | 4       | Empanelment of Food Safety Management System Bodies                      |
|                            | 5       | Mechanism for the Assessment of R & D activities                         |
|                            | 6       | Enlistment of Soil Testing Labs                                          |
| <b>Promotion</b>           | 1       | General Proposal approval                                                |
|                            | 2       | General Claim/payment disbursement procedure                             |
|                            | 3       | Domestic Promotional activities                                          |
|                            | 4       | Overseas Promotional activities                                          |

| Department         | Sr. No. | Functions /Processes                                                                                                                                                                         |
|--------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | 5       | Project 5-5-5 related activities                                                                                                                                                             |
|                    | 6       | Trade related activities                                                                                                                                                                     |
|                    | 7       | Incentive to exporters                                                                                                                                                                       |
|                    | 8       | Management of Publicity Materials                                                                                                                                                            |
|                    | 9       | Fund management for MPS Cell                                                                                                                                                                 |
| <b>Development</b> | 1       | Fund management of Special Purpose Tea Fund (SPTF)                                                                                                                                           |
|                    | 2       | Quality Up gradation and Product Diversification Scheme (QUPDS)                                                                                                                              |
|                    | 3       | Management of Plantation Development Scheme (PDS)                                                                                                                                            |
|                    | 4       | Management of Orthodox Scheme                                                                                                                                                                |
|                    | 5       | SPTF Loan Recovery related activities                                                                                                                                                        |
| <b>Finance</b>     | 1       | Budget preparation                                                                                                                                                                           |
|                    | 2       | Management of GPF & PRAN                                                                                                                                                                     |
|                    | 3       | Processing of Bills                                                                                                                                                                          |
|                    | 4       | Processing of other Bills                                                                                                                                                                    |
|                    | 5       | Processing of TA/LTC and Over Time                                                                                                                                                           |
|                    | 6       | Processing of Employee Loans                                                                                                                                                                 |
|                    | 7       | Accounting and fund disbursement for various offices                                                                                                                                         |
|                    | 8       | Maintenance of Main Accounts                                                                                                                                                                 |
|                    | 9       | Processing of salary and pension by Pay section                                                                                                                                              |
|                    | 10      | Management of payments by Cash Section                                                                                                                                                       |
|                    | 11      | Processing of Pensions by Pension Section                                                                                                                                                    |
|                    | 12      | Audit of Finance processes                                                                                                                                                                   |
| <b>Statistics</b>  | 1       | <ul style="list-style-type: none"> <li>Statistical analysis and reporting (Export, Import, Production etc.)</li> <li>Return forms (Export, import, production, sell, Form E etc.)</li> </ul> |

| Department              | Sr. No. | Functions /Processes                                                                                                                        |
|-------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------|
|                         |         | <ul style="list-style-type: none"> <li>Analytics</li> </ul>                                                                                 |
| <b>Establishment</b>    | 1       | Recruitment and Confirmation                                                                                                                |
|                         | 2       | Resignation processing                                                                                                                      |
|                         | 3       | Increment processing                                                                                                                        |
|                         | 4       | Approval for House Building Advance                                                                                                         |
|                         | 5       | Approval for Motor Cycle /Computer Advance                                                                                                  |
|                         | 6       | Approval for LTC                                                                                                                            |
|                         | 7       | Approval for Transfer TA /TA and Daily Allowances                                                                                           |
|                         | 8       | Processing of medical Bills                                                                                                                 |
|                         | 9       | Processing of Medical Bills (In Patient – private Hospitals)                                                                                |
|                         | 10      | Processing of Medical Bills – Out Patient                                                                                                   |
|                         | 11      | Activities of Special Wing/Foreign Wing for DTPs posted in Dubai, London & Moscow                                                           |
|                         | 12      | Maintenance of Service Book                                                                                                                 |
|                         | 13      | Processing of ACR Forms                                                                                                                     |
|                         | 14      | Approval of Children Education Allowance                                                                                                    |
|                         | 15      | Retirement (Retirement List, Notice & Pension) related activities                                                                           |
| <b>Security Section</b> | 1       | Security related processes (Vehicle management, Visitor management, Unplanned equipment maintenance)                                        |
| <b>Library</b>          | 1       | Library related activities (Book requisition, order, issue, reminder for submission, safe storage and digitization of various publications) |
| <b>Hindi Cell</b>       | 1       | Training of Officials in Hindi                                                                                                              |
|                         | 2       | Performing Translation                                                                                                                      |
|                         | 3       | Process for providing training, incentive to officials performing tasks in Hindi and other process                                          |

| Department                  | Sr. No. | Functions /Processes                                                                                                                                                                             |
|-----------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stores</b>               | 1       | Stores related processes (e-Procurement, Inventory management, Maintenance)                                                                                                                      |
| <b>Labour &amp; Welfare</b> | 1       | Management of HRD scheme (Stipend disbursement, Disability assistance, Education Stipend, Scholarships etc.)                                                                                     |
| <b>Secretariat Branch</b>   | 1       | Secretariat affairs, dak services, board meeting agenda preparation, minutes preparation and circulation, tax payment, Parliamentary query and standing committee query response and arrangement |
| <b>Monitoring services</b>  | 1       | Application monitoring, dashboards for decision makers and head of departments etc.                                                                                                              |
| <b>Dashboard</b>            | 1       | Chairman's Dashboard                                                                                                                                                                             |

These modules are critical to the success of this project.

- I. **Application should have a generic workflow engine.** This generic workflow engine will allow easy creation of workflow for new services with minimum technical programming support and thus enable the TBI to create new services as and when required by the various Departments without creating a change request.
- II. The application should have a module for management of digital signature including issuance, renewal and suspension of digital signatures based on the administrative decisions taken by the Tea Board. In case of any change (transfer, promotion, leave, suspension, termination, superannuation etc.) of the officials under TBAS Project, a copy of order should be marked to the digital signature management team for assigning and revoking of the access rights. The following section details the requirement for Digital Signatures in the TBAS application:
  - **Using Digital signatures to authenticate existing databases:** The TBAS project, plans to use digitally signed databases and verification reports based upon field visits. It is also possible that the data in such digitally signed databases would undergo periodic revision and updation. Hence, the SI must provision for designing an appropriate set of tools for:
    - digitally signing different databases used in different applications by appropriate authorities,
    - effecting changes in digitally signed documents including cancellation
    - tracking of database records which are digitally signed and digitally not signed
    - posting of appropriate notifications to the users in case of demand for service in respect of which the relevant data record has not been digitally signed by the competent authority
    - verification of digital certificates (e.g. a website to authenticate a particular certificate on the basis of certificate details or barcode)
  - **Integration of Digital Signatures with TBAS Application:** The TBAS portal should be made accessible to government official users / registered users over internet through secure user id and password. The biometric/digital signatures need to be integrated for enabling authenticity of the approving authority.
  - **Capacity Building and Institutional strengthening to manage Digital Signature:** the System Integrator should plan the process for institutionalizing the

management (issuance/ renewal/ revocation) of digital certificates/sanction letter/licenses etc. for Tea Board.

- Identification of Officials authorized for delivering services/ authenticating the electronic records.
- Designing policies and procedures for management of digital signatures.
- **Procurement of Digital Certificates for the authorized officials from competent certifying authority**
- **Training on use of Digital Signatures:** As the TBAS project would entail significant amount of field verification and relevant updating of records, digital signatures have to be used by various levels of officials. These officials may also keep on changing due to transfers / superannuation, etc. Hence the SI should ensure the following:
  - A one-time training to all the concerned officials in the usage of digital signatures
  - As and when required, training / on-demand web based training for the new officials taking charge of TBAS service provisioning.
- TBAS application and its Digital Signature Certificate, PKI Infrastructure for TBAS application must be operational in all LINUX platform (REDHAT, SUSE, UBUNTU), MICROSOFT platform (XP, Windows 7, Windows 8 and higher versions) or any other proprietary or Open Standard platform.
- End-to-end processes for issuance of Digital signature right from application collection to issuance and delivery of signature to respective officials must be managed by the SI's resources and SI to ensure such delivery of DSCs within 48 hours of receipt of application. In such cases SI is required to use their crypto token from their existing stock, which can be subsequently adjusted through delivery of new DSC to officials and receipt of old crypto token.

With the supply of new digital signatures to new officials, the changes in databases of the officials in the TBAS application have to be updated by the SI through an automated process without any delay.

#### **3.2.1.7 Interoperability Standards**

Keeping in view the evolving needs of interoperability, especially the possibility that the solution shall become the focal point of delivery of services, and may also involve cross-functionality with the e-Government projects of other Government / businesses in future, **the solution should be built on Open Standards**. The SI shall ensure that the application developed is easily integrated with the already existing applications and hardware. **Every care shall be taken to ensure that the code does not build a dependency on any proprietary software, particularly, through the use of proprietary 'stored procedures' belonging to a specific database product.**

#### **3.2.1.8 Scalability**

One of the fundamental requirements of the proposed application is its scalability. The architecture should be proven to be scalable (cater to increasing load of internal and external users and their transactions) and capable of delivering high performance for at-least four years from the date of deployment. In this context, it is required that the application and deployment architecture should provide for Scale-Up and Scale out on the Application and Web Servers, Database Servers and all other solution components.

#### **3.2.1.9 Security**

The systems implemented for project should be highly secure, considering that it is intended to handle sensitive data relating to the stakeholders of Tea Board. The overarching security considerations are described below.

- I. The security services used to protect the solution shall include: Identification, Authentication, Access Control, Administration and Audit and support for industry standard protocols.
- II. The solution shall support advanced user authentication mechanisms including digital certificates.
- III. Security design should provide for a well-designed identity management system, security of physical and digital assets, data and network security, backup and recovery and disaster recovery system.
- IV. The solution should provide for maintaining an audit trail of all the transactions and should also ensure the non-repudiation of audit trail without impacting the overall performance of the system.
- V. The overarching requirement is the need to comply with ISO 27001 standards of security.
- VI. The application design and development should comply with OWASP top 10 principles.

#### **3.2.1.10 Application Architecture**

- I. It has been proposed that the applications proposed for design and develop for the TBI must follow some best practice and industry standards. In order to achieve the high level of stability and robustness of the application, the system development life cycle must be carried out using the industry standard best practices and adopting the security constraints for access and control rights. **The various modules / application should have a common Exception Manager to handle any kind of exception arising due to internal/ external factors.**
- II. Similarly the modules of the application are to be supported by the Session and Transaction Manager for the completeness of the request and response of the client request. The system should have a module exclusively to record the activities/ create the log of activities happening within the system / application to avoid any kind of irregularities within the system by any User / Application.

#### **3.2.1.11 Application Architecture**

Application Architecture to be proposed by the bidder should be of N-tier architecture.

#### **3.2.1.12 High Level Design (HLD)**

Once the SRS are approved, the SI shall complete the High Level Designing and all HLD documents of all the functionalities, integration with external /internal applications. The SI shall prepare the HLD and have it reviewed and approved by the TBI.

#### **3.2.1.13 Detailed (Low Level) Design (LLD)**

The LLD shall interpret the approved HLD to help application development and shall include detailed service descriptions and specifications, application logic (including “pseudo code”) and UI design (screen design and navigation). The preparation of test cases will also be completed during this stage. The SI shall have the design documents reviewed and approved by the TBI.

#### **3.2.1.14 Test Plan**

Once the SRS is approved and design is started, the SI shall prepare all necessary Test Plans (including test cases), i.e., plans for Acceptance Testing. Test cases for Initial and Final User Acceptance Testing shall be developed in collaboration with domain experts identified at the TBI. Initial and Final User Acceptance Testing shall involve Test Case development, Unit Testing, Integration and System Testing, Functional testing of Application, Performance testing of the Application including measurement of all Service Levels as mentioned in this RFP and finally SI shall also carryout Load/ Stress testing. The SI will submit the test plans and test result reports to the TBI for comprehensive verification and approval.

#### **3.2.1.15 Requirement on Adherence to Standards**

TBAS application must be designed following open standards, to the extent feasible and in line with overall system requirements set out in this RFP, in order to provide for good inter-operability with multiple platforms and avoid any technology or technology provider lock-in.

#### **3.2.1.16 Compliance with Industry Standards**

In addition to above, the proposed solution has to be based on and compliant with industry standards (their latest versions as on date) wherever applicable. This will apply to all the aspects of solution including but not limited to design, development, security, installation, and testing. There are many standards that are summarised below. However the list below is just indicative and is not to be treated as exhaustive.

- I. Portal development W3C specifications and GIGW guidelines
- II. Information access/transfer protocols SOAP, HTTP/HTTPS
- III. DeitY / GOI guidelines
- IV. Photograph JPEG (minimum resolution of 640 x 480 pixels)
- V. Scanned documents TIFF (Resolution of 600 X 600 dpi)
- VI. Biometric framework BioAPI 2.0 (ISO/IEC 19784-1:2005)
- VII. Latest HTML standards

#### **3.2.1.17 Specification**

- I. Digital signature RSA standards
- II. Document encryption PKCS specifications
- III. Information Security to be ISO 27001 compliant
- IV. Operational integrity & security management to be ISO 17799 compliant
- V. IT Infrastructure management ITIL / EITM specifications
- VI. Service Management ISO 20000 specifications
- VII. Project Documentation CMM Level 5/IEEE/ISO specifications for documentation
- VIII. The SI shall adhere to all the standards published by the Department of Electronics and Information Technology, Government of India.

#### **3.2.1.18 Specific Requirements**

It is to be noted that the SI shall be completely responsible for successful implementation of end to end TBAS project in TBI as per the requirement of the TBI and in line with GOI guidelines.

An indicative list of specific requirements of the Tea Board is detailed in the Scope of Work section of this RFP; however, final specific requirements shall emerge from the Detailed System Study to be conducted by Selected Bidder.

#### **3.2.1.19 Obtain Certification for TBAS Application**

TBI will engage the third party for audit of all applicable software, application, infrastructure etc. at its cost and SI shall cooperate with the audit agency and should act upon the finding of the audit report to be audit compliant. In case the SI is unable to act upon the recommendations given in the audit report as agreed with TBI then TBI may consider terminating the contract as per the MSA.

#### **3.2.1.20 Payment and SMS Gateway**

National Payment Gateway and SMS Gateway may also be used for this project and proposed solution should have the facility to integrate with these gateways.

#### **3.2.1.21 Application Support**

SI shall ensure the support of developed application during the implementation phase and O&M phase. SI shall be responsible for providing seamless support for Application support during the entire contract period.

#### **3.2.1.22 UAT and Go-Live Report**

SI will assist in successful completion of User Acceptance Testing (UAT) and audit of the system on the completion of the implementation of TBAS modules as when completed and rolled out in agreement with TBI.

#### **3.2.1.23 Sign-off Deliverables (Go-Live & UAT)**

- I. Go-Live report for the applicable modules
- II. UAT Report signed off from TBI

### **3.2.2 Data Digitisation**

The objective of data digitization is mainly to utilize the data for searches and modifications. As the data digitization estimates can be made post Database design only, this section captures the broad level concept of the data digitization for various modules. The SI should engage the digitization team to undertake the activities and TBI will provide the required data to be digitized. It will be the responsibility of the SI to return all the collected hardcopy in the original shape to TBI without any damage/lost. The transfer of hardcopy documents used for digitization between TBI & SI will be done in writing and should be accepted by transfer. Data digitization activities shall be done at the physical location of the records to be digitized or at a nearest office in a consolidated manner in agreement with TBI.

It is expected that the SI will design data entry forms and prepare software for data entry/digitization which will have all valid checks and balances. At any point of time the software should be able to intimate TBI the number of records entered into the system.

#### **3.2.2.1 Sign off Deliverables (Data Digitization)**

- I. Data Digitisation Strategy Document
- II. Data entry module for entry of Master Data and importing Historical Data
- III. Approval by TBI on successful digitisation of data, completeness of the activity and quality of the digitized data

### **3.2.3 Hardware Commissioning at TBI Offices**

#### **3.2.3.1 Design, Supply, Installation, Commissioning, Operations & Maintenance of IT Infrastructure**

This shall consist of

- I. Supply / Procurement of Hardware and IT Infrastructure at Tea Board Offices including the field offices as applicable
- II. Installation and Commissioning of IT Infrastructure

#### **3.2.4 Licenses**

- I. The system software licenses mentioned in the Bill of Materials shall be genuine, perpetual, full use and should provide upgrades, patches, fixes, security patches and updates directly from the OEM. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of the TBI.
- II. The SI shall provide with a full use database license. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of TBI. SI shall provide a comprehensive warranty that covers all components after the issuance of the final acceptance by TBI. The warranty should cover all materials, licenses, services, and support for both hardware and software. SI shall administer warranties with serial number and warranty period. SI shall

- transfer all the warranties to the TBI at no additional charge at the time of termination of the project. All warranty documentation will be delivered to TBI.
- III. SI shall review the licenses requirements with the TBI. The TBI shall clarify on the licenses requirements to be provided by the SI.
  - IV. All licenses should be enterprise grade and perpetual and should be supported by OEMs/subscription providers for entire contract period.
  - V. All the aforesaid products should have a roadmap for upgrade and patch management either from OEM or Subscription provider and providing the same would be the responsibility of the SI for the contract period.
  - VI. IPR for the bespoke developed source code would lie with TBI. The same applies for Customization source code on COTS/package product, if proposed.

### 3.2.5 Capacity Building / Training

Capacity building will include the following:

- I. Imparting training in Information Technology (IT), Business Process Reengineering (BPR) and Change Management.
  - A. Such trainings and skills will be imparted to all levels of employees involved in the processes pertaining to the services.
  - B. These would range from senior officers up to the officials working in the field offices
- II. Prepare and organize training programs to facilitate the user departments in the efficient usage of the new system training will be provided to department's employees whose Information & services will be provided through TBAS Application.
- III. Training shall encompass the knowledge of basic functionalities of TBAS Application, Guidelines and other backend processes required during the maintenance phase.
- IV. Training shall also be provided for teaching the basic trouble shooting activities in case of problems.
- V. Trainings shall be provided to all the new employees as and when joining the TBI and for this the SI should have adequate crypto token installed with demo Digital Signature Certificate for the purpose of providing training using the development/training server to be installed at DC and equipped with demo PKI server component. The following table captures officers to be trained in processing the selected services:

**Indicative list of staffs at various offices of Tea Board (The indicative staff list may also be referred from <http://teaboard.gov.in/pdf/rtiact> )**

**Note: This list may be referred by the bidders while proposing the training plan, handholding and support etc.**

| #   | LIST OF OFFICES                              | NO OF STAFF |
|-----|----------------------------------------------|-------------|
| 39. | AGARTALA                                     | 5           |
| 40. | TEA BOARD TEA CENTRE, KOYEMBEDU, CHENNAI     | 4           |
| 41. | THE SECRETARIAT, TEA BOARD TEA ROOM, CHENNAI | 3           |
| 42. | COIMBATORE                                   | 6           |
| 43. | COONOOR                                      | 31          |
| 44. | DIBRUGARH                                    | 8           |
| 45. | STGDD, DIBRUGARH                             | 9           |
| 46. | GUDALUR                                      | 5           |
| 47. | GUWAHATI                                     | 10          |
| 48. | ITANAGAR-ARUNACHAL PRADESH                   | 1           |
| 49. | JALPAIGURI                                   | 5           |
| 50. | JORHAT                                       | 20          |
| 51. | KOCHI                                        | 15          |
| 52. | KOLKATA                                      | 269         |
| 53. | KOTAGIRI, TAMIL NADU                         | 7           |
| 54. | KUMILY                                       | 7           |
| 55. | KUNDAH                                       | 5           |

| #            | LIST OF OFFICES                                                   | NO OF STAFF |
|--------------|-------------------------------------------------------------------|-------------|
| 56.          | KURSEONG                                                          | 16          |
| 57.          | MUMBAI                                                            | 6           |
| 58.          | NEW DELHI                                                         | 62          |
| 59.          | PALAMPUR                                                          | 6           |
| 60.          | SILCHAR                                                           | 4           |
| 61.          | SILIGURI                                                          | 14          |
| 62.          | TEZPUR                                                            | 4           |
| 63.          | SINGLE MAN OFFICES (List of offices given in Vol. – I of the RFP) | 74          |
| <b>TOTAL</b> |                                                                   | <b>596</b>  |

#### 3.2.5.1 Sign off Deliverables (Capacity Building)

- I. Capacity Building Plan
- II. Change Management Plan
- III. Training Plan
- IV. Completion of training and change management activities and signoff

#### 3.2.6 Manpower requirements for Application Handholding support

The project would require provisioning of dedicated manpower at below locations for handholding and support.

The below manpower requirement is minimum and indicative in nature.

| Location    | Department                       | Month 1 | Month 2 | Month 3 | Total Man Month |
|-------------|----------------------------------|---------|---------|---------|-----------------|
| HO          | Licensing                        | 2       | 1       | 1       | 4               |
|             | Development & Welfare            | 2       | 1       | 1       | 4               |
|             | Establishment & Finance          | 2       | 2       | 1       | 5               |
|             | Promotion                        | 1       | 1       | 0.5     | 2.5             |
|             | Research                         | 1       | 0.5     | 0.5     | 2               |
|             | Legal, Stores, Library, Security | 1       | 1       | 0.5     | 2.5             |
|             | Statistics                       | 1       | 0.5     | 0.5     | 2               |
| 21 RO       | for all departmental activities  | 21      | 10      | 5       | 36              |
| ZO Guwahati | Licensing                        | 1       | 1       | 0.5     | 2.5             |
|             | Development & Welfare            | 1       | 1       | 0.5     | 2.5             |
|             | Establishment & Finance          | 1       | 1       | 0.5     | 2.5             |
|             | Promotion                        | 0.5     | 0.5     | 0.5     | 1.5             |
|             | Research                         | 0.5     | 0.5     | 0.5     | 1.5             |
|             | Legal, Stores, Library, Security | 0.5     | 0.5     | 0.5     | 1.5             |
| ZO Coonoor  | Licensing                        | 1       | 1       | 0.5     | 2.5             |
|             | Development & Welfare            | 1       | 1       | 0.5     | 2.5             |
|             | Establishment & Finance          | 1       | 1       | 0.5     | 2.5             |
|             | Promotion                        | 0.5     | 0.5     | 0.5     | 1.5             |
|             | Research                         | 0.5     | 0.5     | 0.5     | 1.5             |
|             | Legal, Stores, Library, Security | 0.5     | 0.5     | 0.5     | 1.5             |

The following needs to be considered when identifying manpower for roll implementation support at TBI offices:

- I. The SI would be required to position resources to provide technical support at TBI offices during the implementation period. This would be essential to ensure sufficient handholding is provided to department personnel in the head office and field level offices to manage the system after the end of SI's Contract Period.
- II. The SI should ensure that the roster schedule of all deployed manpower for each day at the required locations has been communicated in advance to TBI. No change to the deployed staff shall be done by the SI without written approval from the TBI.
- III. Adherence to all laws pertaining to personnel, labour laws, etc. for any manpower deployed by the SI on this Project shall be the responsibility of the SI
- IV. The SI would issue Identity cards to each of the staff members deployed at the TBI offices.
- V. The SI will maintain adequate leave reserve for the staff, so that the work in the respective offices remains unaffected in all cases.

### **3.2.7 Business Continuity Planning**

The selected Bidder is expected to develop a Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP) with dependency for the operations carried out by the selected Bidder.

### **3.3 Scope of Services - Operation and Maintenance Phase**

The selected Bidder is responsible for the day to day maintenance of the system for the entire period of Contract. For the IT Infrastructure procured as part of this RFP, the selected Bidder will be responsible for Operations and Maintenance Services for the period of 3 years of onsite warranty/AMC support from the date of Go-Live date of the project covering the following:

- I. Onsite Warranty support for complete system
- II. Onsite Periodic and AMC support including repair and replacement
- III. Annual Technical Support (ATS) for all the licensed software
- IV. Providing Help desk support with Escalation matrix for registration of complaints related to the IT Infrastructure, software and application procured/developed through this RFP at the TBI designated premises.

#### **3.3.1 Overview of Post Implementation Services**

An indicative list of activities and nature of support to be provided is mentioned below:

- I. System Administration and Trouble Shooting**
  - A. Overall monitoring and management of all IT and Non-IT infrastructure deployed by the selected Bidder for the Project including field office locations, networking equipment, system software, application, database, and all other services associated with these facilities to ensure service levels, performance and availability requirements as prescribed in the RFP are met.
  - B. Repair or replace infrastructure deployed for this Project, either directly or through a third party warranty provider depending on the case
  - C. Replace component due to technical, functional, manufacturing or any other problem with a component of the same make and configuration. In case the component of same make and configuration is not available, the replacement shall conform to open standards and shall be of a higher configuration and shall be approved by the TBI
  - D. Perform system administration tasks such as managing the user access, creating and managing users, taking backups etc.
  - E. Performance tuning of the system to ensure adherence to SLAs and performance requirements as indicated in the RFP.
  - F. Maintenance of TBAS application developed by the SI
  - G. Management of TBAS application and up-gradation as when required along with troubleshooting

**II. Database Administration and Trouble Shooting**

Undertake end-to-end management of database on an on-going basis to facilitate smooth functioning and optimum utilization including regular database backup and periodical testing of backup data, conducting configuration review to tune database, maintaining the necessary documentation and managing schemes to database schema, disk space, user roles, and storage.

**III. Overall**

- A. Undertake preventive maintenance (any maintenance activity that is required before the occurrence of an incident with an attempt to prevent any incidents) and carry out the necessary repairs and replacement of parts wherever needed to keep the performance levels of the hardware and equipment in tune with the requirements of the SLA. Such preventive maintenance shall not be attended during working hours of the TBI, unless inevitable and approved by the TBI.
- B. Undertake reactive maintenance (any corrective action, maintenance activity that is required post the occurrence of an incident) that is intended to troubleshoot the system with sufficient teams.
- C. Escalate and co-ordinate with its OEMs for problem resolution wherever required

**3.3.2 Warranty Support**

As part of the warranty services SI shall provide:

- I. SI and the respective OEM shall provide a comprehensive warranty and on-site free service warranty for 3 years from the date of Go Live for all equipment. SI shall obtain the four year product warranty and five year onsite free service warranty from OEM on all licensed software, computer hardware and peripherals, networking equipment and other equipment for providing warranty support to TBI.
- II. SI and the respective OEM shall provide the comprehensive manufacturer's warranty and support in respect of proper design, quality and workmanship of all hardware, equipment, accessories etc. covered by the RFP.
- III. SI and the respective OEM must warrant all hardware, equipment, accessories, spare parts, software etc. procured and implemented as per this RFP against any manufacturing defects during the warranty period.
- IV. SI and the respective OEM shall provide the performance warranty in respect of performance of the installed hardware and software to meet the performance requirements and service levels in the RFP.
- V. SI is responsible for sizing and procuring the necessary hardware and software licenses as per the performance requirements provided in the RFP. During the warranty period SI shall replace or augment or procure higher-level new equipment or additional licenses at no additional cost to the TBI in case the procured hardware or software is not adequate to meet the service levels.
- VI. **Mean Time Between Failures (MTBF):** If during contract period, any equipment has a hardware failure on four or more occasions in a period of less than three months, it shall be replaced by equivalent or higher-level new equipment by the SI at no cost to TBI.
- VII. However, if the new equipment supplied is priced lower than the price at which the original support services for all system software, RDBMS (Relational Database Management System) other products deployed as part of this project will require proper arrangements of SI with OEM.
- VIII. During the warranty period SI and the respective OEM shall maintain the systems and repair / replace at the installed site, at no charge to TBI, all defective components that are brought to the SI's notice.

- IX. Warranty should not become void, if TBI buys, any other supplemental hardware from a third party and installs it within these machines under intimation to the SI. However, the warranty will not apply to such supplemental hardware items installed.
- X. The SI shall carry out Preventive Maintenance (PM), including cleaning of interior and exterior, of all hardware and testing for virus, if any, and should maintain proper records at each site for such PM. Failure to carry out such PM will be a breach of warranty and the warranty period will be extended by the period of delay in PM.
- XI. SI shall monitor warranties to check adherence to preventive and repair maintenance terms and conditions.
- XII. The SI shall ensure that the warranty complies with the agreed Technical Standards, Security Requirements, Operating Procedures, and Recovery Procedures.
- XIII. Any component that is reported to be down on a given date should be either fully repaired or replaced by temporary substitute (of equivalent configuration) within the time frame indicated in the Service Level Agreement (SLA).
- XIV. The SI shall develop and maintain an inventory database to include the registered hardware warranties.

### **3.3.3 Help Desk and Troubleshooting**

The selected Bidder as part of provisioning support for TBI users at each location and shall support and resolve the issue as per MSA – SLA (RFP Vol. – III). SI shall arrange a 5 member helpdesk team (2 persons for helpdesk support and 3 persons for Application, System & Database respectively) at TBI premises ( in Kokata) for coordinating and resolving the user issues/queries.

## **3.4 General Requirements**

- I. Licensing Requirements
  - A. All system software, licenses, etc. have to be procured in the name of the TBI
  - B. The licenses should be perpetual and enterprise wide for the core application and other software unless otherwise stated. The software licenses shall not be restricted based on location and the TBI should have the flexibility to use the software licenses for other requirements, if required
  - C. All licenses should be enterprise grade and perpetual and should be either support by OEMs/subscription providers for entire contract period.
  - D. All the aforesaid products should have a roadmap for upgrade and patch management either from OEM or Subscription provider and providing the same would be the responsibility of the SI for the contract period.
  - 3) IPR for the bespoke developed source code would lie with TBI. The same applies for Customization source code on COTS/package product, if proposed.
- II. Asset Management

The selected Bidder will perform the following asset management functions with respect to the infrastructure deployed at various locations:

  - A. Take periodic stock of, review physical inventory and maintain stock registers of hardware at all locations covered under this Project. The selected Bidder would maintain stock registers as per format agreed with the TBI.
  - B. Maintain documentation of the hardware assets, maintain asset Information for all Project locations, on parameters to be mutually agreed between the TBI and the selected Bidder, which shall include details like -
    - 1. Product type, model number, version number, Unique serial no.
    - 2. Manufacturer
    - 3. Office location
    - 4. Maintenance status, etc.
  - C. Update or correct the asset information following any new installations, movement, addition, or change performed by the selected Bidder.

- D. Produce periodic reports and machine readable files in agreed upon format pertaining to some or all of the asset information.
- III. Warranty and Support
  - A. The selected Bidder shall warrant that the IT Infrastructure supplied to the TBI for this Project shall have no defects arising from design or workmanship or any act or omission of the selected Bidder. The warranty shall remain valid for the Contract period on all the items supplied as per the Contract.
  - B. The selected Bidder shall replace any parts/components of the IT infrastructure supplied for the Project if the components are defective and during the entire warranty period the selected Bidder shall apply latest upgrades for all the hardware components after appropriate testing. The TBI will not pay any additional costs separately for warranty and the overall IT infrastructure cost quoted by the selected Bidder shall include the same.
- IV. Knowledge Transfer
  - A. At the end of the Contract period, the selected Bidder will be required to provide necessary handholding and transition support to designated staff or any other agency that is selected for maintaining the system post the Contract with the selected Bidder. The handholding support will include but not be limited to, conducting detailed walkthrough and demonstrations for the IT Infrastructure, handing over all relevant documentation, addressing the queries/clarifications of the new agency with respect to the working / performance levels of the infrastructure, conducting training sessions etc.
  - B. Knowledge Transfer is an integral part of the scope of work of the selected Bidder. This will have to be done even in case the Contract with the Bidder ends or is terminated before the planned timelines.
  - C. SI shall ensure smooth knowledge transfer in case of change in core team for the entire project. For any replacement of resource the SI shall give a notice to TBI with 30 days in advance of the replacement date. SI shall ensure smooth transfer of knowledge and project assets like documents, work in progress reports etc. (if any). All such replacements should be approved by TBI in advance. All these activities should be carried by the SI and there will not be any cost implication to TBI

Please note that this is only an indicative list. Any other activity, over and above these, as may be deemed necessary by the selected Bidder to meet the service levels and requirements specified in this Contract are also required to be performed by the selected Bidder at no additional cost.

### **3.5 Exit Management**

#### **3.5.1 Purpose**

- I. This sets out the provisions, which will apply on expiry or termination of the MSA, the Project Implementation, Operation and Management SLA.
- II. In the case of termination of the Project Implementation and/or Operation and Management, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply.
- III. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

#### **3.5.2 Transfer of Assets**

- I. Transfer of assets would be done at any time during the time of exit management. TBI shall be entitled to serve notice in writing on the SI at any time during the exit management period as detailed herein above requiring the SI to provide the TBI with a complete and up to date list of the Assets within 30 days of such notice. TBI shall then be entitled to serve notice in writing on the SI at any time prior to the date that is 30 days prior to the end of the exit management period requiring the SI to sell the Assets, if any, to be transferred to TBI or

its nominated agencies at book value as determined as of the date of such notice in accordance with the provisions of relevant laws.

- II. Upon service of a notice under this Article the following provisions shall apply:
- A. in the event, if the Assets to be transferred are mortgaged to any financial institutions by the SI, the SI shall ensure that all such liens and liabilities have been cleared beyond doubt, prior to such transfer. All documents regarding the discharge of such lien and liabilities shall be furnished to the TBI.
  - B. All risk in and title to the Assets to be transferred / to be purchased by the TBI pursuant to this Article shall be transferred to TBI, on the last day of the exit management period.
  - C. The outgoing SI will pass on to TBI and/or to the Replacement SI, the subsisting rights in any leased properties/ licensed products on terms not less favourable to TBI / Replacement SI, than that enjoyed by the outgoing SI.

### **3.5.3 Cooperation and Provision of Information**

#### **During the exit management period:**

- I. The System integrator will allow the TBI or its nominated agency access to information reasonably required to define the then current mode of operation associated with the provision of the services to enable the TBI to assess the existing services being delivered;
- II. Promptly on reasonable request by the TBI the SI shall provide access to and copies of all information held or controlled by them which they have prepared or maintained in accordance with this agreement relating to any material aspect of the services (whether provided by the System integrator or sub-contractors appointed by the System integrator). The TBI shall be entitled to copy of all such information. Such information shall include details pertaining to the services rendered and other performance data. The System integrator shall permit the TBI or its nominated agencies to have reasonable access to its employees and facilities as reasonably required by the PIC to understand the methods of delivery of the services employed by the System integrator and to assist appropriate knowledge transfer.

### **3.5.4 Confidential Information, Security and Data**

- I. The System integrator will promptly on the commencement of the exit management period supply to the TBI or its nominated agency the following:
  - A. information relating to the current services rendered and customer and performance data relating to the performance of sub-contractors in relation to the services;
  - B. documentation relating to complete TBAS Project's Intellectual Property Rights including the complete source code
  - C. documentation related to sub-contractors
  - D. all current and updated data as is reasonably required for purposes of TBI or its nominated agencies transitioning the services to its Replacement System integrator in a readily available, nominated by the TBI or its nominated agency;
  - E. all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable TBI or its nominated agencies, or its Replacement System integrator to carry out due diligence in order to transition the provision of the Services to TBI or its nominated agencies, or its Replacement System integrator (as the case may be).
- II. Before the expiry of the exit management period, the System integrator shall deliver to the TBI or its nominated agency all new or up-dated materials related to this

project and shall not retain any copies thereof, except that the System integrator shall be permitted to retain one copy of such materials for archival purposes only.

- III. Before the expiry of the exit management period, unless otherwise provided under the MSA, the TBI or its nominated agency shall deliver to the System integrator all forms of System integrator confidential information, which is in the possession or control of Chairman, TBI or its users.

#### **3.5.5 Employees**

- I. Promptly on reasonable request by TBI at any time during the exit management period, the System integrator shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to the TBI or its nominated agency a list of all employees (with job titles and Fulltime or Part time engagement details) of the System integrator dedicated to providing the services at the commencement of the exit management period.
- II. Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the System integrator to the TBI or its nominated agency, or a Replacement System integrator ("Transfer Regulation") applies to any or all of the employees of the System integrator, then the Parties shall comply with their respective obligations under such Transfer Regulations.
- III. To the extent that any Transfer Regulation does not apply to any employee of the System integrator or its Replacement System integrator may make an offer of employment or contract for services to such employee of the System integrator and the System integrator shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the Chairman, TBI or any Replacement System integrator.

#### **3.5.6 Transfer of Certain Agreements**

On request by the TBI or its nominated agency the System integrator shall effect such assignments, transfers, licences and sub-licences as the Chairman, TBI may require in favour of the Chairman, TBI, or its Replacement System integrator in relation to any equipment lease, maintenance or service provision agreement between System integrator and third party lessors, vendors, and which are related to the services and reasonably necessary for the carrying out of replacement services by the TBI or its nominated agency or its Replacement System integrator.

#### **3.5.7 Rights of Access to Premises**

- I. At any time during the exit management period, where Assets are located at the System integrator's premises, the System integrator will be obliged to give reasonable rights of access to (or, in the case of Assets located on a third party's premises, procure reasonable rights of access to) the TBI or its nominated agency and/or any Replacement System integrator in order to make an inventory of the Assets.
- II. The System integrator shall also give the TBI or its nominated agency or any Replacement System integrator right of reasonable access to the SI's premises and shall provide the TBI or its nominated agency or its nominated agencies and any Replacement System integrator rights of access to relevant third party premises during the exit management period and for such period of time following termination or expiry of the MSA as is reasonably necessary to migrate the services to the TBI or its nominated agency, or a Replacement System integrator.

#### **3.5.8 General Obligations of the System integrator**

- I. The System integrator shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to the TBI or its nominated agency or its Replacement System integrator and which the System integrator has in its possession or control at any time during the exit management period.

- II. For the purposes of this Schedule, anything in the possession or control of any System integrator, associated entity, or sub-contractor is deemed to be in the possession or control of the System integrator.
- III. The System integrator shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

#### **3.5.9 Exit Management Plan**

- I. The System integrator shall provide the TBI or its nominated agency with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the MSA as a whole and in relation to the Project Implementation, and the Operation and Management SLA.
  - A. A detailed program of the transfer process that could be used in conjunction with a Replacement System integrator including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
  - B. plans for the communication with such of the System integrator's sub contractors, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on the TBI's operations as a result of undertaking the transfer;
  - C. Proposed arrangements for the segregation of the *SI*'s networks from the networks employed by *TBI* and identification of specific security tasks necessary at termination;
  - D. Plans for provision of contingent support to TBI, and Replacement System integrator for a reasonable period after transfer.
- II. The System integrator shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.
- III. Each Exit Management Plan shall be presented by the System integrator to and approved by the TBI or its nominated agencies.
- IV. The terms of payment as stated in the Terms of Payment Schedule include the costs of the System integrator complying with its obligations under this Schedule.
- V. In the event of termination or expiry of MSA, and Project Implementation, each Party shall comply with the Exit Management Plan.
- VI. During the exit management period, the System integrator shall use its best efforts to deliver the services.
- VII. Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.
- VIII. This Exit Management plan shall be furnished in writing to the TBI or its nominated agencies within 90 days from the Effective Date of this Agreement.

#### **4 Detailed Implementation and Roll-out Plan**

- I. SI shall prepare a detailed implementation plan for each phase and get the same approved by the TBI. SI is also responsible for conducting workshops for the key officers/committees/etc. (Steering Committee, PIC, PMU, any committee or person nominated by Tea Board or its Chairman) and gets the approval of the same.
- II. Before getting the final approval of the Tea Board of India, the SI shall update the key stakeholder of TBI during the design and implementation of TBAS project. A detailed implementation checklist should be maintained for migrating application to production as well as for location readiness.

## 5 Annexures

Note: The specifications given under each BOM components in this RFP are Minimum. Any specification higher than the same will be accepted.

### 5.1 Template for Bill of Material

#### Form A: Bill of Material (Indicative)

| S.No.    | Item                                                                              | Minimum Indicative Qty. | Proposed Qty. by Bidder | Compliance (Yes/No) |
|----------|-----------------------------------------------------------------------------------|-------------------------|-------------------------|---------------------|
| <b>A</b> | <b>Network Equipment and Hardware</b>                                             |                         |                         |                     |
| 1.       | Firewall with IPS                                                                 | 2                       |                         |                     |
| 2.       | Internet Router                                                                   | 2                       |                         |                     |
| 3.       | Desktops with MS Office & Windows OS                                              | 150                     |                         |                     |
| 4.       | Laptop with MS Office & Windows OS                                                | 50                      |                         |                     |
| 5.       | UPS for Desktops                                                                  | 100                     |                         |                     |
| 6.       | Printer with Scanners for regional offices                                        | 200                     |                         |                     |
| 7.       | Network printers                                                                  | 21                      |                         |                     |
| 8.       | Heavy Duty Scanner (ADF flatbed)                                                  | 17                      |                         |                     |
| 9.       | Any other Item to complete the work (Add one line for each time category)         |                         |                         |                     |
| <b>B</b> | <b>System Software</b>                                                            |                         |                         |                     |
| 1.       | Web / http server software                                                        | Lump Sum                |                         |                     |
| 2.       | BPM                                                                               | 1                       |                         |                     |
| 3.       | ESB                                                                               | 1                       |                         |                     |
| 4.       | Web 2.0 Portal                                                                    | Lump Sum                |                         |                     |
| 5.       | Application Server Software                                                       | Lump Sum                |                         |                     |
| 6.       | Database (with high availability cluster)                                         | Lump Sum                |                         |                     |
| 7.       | Enterprise Management System (Application monitoring, Helpdesk, Patch management) | Lump Sum                |                         |                     |
| 8.       | Server OS Software (For VMs and Backup Server)                                    | Lump Sum                |                         |                     |
| 9.       | DR management and synchronization tool                                            | 1                       |                         |                     |
| 10.      | Digital Signature                                                                 | 100                     |                         |                     |

| <b>S.No.</b> | <b>Item</b>                                                           | <b>Minimum Indicative Qty.</b> | <b>Proposed Qty. by Bidder</b> | <b>Compliance (Yes/No)</b> |
|--------------|-----------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------|
| 11.          | SMS Gateway Integration                                               | Lump Sum                       |                                |                            |
| 12.          | Payment Gateway                                                       | Lump Sum                       |                                |                            |
| 13.          | Antivirus for Desktops/Laptops                                        | 200                            |                                |                            |
| 14.          | Antivirus for proposed servers/VMs                                    | Lump Sum                       |                                |                            |
| 15.          | DMS                                                                   | Lump Sum                       |                                |                            |
| 16.          | Statistical Software/Tool (Minimum 5 user license)                    | 1                              |                                |                            |
| 17.          | Helpdesk toll free number                                             | 1                              |                                |                            |
| 18.          | Any other item for helpdesk                                           |                                |                                |                            |
| 19.          | Any other Item to complete the work (Add line for each item category) |                                |                                |                            |

## 5.2 Indicative Minimum Specification for Bill of Material

| S.No. | Item                           | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
| A     | Network Equipment and Hardware |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |                                |
| 1.    | Firewall with IPS              | <p><b>Hardware Architecture</b><br/>Proposed Firewall should not be proprietary ASIC based in nature &amp; should be open architecture based on multi-core CPU's to protect &amp; scale against dynamic latest security threats.</p> <p>The appliance hardware should be a multi-core CPU architecture with a hardened 64 bit operating system to support higher memory</p> <p>Should be rack mountable modular Chassis with internal redundant power supply</p> <p><b>Interface</b><br/>8 x GE, upgradable to 16 GE with 1 console Port</p> <p><b>Performance</b><br/>Layer 7 Throughput of minimum 4 Gigabit scalable to 8 Gigabit , 800000 concurrent connections, and 48000 connections per second with minimum encrypted throughput of 700 Mbps<br/>Concurrent connections: up to 1,000,000, Simultaneous VPN tunnels: 2000, SSL VPN peer support</p> <p><b>Protocols</b><br/>TCP/IP, PPTP or IPSec, GRE<br/>RTP, L2TP/L2TPOverIPSec<br/>IPSec / GRE, DES, 3DES, AES<br/>PPPoE, EAP-TLS, RTP<br/>FTP, HTTP, HTTPS<br/>SNMP, SMTP<br/>DHCP, DNS</p> |                                  |                                |

| S.No. | Item | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |      | <p>IPv6 enabled</p> <p>IPv6-enabled inspection services for applications based on HTTP, FTP, SMTP, ICMP, TCP, and UDP</p> <p><b>Features</b></p> <p>Should protect against DoS/ DDoS / SYN-flood/ TCP-flood /UDP-flood</p> <p>Must have “Zero-day” protection against DoS/DDoS and worm attacks based on traffic behavior. Also it should mitigate Zero day http floods and brute force attack &amp; vulnerability scanning attempts based on traffic behavior analysis</p> <p>Capable of applying the security policies based on VLAN ID, Source/Destination subnets</p> <p>Should protect against SSL based attacks by integrating with external or inbuilt high capacity SSL accelerators with guaranteed throughput. The IPS Solution should not introduce Latency into the Network, Latency should be less than the prescribed industry standards</p> <p>Should support peer to peer traffic detection.</p> <p>Flexibility to create new policies or modify existing policies in real time</p> <p>Should be able to limit certain types of traffic by preventing them from utilizing an excessive amount of bandwidth.</p> <p><b>Action on Detection</b></p> <p>Block attacks in real time, Drop Attack Packets, Packet Logging. Block malicious network activity and Prevent stealthy attacks.</p> <p>Reset Connections, Action per Attack</p> <p>Support for detailed intrusion alarms</p> <p><b>Stateful Operation</b></p> <p>TCP Reassembly</p> <p>IP Defragment</p> <p>Bi-directional Inspection. The IPS Solution should support Active/Passive and Active/Active with Stateful Packet Inspection, the HA should be out of the box solution and should not require any third party or additional software for the same.</p> <p>Forensic Data Collection</p> <p>Access Lists</p> |                                  |                                |

| S.No. | Item            | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |                 | <b>Signature Detection</b><br>Vendors Signature Database – minimum 2000<br>Should support Automatic signature synchronization from OEM database server on web<br>Extensive protocol monitoring: should support monitoring of protocols such as TCP/IP, ICMP, FTP, UDP, SMTP, HTTP, SNMP, DNS, RPC, NetBIOS, Telnet etc<br>Should also have the ability to monitor MPLS and 802.1Q (trunked) traffic<br>Alerting SNMP, SMTP support<br>Log File, Syslog support<br><b>Reporting &amp; Management</b><br>System should provide centralized reporting and management.<br>System should provide comprehensive security event reporting<br>Console, SSH, Telnet, HTTPS, HTTP, SNMP v1, v2, v3<br>Warranty: One Year                                  |                                  |                                |
| 2.    | Internet Router | 2 RU and 1 RU units<br><b>Hardware Architecture</b> <ul style="list-style-type: none"> <li>Router should be either 2 RU and 1 RU unit</li> <li>Should be based on modular architecture for scalability and should be a single box</li> </ul> configuration for ease of management with the flexibility to use the appropriate choice of interfaces as and when required. <ul style="list-style-type: none"> <li>The router shall provide built-in monitoring and diagnostics to detect failure of hardware</li> <li>The router offered should have high MTBF &amp; low MTTR</li> </ul> <b>Performance</b> <ul style="list-style-type: none"> <li>Should provide performance at least 900 Kpps</li> <li>Support minimum 1500 sessions</li> </ul> |                                  |                                |

| S.No.            | Item                                                                                          | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
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|                  |                                                                                               | <ul style="list-style-type: none"><li>• Should provide at least 3 x 10/100/1000 interfaces</li><li>• Router should have 4 Service module slots and should have 4 Interface slots</li><li>• Should have 1 SM (Services Module) slot for integrate intelligent services</li><li>• Router should support Voice Processing Module</li><li>• Shall support variety of interfaces like</li><li>• V.35 Sync Serial (2 Mbps), Async Serial, E1 G.703.</li><li>• FE as per IEEE 802.3u, GE</li><li>• ISDN BRI, PRI, Ch-E1</li><li>• 4 port / 9 port switch module support</li></ul> <b>Security</b> <ul style="list-style-type: none"><li>• Shall support performance enhancement through hardware based encryption.</li><li>• Should support remote SSL VPN.</li></ul> Support minimum 2000 sessions |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| 3.               | Desktops with MS Office & Windows OS                                                          | <table><tr><th colspan="2">Description</th></tr><tr><td>Processor</td><td>CPU - Intel Core i5-650, 2.93 GHz, 4 MB L3 Cache and 1066 MHz FSB / equivalent or higher</td></tr><tr><td>Bus Architecture</td><td>Two PCI, One PCI Express x1 and One PCI Express x16</td></tr><tr><td>Memory</td><td>4 GB 1066 MHz or higher DDR3 RAM</td></tr><tr><td>Hard Disk Drive</td><td>500 GB 7200 rpm Serial ATA HDD.</td></tr><tr><td>Monitor</td><td>47 cm (18.5 inch) TFT Digital Color Monitor TCO-05 certified</td></tr><tr><td>Keyboard</td><td>Multi- lingual Keyboard with English &amp; Hindi Depictions- USB Keyboard with 104 or higher keys</td></tr><tr><td>Mouse</td><td>USB Optical Mouse, Two button Scroll</td></tr></table>                                                           | Description                      |                                | Processor | CPU - Intel Core i5-650, 2.93 GHz, 4 MB L3 Cache and 1066 MHz FSB / equivalent or higher | Bus Architecture | Two PCI, One PCI Express x1 and One PCI Express x16 | Memory | 4 GB 1066 MHz or higher DDR3 RAM | Hard Disk Drive | 500 GB 7200 rpm Serial ATA HDD. | Monitor | 47 cm (18.5 inch) TFT Digital Color Monitor TCO-05 certified | Keyboard | Multi- lingual Keyboard with English & Hindi Depictions- USB Keyboard with 104 or higher keys | Mouse | USB Optical Mouse, Two button Scroll |  |  |
| Description      |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| Processor        | CPU - Intel Core i5-650, 2.93 GHz, 4 MB L3 Cache and 1066 MHz FSB / equivalent or higher      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| Bus Architecture | Two PCI, One PCI Express x1 and One PCI Express x16                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| Memory           | 4 GB 1066 MHz or higher DDR3 RAM                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| Hard Disk Drive  | 500 GB 7200 rpm Serial ATA HDD.                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| Monitor          | 47 cm (18.5 inch) TFT Digital Color Monitor TCO-05 certified                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| Keyboard         | Multi- lingual Keyboard with English & Hindi Depictions- USB Keyboard with 104 or higher keys |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |
| Mouse            | USB Optical Mouse, Two button Scroll                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                |           |                                                                                          |                  |                                                     |        |                                  |                 |                                 |         |                                                              |          |                                                                                               |       |                                      |  |  |

| S.No. | Item                               | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                  | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
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|       |                                    | Bays                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4 Nos. (2 Nos. 5.25 inches for Optical Media Drives and 2 Nos. 3.5 inches for Hard Disk Drives).                 |                                  |                                |
|       |                                    | Ports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6 USB Ports (with at least 2 in front), 1 Serial, Audio ports for microphone and headphone in front.             |                                  |                                |
|       |                                    | Cabinet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mini Tower                                                                                                       |                                  |                                |
|       |                                    | Optical Drive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DVD Writer                                                                                                       |                                  |                                |
|       |                                    | Networking facility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 GBPS on board integrated Network Port with remote booting facility remote system installation, remote wake up. |                                  |                                |
|       |                                    | IPV 6 Compatible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                  |                                  |                                |
|       |                                    | Product Certifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Windows 7 and Linux Certification, UL, FCC                                                                       |                                  |                                |
|       |                                    | Power Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Screen Blanking, Hard Disk and System Idle Mode in Power On, Set up Password, Power supply SMPS Surge protected. |                                  |                                |
|       |                                    | Speaker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Inbuilt speaker                                                                                                  |                                  |                                |
| 4.    | Laptop with MS Office & Windows OS | CPU: x86 Multicore Processor with min 1.8 Ghz with 4MB cache with turboboost up to 2.7 Ghz or higher<br>CPU supportive chipset<br>4 GB DDR3 PC3-10600 SDRAM (1600MHz), Two SODIMM slots. Upgradable to 16 GB with 4 GB SODIMMs.<br>Integrated HD graphics<br>300 GB 7200 RPM SMART SATA II with 3 Axis hard disk protection system<br>Multi DL drive<br>14.0 inch diagonal LED backlit HD antiglare (1366 x 768 resolution)<br>Stereo sound, integrated double speaker, integrated microphone (dual microphone array)<br>720p HD webcam<br>Integrated Gigabit Ethernet (10/100/1000 NIC)<br>Integrated wireless and Bluetooth v4.0<br>Keyboard: Spill resistant, 101 Keys Keyboard |                                                                                                                  |                                  |                                |

| S.No.            | Item                 | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
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|                  |                      | Lithium Ion battery approx. 4 hours or more<br>External 65-watt AC adapter<br>Minimum 1 each (Media card reader, VGA, HDMI, Power connector, stereo headphone line out, stereo microphone power in, RJ-45/Ethernet)<br>2 USB 3.0<br>2 USB 2.0<br>Not more than 2.1 kg<br>Metal alloy hinges<br>Certification: UL, CSA, FCC Compliance, EPEAT Gold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 5.               | UPS for Desktops     | <table border="1"> <thead> <tr> <th colspan="2">Features</th> <th>Specifications</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Capacity</td> <td>625 VA line interactive</td> </tr> <tr> <td>2.</td> <td>Technology</td> <td>DSP based PWE using Mosfet / IGBT</td> </tr> <tr> <td>3.</td> <td>Certifications</td> <td>CE or Equivalent Certificate. Quality standards ISO 9001;2000;2008/IO 14001</td> </tr> <tr> <td colspan="3"><b>AC Input</b></td> </tr> <tr> <td>4.</td> <td>Voltage</td> <td>160 VAC – 300 VAC @ 100% Load, 110 VAC – 300 VAC @ 50% Load</td> </tr> <tr> <td>5.</td> <td>Frequency</td> <td>50 Hz</td> </tr> <tr> <td colspan="3"><b>AC Output</b></td> </tr> <tr> <td>6.</td> <td>Voltage Window</td> <td>220/230/240 VAC +/- 3%</td> </tr> <tr> <td>7.</td> <td>Frequency</td> <td>47.5 ~ 52.5 Hz</td> </tr> <tr> <td>8.</td> <td>Voltage regulation</td> <td>230+/- 3 % ( on Battery )</td> </tr> <tr> <td>9.</td> <td>Frequency</td> <td>50 hz</td> </tr> <tr> <td>10.</td> <td>Load Power Factor</td> <td>0.8 (lag ) or better</td> </tr> <tr> <td>11.</td> <td>Output Load capacity</td> <td>625 VA</td> </tr> <tr> <td>12.</td> <td>Overload capacity</td> <td>At 120% load minimum 1 Min</td> </tr> <tr> <td>13.</td> <td>Waveform</td> <td>Sinewave/ Modified</td> </tr> </tbody> </table> | Features                         |                                | Specifications | 1. | Capacity | 625 VA line interactive | 2. | Technology | DSP based PWE using Mosfet / IGBT | 3. | Certifications | CE or Equivalent Certificate. Quality standards ISO 9001;2000;2008/IO 14001 | <b>AC Input</b> |  |  | 4. | Voltage | 160 VAC – 300 VAC @ 100% Load, 110 VAC – 300 VAC @ 50% Load | 5. | Frequency | 50 Hz | <b>AC Output</b> |  |  | 6. | Voltage Window | 220/230/240 VAC +/- 3% | 7. | Frequency | 47.5 ~ 52.5 Hz | 8. | Voltage regulation | 230+/- 3 % ( on Battery ) | 9. | Frequency | 50 hz | 10. | Load Power Factor | 0.8 (lag ) or better | 11. | Output Load capacity | 625 VA | 12. | Overload capacity | At 120% load minimum 1 Min | 13. | Waveform | Sinewave/ Modified |  |  |
| Features         |                      | Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 1.               | Capacity             | 625 VA line interactive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 2.               | Technology           | DSP based PWE using Mosfet / IGBT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 3.               | Certifications       | CE or Equivalent Certificate. Quality standards ISO 9001;2000;2008/IO 14001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| <b>AC Input</b>  |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 4.               | Voltage              | 160 VAC – 300 VAC @ 100% Load, 110 VAC – 300 VAC @ 50% Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 5.               | Frequency            | 50 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| <b>AC Output</b> |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 6.               | Voltage Window       | 220/230/240 VAC +/- 3%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 7.               | Frequency            | 47.5 ~ 52.5 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 8.               | Voltage regulation   | 230+/- 3 % ( on Battery )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 9.               | Frequency            | 50 hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 10.              | Load Power Factor    | 0.8 (lag ) or better                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 11.              | Output Load capacity | 625 VA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 12.              | Overload capacity    | At 120% load minimum 1 Min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |
| 13.              | Waveform             | Sinewave/ Modified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                  |                                |                |    |          |                         |    |            |                                   |    |                |                                                                             |                 |  |  |    |         |                                                             |    |           |       |                  |  |  |    |                |                        |    |           |                |    |                    |                           |    |           |       |     |                   |                      |     |                      |        |     |                   |                            |     |          |                    |  |  |

| S.No. | Item                                       | Recommended Specification           |                                                                                  |          | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
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|       |                                            |                                     |                                                                                  | sinewave |                                  |                                |
|       |                                            | 14.                                 | Total Harmonic Distortion                                                        | < 8 %    |                                  |                                |
| 6.    | Printer with Scanners for regional offices | Functions                           | Print, copy, scan                                                                |          |                                  |                                |
|       |                                            | Print /Copy speed black             | Normal: Up to 20 ppm or higher                                                   |          |                                  |                                |
|       |                                            | Scan Speed B/W                      | 7 page per minute                                                                |          |                                  |                                |
|       |                                            | Print Paper Size                    | A4/Legal                                                                         |          |                                  |                                |
|       |                                            | <b>Minimum</b> Duty Cycle Per Month | 8000 Pages(A4 Size) or higher                                                    |          |                                  |                                |
|       |                                            | Supported Media Types               | Labels, Cards, Transparencies, Envelopes, Plain paper                            |          |                                  |                                |
|       |                                            | Print Languages                     | Host Based                                                                       |          |                                  |                                |
|       |                                            | <b>Minimum</b> Processor speed      | 200 MHZ or Higher                                                                |          |                                  |                                |
|       |                                            | Compatible Operating Systems        | Microsoft® Windows® 8, Windows® 7, Windows® XP                                   |          |                                  |                                |
|       |                                            | <b>Minimum</b> Memory               | 128 MB or higher                                                                 |          |                                  |                                |
|       |                                            | Input Tray Capacity                 | 150 Pages or higher                                                              |          |                                  |                                |
|       |                                            | Scanner Type                        | Flat Bed                                                                         |          |                                  |                                |
|       |                                            | Scan Resolution (optical)           | Up to 600 x 600 dpi Resolution (Normal resolution to scale upto 1200 x 1200 dpi) |          |                                  |                                |
|       |                                            | Maximum Document Enlargement        | 400%                                                                             |          |                                  |                                |
|       |                                            | Minimum Document Reduction          | 25%                                                                              |          |                                  |                                |
|       |                                            | Scan File Formats                   | PDF, TIF, BMP, GIF, JPG                                                          |          |                                  |                                |
|       |                                            | Power                               | Input Voltage : 100 to 240 VAC(+/- 10%), 50/60                                   |          |                                  |                                |

| S.No. | Item                                          | Recommended Specification    |                                                                                    | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|-----------------------------------------------|------------------------------|------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |                                               |                              | HZ(+/- 3HZ)                                                                        |                                  |                                |
|       |                                               | Power Consumption( Maximum)  | 550 Watts (Printing)or Lower                                                       |                                  |                                |
|       |                                               | Energy Efficiency            | Energy® Star qualified                                                             |                                  |                                |
|       |                                               | Warranty                     | Three Year OnSite Comprehensive Warranty                                           |                                  |                                |
| 7.    | Network printers (Regional and Zonal Offices) | Functions                    | Print                                                                              |                                  |                                |
|       |                                               | Pint Quality                 | 1200x 1200 dpi                                                                     |                                  |                                |
|       |                                               | Minimum Print Speed [ppm] A4 | 20 ppm or higher                                                                   |                                  |                                |
|       |                                               | Minimum Duty Cycle           | upto 15000 pages / month                                                           |                                  |                                |
|       |                                               | First page out               | minimum 7 sec                                                                      |                                  |                                |
|       |                                               | Minimum Processor speed      | 400 MHz                                                                            |                                  |                                |
|       |                                               | Minimum Memory               | 64 MB                                                                              |                                  |                                |
|       |                                               | Paper Handling               | 200-sheet input tray<br>output - up to 100, priority feed slot should be available |                                  |                                |
|       |                                               | Interface                    | Hi-Speed USB 2.0 port<br>Ethernet Port                                             |                                  |                                |
|       |                                               | Media Size,Std               | A4, A5, A6, B5, Legal, postcards, envelopes (C5, DL, B5)                           |                                  |                                |
|       |                                               | Operating systems            | Microsoft® Windows® 7 (32-bit/64-bit), Windows 8                                   |                                  |                                |
|       |                                               | Auto Duplexor                | Automatic (standard)                                                               |                                  |                                |
|       |                                               | Network Capability           | Yes, 10/100 fast Ethernet                                                          |                                  |                                |
|       |                                               | Printing Power Consumption   | 420 watts                                                                          |                                  |                                |
|       |                                               |                              | Three years onsite support                                                         |                                  |                                |

| S.No.    | Item                                   | Recommended Specification                                                                                                                                                                                                                     |                                                                               | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|----------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------|--------------------------------|
| 8.       | High Duty Scanner (ADF flatbed)        | Scanner type                                                                                                                                                                                                                                  | Legal through ADF                                                             |                                  |                                |
|          |                                        | Scan technology                                                                                                                                                                                                                               | Charge Coupled Device (CCD) / CIS (Contact Image Sensor)                      |                                  |                                |
|          |                                        | scan speed                                                                                                                                                                                                                                    | 7 ppm or higher                                                               |                                  |                                |
|          |                                        | ADF capacity                                                                                                                                                                                                                                  | 30 Sheets                                                                     |                                  |                                |
|          |                                        | Minimum Duty cycle                                                                                                                                                                                                                            | Min 500 pages per day                                                         |                                  |                                |
|          |                                        | Scan resolution:                                                                                                                                                                                                                              | 2400*1200 dpi                                                                 |                                  |                                |
|          |                                        | Output resolution dpi settings                                                                                                                                                                                                                | 300, 600                                                                      |                                  |                                |
|          |                                        | Color bit depth                                                                                                                                                                                                                               | 24 bit or higher                                                              |                                  |                                |
|          |                                        | Grayscale levels                                                                                                                                                                                                                              | 256                                                                           |                                  |                                |
|          |                                        | File formats                                                                                                                                                                                                                                  | TIFF, TIFF compressed, Bitmap, JPEG, GIF, Plain Text, PDF.                    |                                  |                                |
|          |                                        | Connectivity                                                                                                                                                                                                                                  | Hi-Speed USB 2.0                                                              |                                  |                                |
|          |                                        | Software                                                                                                                                                                                                                                      | Twain drivers                                                                 |                                  |                                |
|          |                                        | Compatible operating systems                                                                                                                                                                                                                  | Windows Vista, Windows 7, Window 8                                            |                                  |                                |
| 9.       | DR management and synchronization tool | Recommended Specification: DR management and synchronization tool should be proposed accordingly. The solution must have the capability of automatic and manual (complete or partial) failover and / or fallback from and to TBI's main site. |                                                                               |                                  |                                |
| 10.      | Any other Item to complete the work    |                                                                                                                                                                                                                                               |                                                                               |                                  |                                |
| <b>B</b> | <b>System Software</b>                 |                                                                                                                                                                                                                                               |                                                                               |                                  |                                |
| 1.       | Web / http server software             | Sl. No.                                                                                                                                                                                                                                       | Description of requirement                                                    |                                  |                                |
|          |                                        | 1.                                                                                                                                                                                                                                            | The web server should be capable of supporting clustering and load balancing. |                                  |                                |

| S.No. | Item | Recommended Specification |                                                                                                                                                                                            | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |      |                           |                                                                                                                                                                                            |                                  |                                |
|       |      | 2.                        | All components of the web server should be based on standards and selected such as to provide ease of management and to avoid compatibility issues.                                        |                                  |                                |
|       |      | 3.                        | All web server components must be maintainable with an ease such that corrective and preventive maintenance can be performed on the system without affecting the entire working of system. |                                  |                                |
|       |      | 4.                        | All the web server components must be capable of being managed from a remote management station and provide information on performance parameters                                          |                                  |                                |
|       |      | 5.                        | Web server software should support and provide access to all internal users, independent of the platform, operating system and underlying architecture of the application                  |                                  |                                |
|       |      | 6.                        | The software should be capable to pass the presentation server connection through SSL (Secure Socket Layer).                                                                               |                                  |                                |
|       |      | 7.                        | The software should be capable of supporting the proposed authentication solution                                                                                                          |                                  |                                |
| 2.    | BPM  | 1)                        | Should be BPMN 2.0 Compliant                                                                                                                                                               |                                  |                                |
|       |      | 2)                        | Should support both Human task and Integration tasks                                                                                                                                       |                                  |                                |
|       |      | 3)                        | Should have a visual Modeller                                                                                                                                                              |                                  |                                |
|       |      | 4)                        | Should be able to assign task to individuals and groups                                                                                                                                    |                                  |                                |
|       |      | 5)                        | Should have standard well documented API for consumption                                                                                                                                   |                                  |                                |
|       |      | 6)                        | Should support version of processes                                                                                                                                                        |                                  |                                |
|       |      | 7)                        | Should support Escalation and Notification                                                                                                                                                 |                                  |                                |
|       |      | 8)                        | Should have audit trails for processes                                                                                                                                                     |                                  |                                |
|       |      | 9)                        | The BPM tool should be lightweight without restriction on a specific runtime environment and RDBMS.                                                                                        |                                  |                                |

| S.No. | Item           | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                       | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
| 3.    | ESB            | 1) Should have a Graphical IDE for integration developers<br>2) Should support zero message loss reliability<br>3) Should be Compliant with All leading Operating systems like Windows, Linux, Unix<br>4) Should support Data mapping and transformation between standard formats<br>5) Should support standard Transports like TCP, SFTP, SOAP, MQ, WSDL, LDAP, SMTP, HTTP/S etc.<br>6) Should support various Web service security policies like WS-Security, WSAddressing, WS-Policy, WS-I SecurityProfile<br>7) Should support the follows securities, SSL, SAML, OAuth<br>8) Should support Caching, High Availability and Clustering<br>9) Should support data formats like CSV, XML, JSON. |                                                                                                       |                                  |                                |
| 4.    | Web 2.0 Portal | General Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Should have the ability to have multilingual portal with regional & localization and Unicode support. |                                  |                                |
|       |                | General Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Should support multiple browsers like IE, Mozilla, Google Chrome, etc                                 |                                  |                                |
|       |                | General Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Should authenticate users from Active Directory, LDAP, claim based authentication                     |                                  |                                |
|       |                | General Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Should support web services APIs, BLOB Storage, custom code solutions, REST, WSRP                     |                                  |                                |
|       |                | General Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Should support Virtualization                                                                         |                                  |                                |

| S.No. | Item | Recommended Specification |                                                                                                                                                                                                                                                                                                                                                     | Specification<br>Provided<br>By<br>Bidder | Compliance<br>(Yes/No) & Page<br>No. |
|-------|------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------|
|       |      | General Requirement       | Should support customization of (Theme) Look and feel of the portal.                                                                                                                                                                                                                                                                                |                                           |                                      |
|       |      | General Requirement       | Should support a broad range of standards, for example: DOM 1.0, HTML 5, HTTP, HTTPS, MathML, ODBC , ODF (IS26300) , Open XML (IS29500), OpenSearch, OpenType, PDF 1.7, PDF/A, RTF, RSS, ATOM, SOAP, SVG, REST, UDDI, Unicode, URI/URN, W3C XML Schema, WCAG 2.0, WebDAV, WSDL, WSRP, XHTML, XML, XML Web Services, XMLDsig, XPATH, XPS, XSLT, AJAX |                                           |                                      |
|       |      | General Requirement       | Should support responsive web design and multi-channel rendering of applications and content on smart phones, tablets, desktops/ laptops without duplicating the application code or logic. i.e. should provide outof-the box responsive design support.                                                                                            |                                           |                                      |
|       |      | General Requirement       | Should integrate with instant messaging services, and support products and protocols like SIP/XMPP                                                                                                                                                                                                                                                  |                                           |                                      |
|       |      | General Requirement       | Should have ability to persist user's session, including current location in portal, across browser sessions                                                                                                                                                                                                                                        |                                           |                                      |
|       |      | General Requirement       | Should integrate with any other portal products through open standards such as HTML, XML, RSS, web services, and WSRP etc.                                                                                                                                                                                                                          |                                           |                                      |
|       |      | General Requirement       | Should provide Cross Platform, Zero Footprint Client Access                                                                                                                                                                                                                                                                                         |                                           |                                      |

| S.No. | Item | Recommended Specification |                                                                                                                                                                                                 | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |      | General Requirement       | Should support Personal area / home page for each user and A personalized view for each user.                                                                                                   |                                  |                                |
|       |      | General Requirement       | Should support Role Based Access (Admin, General User, Power User, Backup User etc.) to portal resources.                                                                                       |                                  |                                |
|       |      | General Requirement       | Should support encryption and compression features                                                                                                                                              |                                  |                                |
|       |      | General Requirement       | Should support multiple roles (e.g. editor, facilitator, community                                                                                                                              |                                  |                                |
|       |      |                           | manager, moderator) with associated access controls.                                                                                                                                            |                                  |                                |
|       |      | General Requirement       | Should be able to create team site to be configured with message boards, discussions, event calendar, blog, wiki, etc.                                                                          |                                  |                                |
|       |      | General Requirement       | Should support Podcast Publishing, Rich media streaming and transcoding, Rich media search and organization                                                                                     |                                  |                                |
|       |      | General Requirement       | Should support RSS/ATOM export/import                                                                                                                                                           |                                  |                                |
|       |      | General Requirement       | Should support Template builder for create reusable templates or reusing successful activity/project/team/community spaces for building new ones by using Web UI- for developers/administrators |                                  |                                |

| S.No. | Item | Recommended Specification     |                                                                                                                                                                                | Specification<br>Provided<br>By<br>Bidder | Compliance<br>(Yes/No) & Page<br>No. |
|-------|------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------|
|       |      | General Requirement           | Should support web traffic reports for administrators and community managers                                                                                                   |                                           |                                      |
|       |      | General Requirement           | Should be XHTML 1.0/WCAG 2.0 AA compliant                                                                                                                                      |                                           |                                      |
|       |      | General Requirement           | Should be authoring capabilities.                                                                                                                                              |                                           |                                      |
|       |      | General Requirement           | Should have workflow capabilities with regard to the content approval/publishing process                                                                                       |                                           |                                      |
|       |      | General Requirement           | Should support Publishing content in web viewable formats                                                                                                                      |                                           |                                      |
|       |      | General Requirement           | Should provide multi-channel output capabilities                                                                                                                               |                                           |                                      |
|       |      | General Requirement           | Should support editions (versions/rollback) of the web site managed                                                                                                            |                                           |                                      |
|       |      | Web Content Management System | Support the management of content from multiple repositories. The system shall allow different groups to have their own content libraries, workflow, templates and taxonomies. |                                           |                                      |

| S.No. | Item | Recommended Specification     |                                                                                                                                                                                                                                                                                       | Specification<br>Provided By<br>Bidder | Compliance<br>(Yes/No) & Page<br>No. |
|-------|------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|
|       |      | Web Content Management System | The portal system must have separate de-centralized web content authoring system for TBI users for creating, approving and publishing the web contents (including the rich media). The finally published contents must then be pushed/synchronized to delivery system on demand basis |                                        |                                      |
|       |      | Web Content Management System | Should have Content creation tools, which TBI users can use.                                                                                                                                                                                                                          |                                        |                                      |
|       |      | Web Content Management System | Should have Content Workflow management tool creation and publishing process with:<br>* Publishing stages<br>* Complex business rule support<br>* Balancing of tasks across a group of users                                                                                          |                                        |                                      |
|       |      | Web Content Management System | The system should support:<br>* Ability to manage content metadata via portal. *<br>Mass import/export tools.<br>* Content Conversion (e.g. Word to HTML)                                                                                                                             |                                        |                                      |

| S.No. | Item | Recommended Specification     |                                                                                                                                                                          | Specification<br>Provided<br>By Bidder | Compliance<br>(Yes/No) & Page<br>No. |
|-------|------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|
|       |      | Web Content Management System | Access control tied to portal access Control based on roles and responsibilities                                                                                         |                                        |                                      |
|       |      | Web Content Management System | Web Content Management should come with popular templates for jump starting product/services microsites/portals with pre populated contents and applications.            |                                        |                                      |
|       |      | Web Content Management System | Should have out-of-box capability to publish content to social channels like facebook, twitter etc.                                                                      |                                        |                                      |
|       |      | Web Content Management System | Should provide usage analytics of content published to social channels like facebook, twitter etc.                                                                       |                                        |                                      |
|       |      | Web Content Management System | Should support automatic publishing, expiration of content from web portal and provide extensive reporting on the contents being managed in CMS to support the lifecycle |                                        |                                      |
|       |      | Web Content Management System | Should support integration with Enterprise systems using Content Management Interoperability Services (CMIS) standard.                                                   |                                        |                                      |

| S.No. | Item                                                                                                                                                                                                              | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                           | Specification<br>Provided<br>By Bidder | Compliance<br>(Yes/No) & Page<br>No.                                                                                                                         |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
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|       |                                                                                                                                                                                                                   | Web Content Management System                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | The CMS must provide the capability for content creators to edit the images, use dictionary, thesarus, spell check, identify broken links, see track changes for the edited contents etc. |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
|       |                                                                                                                                                                                                                   | Web Content Management System                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Solution should provide framework which enables site developers to leverage external data and use CMS to quickly develop a data driven portal                                             |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
|       |                                                                                                                                                                                                                   | Web Content Management System                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Should provide search facilities to find data within the portal, makes new pages (on public website) instantaneously searchable by external search engines.                               |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
| 5.    | Application server software                                                                                                                                                                                       | <table><tr><td>1.</td><td>Application Server should be fully standards compliant providing support for Web Services, SOAP, WSDL, UDDI, LDAP v3, SSL v3, Java 1.3 and XML 1.0 standards</td></tr><tr><td>2.</td><td>Provide comprehensive XML support compliant with the W3C XML standards and contain the basic building blocks to XML-enable applications - including reading, manipulating, transforming and viewing XML documents</td></tr><tr><td>3.</td><td>Support developing, publishing and consuming web services and should allow integration (push and pull data) from other systems via web services</td></tr><tr><td>4.</td><td>The application server should be capable of supporting clustering and load balancing.</td></tr><tr><td></td><td>All components of the application server should be based on</td></tr></table> |                                                                                                                                                                                           | 1.                                     | Application Server should be fully standards compliant providing support for Web Services, SOAP, WSDL, UDDI, LDAP v3, SSL v3, Java 1.3 and XML 1.0 standards | 2. | Provide comprehensive XML support compliant with the W3C XML standards and contain the basic building blocks to XML-enable applications - including reading, manipulating, transforming and viewing XML documents | 3. | Support developing, publishing and consuming web services and should allow integration (push and pull data) from other systems via web services | 4. | The application server should be capable of supporting clustering and load balancing. |  | All components of the application server should be based on |  |  |
| 1.    | Application Server should be fully standards compliant providing support for Web Services, SOAP, WSDL, UDDI, LDAP v3, SSL v3, Java 1.3 and XML 1.0 standards                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                           |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
| 2.    | Provide comprehensive XML support compliant with the W3C XML standards and contain the basic building blocks to XML-enable applications - including reading, manipulating, transforming and viewing XML documents |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                           |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
| 3.    | Support developing, publishing and consuming web services and should allow integration (push and pull data) from other systems via web services                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                           |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
| 4.    | The application server should be capable of supporting clustering and load balancing.                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                           |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |
|       | All components of the application server should be based on                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                           |                                        |                                                                                                                                                              |    |                                                                                                                                                                                                                   |    |                                                                                                                                                 |    |                                                                                       |  |                                                             |  |  |

| S.No. | Item                                      | Recommended Specification |                                                                                                                                                                                                                                                                                    | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|-------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |                                           | 5.                        | standards and selected such as to provide ease of management and to avoid compatibility issues.                                                                                                                                                                                    |                                  |                                |
|       |                                           | 6.                        | All application server components must be maintainable with an ease such that corrective and preventive maintenance can be performed on the system without affecting the entire working of system.                                                                                 |                                  |                                |
|       |                                           | 7.                        | All the application server components must be capable of being managed from a remote management station and provide information on performance parameters                                                                                                                          |                                  |                                |
| 6.    | Database (with high availability cluster) |                           | RDBMS licenses should be unrestricted and full use licenses (read, write and modify) in name of TBI                                                                                                                                                                                |                                  |                                |
|       |                                           | 2.                        | RDBMS should be available on standard operating systems like Windows, Linux and Unix.                                                                                                                                                                                              |                                  |                                |
|       |                                           | 3.                        | RDBMS should provide continuous availability features to address hardware failures, instance failures, human errors like accidental deletion of data, tables, able to repair at block level. These features should be available on all the platforms as mentioned in point no. (2) |                                  |                                |
|       |                                           | 4.                        | RDBMS should have clustering with scalability, high availability and load balancing.                                                                                                                                                                                               |                                  |                                |
|       |                                           | 5.                        | RDBMS should have a Disaster- Recovery (DR) solution to replicate the changes happening in the database to the DR site.                                                                                                                                                            |                                  |                                |
|       |                                           | 6.                        | RDBMS should allow storing scanned images, text documents, xml, multi-media inside the tables. It should be                                                                                                                                                                        |                                  |                                |

| S.No. | Item                                                                              | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                               | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | part of the basic database distribution without any additional cost to the organization.                                                                      |                                  |                                |
|       |                                                                                   | 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | RDBMS should provide strong encryption capabilities within database for stored information in the tables as well as the information transmitted over network. |                                  |                                |
| 7.    | Enterprise Management System (Application monitoring, Helpdesk, Patch management) | <u>Generic Requirements:</u> <ol style="list-style-type: none"> <li>1. All the components of the proposed EMS solution should be seamlessly integrated with each other.</li> <li>2. Solution shall be open, distributed, scalable, and multi-platform and open to third party integration.</li> <li>3. Solution shall support Web Interface.</li> <li>4. The Solution shall provide future scalability of the whole system without major architectural changes.</li> <li>5. The EMS solution should be supported through OEM, either by license or subscription</li> </ol> <u>Service Desk Management:</u> <ol style="list-style-type: none"> <li>1. Should be (Axelos (OGC) Gold level endorsed for ITILv3)/(PINK Verify certification for ITIL toolset 2011) in at least 6 of the following processes: Incident management, Problem Management, Change Management, Knowledge Management, Service Level Management, Service Asset and Configuration management, Service Catalog and Request Fulfilment.</li> <li>2. The Change Management module should provide a rule-based workflow system for controlling changes throughout their lifecycle: from initial request to approval, to planning and implementation, and to monitoring and evaluation.</li> <li>3. Should provide out-of-the-box categorization, as well as routing and escalation workflows that can be triggered based on criteria such as</li> </ol> |                                                                                                                                                               |                                  |                                |

| S.No. | Item | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Specification<br>Provided By Bidder | Compliance<br>(Yes/No) & Page<br>No. |
|-------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------|
|       |      | <p>SLA, impact, urgency, CI, location or customer.</p> <ol style="list-style-type: none"> <li>4. Should support knowledge management best practices and provide change category to manage Knowledge management workflow.</li> <li>5. The Change Management module should provide the capability for Release Control Analysis inbuilt providing the stakeholders with automated decision-support to help make more informed assessment and approval decisions during the review process. It should also be able to provide the implementation team with real-time visibility into all in-flight change activity to reduce downtime risks and increase communication between different teams during execution.</li> <li>6. The product must monitor SLAs against Service, Problem, and Change Management.</li> <li>7. Should provide out of box and customizable reporting and personalized dashboard.</li> </ol> <p><u>Application Performance Management:</u></p> <ol style="list-style-type: none"> <li>1. Web infrastructure Management - The proposed solution should have the capability to monitor both user and system initiated network traffic between client machines and servers and between servers, collecting network and server performance and availability data in real time, thus enabling administrators to pinpoint the cause of delays and quantify the business impact of detected performance issues related to end users.</li> <li>2. Data, reports and views from the synthetic monitoring solution should be able to be incorporated into common dashboard views along with real user monitoring and infrastructure monitoring.</li> <li>3. Should provide ability for Diagnostics Monitors as complementing extension for load test solution – Able to breakdown the time spent on each component across presentation, business and database layers.</li> <li>4. Should drill down from slow, end-user transactions to the bottlenecked component, method or SQL statement, helping to solve memory, exception and other common problems.</li> </ol> |                                     |                                      |

| <b>S.No.</b> | <b>Item</b>        | <b>Recommended Specification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Specification Provided By Bidder</b> | <b>Compliance (Yes/No) &amp; Page No.</b> |
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|              |                    | 5. Should automatically detect all components touched by a business process across layers and traces them with no user intervention.<br>6. End to end Management of applications (J2EE/.NET based) with deep-dive diagnostics.<br>7. Determination of the root cause of performance issues whether inside the Java / .Net application in connected back-end systems or at the network layer.<br>8. Automatic discovery and monitoring of the web application environment and ability to monitor applications with a dashboard.<br>9. Monitoring of all real end user transactions; detecting failed transactions; gathering evidence necessary for problem diagnose.<br>10. Dashboards should be easily customizable using visual editing capabilities and no coding they should be role-based so that business and IT stakeholders get the necessary visibility into the health of business and provide out-of-box KPIs that can be used to Present different aspects of business service health. |                                         |                                           |
| <b>8.</b>    | Server OS Software | Latest Linux/Windows                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                           |
| <b>9.</b>    | Digital Signature  | Digital signature with RSA standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |                                           |
| <b>10.</b>   | SMS gateway        | The SMS gateway must support Reliability and timeliness , Secured & trusted environment, single entry point and uniform application access<br><br>The SMS gateway must be able to send, receive and process various categories of SMS services like bulk and transactional SMS.<br><br>The SMS gateway must support the transmission and receipt of SMS messages incorporating any required data encoding, splitting and concatenation. For e.g.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |                                           |

| S.No. | Item                               | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |                                    | <p>verification of new users by sending passwords as SMS to users mobile numbers</p> <p>The SMS gateway must support integration with the applications developed.</p> <p>Bulk SMS Gateway must support comprehensive range of application interfaces like SMPP Interface, SFTP interface, Web/Simple Interface, Upload interface, Group Message Interface, http Interface</p> <p>Bulk SMS must support both instant mode and scheduled mode</p> <p>The SMS gateway must support defining multiple SMS to be pushed for categories of users</p> <p>The SMS gateway must support interactive workflow so that the customer should be able to send the response back to the system</p> |                                  |                                |
| 11.   | Payment Gateway                    | Payment gateway should enable receipt of all payments such as Tax, interest, penalty, arrear and fee etc and crediting the same to the TBI account/s as may be required. The payment gateway should also allow credit of any refund amount. It should be possible to make electronic payments through a 3G / GPRS enabled mobile phone as well. It should provide integration facility. It should allow to generate multiple reports and all extraction of data. It should allow refund of failed complete transactions etc.                                                                                                                                                        |                                  |                                |
| 12.   | Antivirus for Desktops             | Antivirus such as McAfee, Kaspersky, Norton or equivalent with 3 years of subscription for laptops and desktops.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                  |                                |
| 13.   | Antivirus for proposed servers/VMs | Antivirus such as McAfee, Kaspersky, Norton or equivalent with 3 years of subscription for Application server, Database server, Web server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |                                |

| S.No. | Item | Recommended Specification |                                                                                                                                                                                                                                                                                | Specification<br>Provided<br>By<br>Bidder | Compliance<br>(Yes/No) & Page<br>No. |
|-------|------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------|
| 14.   | DMS  | General<br>Requirements   | The proposed solution should support enterprise class RDBMS such as MS SQL Server, Oracle, DB2, etc.                                                                                                                                                                           |                                           |                                      |
|       |      | General<br>Requirements   | Proposed Solution should be multi-tier, web-based solution (having web-based front-end for users and as well as for system administrative functions) having centralized database, web and application server with support for clustering.                                      |                                           |                                      |
|       |      | General<br>Requirements   | Proposed solution shall support versioning of documents with facility to write version comments                                                                                                                                                                                |                                           |                                      |
|       |      | General<br>Requirements   | Proposed solution shall allow locking of documents for editing and importing it back into the system                                                                                                                                                                           |                                           |                                      |
|       |      | General<br>Requirements   | Repository should be format agnostic.                                                                                                                                                                                                                                          |                                           |                                      |
|       |      | General<br>Requirements   | Proposed solution should support configuration of approval processes. . While processing a file, all the data and images for each transaction should be displayed to processing users and competent authority should be allowed to accept, reject or send the files for review |                                           |                                      |
|       |      | General<br>Requirements   | Proposed solution should manage lifecycle of documents through record retention, storage and retrieval policies.                                                                                                                                                               |                                           |                                      |
|       |      | General<br>Requirements   | Proposed solution should support managing and tracking of physical location of documents                                                                                                                                                                                       |                                           |                                      |
|       |      | General<br>Requirements   | Proposed solution shall support page by page view for multi page document.                                                                                                                                                                                                     |                                           |                                      |

| S.No. | Item | Recommended Specification |                                                                                                                                                                                                        | Specification<br>Provided<br>By Bidder | Compliance<br>(Yes/No) & Page<br>No. |
|-------|------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|
|       |      | General Requirements      | Proposed solution shall facilitate zoom-in/zoom-out feature. The user shall be able customize the zoom percentage, zoom and pan feature along with other image operations like Invert, rotate etc.     |                                        |                                      |
|       |      | General Requirements      | Proposed solution should support archival & view of PDF/A format documents (open ISO standard for long term archival of documents)                                                                     |                                        |                                      |
|       |      | General Requirements      | Proposed solution shall support for viewing documents in native application.                                                                                                                           |                                        |                                      |
|       |      | General Requirements      | Proposed solution shall provide facility of putting text, graphic and image annotations on scanned document pages.                                                                                     |                                        |                                      |
|       |      | General Requirements      | Proposed solution shall support comprehensive annotation features on images like highlighting, marking text, underlining putting sticky notes on documents, and support for text and image stamps etc. |                                        |                                      |
|       |      | General Requirements      | Proposed solution shall support automatic stamping of annotations with user name, date and time of putting annotations.                                                                                |                                        |                                      |
|       |      | General Requirements      | Proposed solution shall store annotations as separate file and at no time, the original image shall be changed. The system shall provide facility of taking print outs with or without annotations     |                                        |                                      |
|       |      | General Requirements      | Proposed solution shall provide facility to index folders, files and documents on user-defined indexes like department, ministry, file number, Subject, Context year etc.                              |                                        |                                      |

| S.No. | Item | Recommended Specification |                                                                                                                                                                                         | Specification Provided By Bidder | Compliance (Yes/No) & Page No. |
|-------|------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
|       |      | General Requirements      | Proposed solution shall facilitate manual and automatic indexing using OCR functionality or from other applications                                                                     |                                  |                                |
|       |      | General Requirements      | Proposed solution should support automatic full text indexing for textual search                                                                                                        |                                  |                                |
|       |      | General Requirements      | Proposed solution shall support saving of search queries and search results                                                                                                             |                                  |                                |
|       |      | General Requirements      | Proposed solution shall support search for documents or folders on document or folder on profile information such as name, created, modified or accessed times, keywords, owner etc.    |                                  |                                |
|       |      | General Requirements      | Proposed solution shall support definition of Users, Groups and Roles relation in the system along with multiple levels of access rights (Delete/ Edit/ View/ Print/ Copy or Download). |                                  |                                |
|       |      | General Requirements      | Proposed solution shall provide LDAP support for integrating with directory services and shall support single sign on                                                                   |                                  |                                |
|       |      | General Requirements      | Proposed solution shall support audit-trails with user name and date and time stamp for every activity                                                                                  |                                  |                                |
|       |      | General Requirements      | Proposed solution shall support integration with database-based authentication.                                                                                                         |                                  |                                |
|       |      | General Requirements      | Proposed solution shall support integration with PKI infrastructure for enhanced security.                                                                                              |                                  |                                |
|       |      | General Requirements      | Proposed solution shall support web-based administration module for the complete management of system.                                                                                  |                                  |                                |

| S.No. | Item                                | Recommended Specification |                                                                                          | Specification<br>Provided By<br>Bidder | Compliance<br>(Yes/No) & Page<br>No. |
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|       |                                     | General<br>Requirements   | Should be based on open standards and have API support for data import & export.         |                                        |                                      |
|       |                                     | General<br>Requirements   | The System shall support integration with Email Servers.                                 |                                        |                                      |
|       |                                     | General<br>Requirements   | The System shall provide fully functional APIs for Integration with external application |                                        |                                      |
| 15.   | Any other Item to complete the work |                           |                                                                                          |                                        |                                      |

**Specification for Statistical Software or BI Tool:**

| <b>S.No.</b> | <b>Recommended Specification</b>                                                                                                                                                          | <b>Proposed tool/software</b> | <b>Compliance (Yes/No) &amp; Page No.</b> |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------|
| 1.           | The system should provide an user friendly, web based interface for data preparation and presentation                                                                                     |                               |                                           |
| 2.           | The system should allow on line filling of return forms like form e, import/export return and other relevant forms                                                                        |                               |                                           |
| 3.           | The system should be able to analyse Big Data                                                                                                                                             |                               |                                           |
| 4.           | The system should allow data to be accessed from any industry standard data source (including legacy applications of Tea Board on India)                                                  |                               |                                           |
| 5.           | The system should provide self-service analytics                                                                                                                                          |                               |                                           |
| 6.           | The system should be compatible with both Windows and Linux operating systems                                                                                                             |                               |                                           |
| 7.           | The system should allow data classification as per the Tea Board policy                                                                                                                   |                               |                                           |
| 8.           | <i>The system should provide the following capabilities for Analytics:</i>                                                                                                                |                               |                                           |
| 9.           | The system should have the capability to explore and seek correlations on data sets for any size data analysis                                                                            |                               |                                           |
| 10.          | The system should provide interactive analytical capabilities such as Correlations & Regression, scenario analysis, decision tree, trend analysis                                         |                               |                                           |
| 11.          | The system should provide capability to analyse unstructured data                                                                                                                         |                               |                                           |
| 12.          | The system should provide Text Analytics on unstructured Data                                                                                                                             |                               |                                           |
| 13.          | The system should provide enhanced forecasting capabilities with Scenario Analysis i.e. It allows users to see how the forecast would be effected by changing independent variable values |                               |                                           |
| 14.          | The system should automatically select the most appropriate forecasting algorithm for selected data                                                                                       |                               |                                           |
| 15.          | The system should provide a clear explanation of Analytical results                                                                                                                       |                               |                                           |
| 16.          | <i>The system should provide Scalability and High Performance leveraging cost-effective architecture with increasing needs of managing Big Data</i>                                       |                               |                                           |
| 17.          | The system should provide Scalability and High Performance leveraging cost-effective architecture                                                                                         |                               |                                           |

| S.No. | Recommended Specification                                                                                                                                                      | Proposed tool/software | Compliance (Yes/No) & Page No. |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------|
| 18.   | The system should have the ability to scale up easily considering the increasing needs of managing Big Data                                                                    |                        |                                |
| 19.   | <i>The system should provide capabilities for analyzing / exploring data and creating reports using In-Memory technology:</i>                                                  |                        |                                |
| 20.   | The system should provide Auto-charting Based on data selected for analysis, system should automatically choose best visualization suited to display the type of data selected |                        |                                |
| 21.   | The system should provide Geographical map views to provide a quick understanding of geospatial data                                                                           |                        |                                |
| 22.   | The system should allow users to change queries dynamically                                                                                                                    |                        |                                |
| 23.   | The system should provide viewable descriptive statistics, such as min, max and mean, enabling users to gain an overall sense of a particular measure                          |                        |                                |
| 24.   | The system should provide the capability to link to an external url from a visual object with relevant context                                                                 |                        |                                |
| 25.   | The system should allow hierarchy creation for adding drill-down capabilities to visualizations and reports                                                                    |                        |                                |
| 26.   | The system should provide capabilities to Slice and dice multidimensional data by applying filters on any level of a hierarchy                                                 |                        |                                |
| 27.   | The system should provide capabilities to Drill up and down through hierarchies, or expand and collapse entire levels                                                          |                        |                                |
| 28.   | The system should allow previewing, filtering or sampling data prior to creating visualizations or reports                                                                     |                        |                                |
| 29.   | The system should provide users the capability to save and share their analysis as exploration, report, or PDF                                                                 |                        |                                |
| 30.   | The system should provide the capability to export data to Excel and CSV/TSV document formats                                                                                  |                        |                                |
| 31.   | The system should be capable of read and write of comments on reports to aid in collaboration                                                                                  |                        |                                |
| 32.   | The system should allow users to Capture screenshots and share comments with others                                                                                            |                        |                                |
| 33.   | The system should provide progressive filters.                                                                                                                                 |                        |                                |

| <b>S.No.</b> | <b>Recommended Specification</b>                                                                                                                                                                    | <b>Proposed tool/software</b> | <b>Compliance (Yes/No) &amp; Page No.</b> |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------|
| 34.          | The system should provide collaboration support with Annotation on Tablet                                                                                                                           |                               |                                           |
| 35.          | The system should allow users to Receive Alerts                                                                                                                                                     |                               |                                           |
| 36.          | The system should provide a thumbnail view of recent and favourite items to select and open                                                                                                         |                               |                                           |
| 37.          | The system should provide filtering and selection capabilities to reports with easy-to-integrate common action elements such as radio buttons, drop-down/combination boxes, check boxes and sliders |                               |                                           |
| 38.          | The system should provide Percentage of Records as part of Filtering and Result Data set giving a purview of the amount of data being Analysed                                                      |                               |                                           |
| 39.          | The system should have capability to calculate new data items on the fly from existing data items using expressions                                                                                 |                               |                                           |
| 40.          | The system should support distribution of Reports and Dashboards to tablets and mobile phones on latest operating systems like Android, iOS, windows and blackberry OS etc.                         |                               |                                           |
| 41.          | The system should allow the analysis / explorations / reports for offline viewing to mobile devices                                                                                                 |                               |                                           |
| 42.          | The system should have the ability for Interactive report viewing for information consumers on iPad and Android devices                                                                             |                               |                                           |
| 43.          | The system should support same dashboard / report created on Web to be accessed from iPad and Android devices without requiring any redesign                                                        |                               |                                           |
| 44.          | The system should allow users to securely view reports on mobile devices while online or offline                                                                                                    |                               |                                           |
| 45.          | All users should have access to all capabilities of the solution platform and should not be restricted by way of licensing                                                                          |                               |                                           |
| 46.          | The system should be able to create the required management dashboards and reports required by management                                                                                           |                               |                                           |
| 47.          | The system should provide the ability to switch between different percentages for the confidence interval                                                                                           |                               |                                           |
| 48.          | The system should have the capability to custom colors across reports and sessions                                                                                                                  |                               |                                           |
| 49.          | The system should have the ability to cancel query in process                                                                                                                                       |                               |                                           |

| S.No. | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Proposed tool/software | Compliance (Yes/No) & Page No. |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------|
| 50.   | The system should have the capability to link stored processes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                                |
| 51.   | Self-service capability to import data from databases and social networking sites                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |                                |
| 52.   | <i>The system should have the capability for Office Integration</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |                                |
| 53.   | The system should support viewing Reports and Dashboards in Office solutions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                |
| 54.   | <i>The system should have the capability to monitor the In-memory server environment:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |                                |
| 55.   | The system should have capability to monitor Resource utilization including CPU, I/O and Memory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |                                |
| 56.   | The system should have capability to monitor User sessions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                                |
| 57.   | The system should have capability to monitor Mobile device logging history                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                                |
| 58.   | The system should provide ability to Refresh reports from the device                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                                |
| 59.   | The system should provide server side logging for user actions – reports downloaded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |                                |
| 60.   | <i>Indicative requirement of reports</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |                                |
| 61.   | Suggestive reports: <ul style="list-style-type: none"> <li>Land Use Classification wise Analysis</li> <li>Tea Category pattern analysis (Tea-wise Area Statistics)</li> <li>Wholesale and Retail Prices analysis</li> <li>Auction Sale data reports category wise, district wise etc.</li> <li>Production contribution of the District, State Nation in World Market.</li> <li>Calculation of yield rate district/State and Identify High/Low Production States</li> <li>Tea Category wise production</li> <li>Tea Category wise Import/Export</li> <li>Most demanded Tea Type in market</li> <li>District wise Tea Category Production for given range year</li> <li>District wise Production contribution for a selected season and state. etc</li> </ul> |                        |                                |
| 62.   | Existing Reports: <ul style="list-style-type: none"> <li>Price variations</li> <li>Tea Category Wise Production for a state and Year</li> <li>Tea Category Group wise Production Statistics</li> <li>Productivity performance in Agro-Climatic Zones</li> <li>District wise production contribution summary</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                                |

| S.No. | Recommended Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Proposed tool/software | Compliance (Yes/No) & Page No. |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------|
|       | <ul style="list-style-type: none"> <li>All India Yield Summary</li> <li>Advance estimation on Production</li> <li>Quarterly Estimate on Tea Category Production</li> <li>Total Area and Classifications of Area</li> <li>Area under Tea Category</li> </ul>                                                                                                                                                                                                                                                                                        |                        |                                |
| 63.   | Analysis and forecasting: <ul style="list-style-type: none"> <li>Time series Analysis (advance estimation of production)</li> <li>Correlation analysis with regard to area and production as also production to consumption;</li> <li>Price trend analysis and forecasting</li> <li>Effect of market arrivals on wholesale and retail prices.</li> <li>Tea Category Yield by District/State by season/year/zone</li> <li>Land Usage by District Tea Category wise</li> <li>Yield data and analysis for Tea category and area/location</li> </ul>   |                        |                                |
| 64.   | Analysis on Tea Category: <ul style="list-style-type: none"> <li>Tea Category Pattern</li> <li>Tea Category Diversification Analysis (minor or major)</li> <li>Root cause analysis of reduction in yield</li> <li>Demand analysis for the produce</li> <li>Best market analysis to sell produce for high returns</li> <li>Ideal Tea Category for optimizing returns</li> <li>Irrigational needs based on past data and Tea Category record.</li> <li>Soil types and fertility in the respective areas</li> <li>Land usage patterns etc.</li> </ul> |                        |                                |
| 65.   | Data Sensitivity analysis, Impact Analysis, Tea Category Diversification, Variance analysis for production and sell etc.                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |                                |
| 66.   | Trend analysis: <ul style="list-style-type: none"> <li>Trend analysis of the Tea Category yield/ Tea Category pattern</li> <li>Trend analysis of land usage/Area Expansion</li> <li>Trend analysis of retail and wholesale prices</li> </ul>                                                                                                                                                                                                                                                                                                       |                        |                                |

| S.No. | Recommended Specification                                                                                                                                                                                                         | Proposed tool/software | Compliance (Yes/No) & Page No. |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------|
|       | <ul style="list-style-type: none"> <li>Trend analysis and diagnosis of market arrivals vis a vis production to determine the gaps.</li> <li>Analysis of shifting of Tea Category from major to minor ( and vice versa)</li> </ul> |                        |                                |

### Hardware Distribution List

| Place                                        | Indicative Number of Desktops with Printers & scanners | Indicative Number of UPS | Indicative Number of Laptops with Printers & scanners |
|----------------------------------------------|--------------------------------------------------------|--------------------------|-------------------------------------------------------|
| AGARTALA                                     | 2                                                      | 2                        | 0                                                     |
| Tea Board Tea Centre, Koyembedu, CHENNAI     | 1                                                      | 1                        | 0                                                     |
| The Secretariat, Tea Board Tea Room, CHENNAI | 0                                                      | 0                        | 0                                                     |
| COIMBATORE                                   | 4                                                      | 4                        | 0                                                     |
| COONOOR                                      | 10                                                     | 10                       | 5                                                     |
| DIBRUGARH                                    | 3                                                      | 3                        | 2                                                     |
| STGDD, DIBRUGARH                             | 6                                                      | 6                        | 2                                                     |
| GUDALUR                                      | 2                                                      | 2                        | 1                                                     |
| GUWAHATI                                     | 6                                                      | 6                        | 3                                                     |
| ITANAGAR-ARUNACHAL PRADESH                   | 0                                                      | 0                        | 1                                                     |
| JALPAIGURI                                   | 2                                                      | 2                        | 0                                                     |
| JORHAT                                       | 5                                                      | 5                        | 2                                                     |
| KOCHI                                        | 6                                                      | 6                        | 2                                                     |
| KOLKATA                                      | 69                                                     | 19                       | 21                                                    |
| KOTAGIRI, TAMIL NADU                         | 4                                                      | 4                        | 2                                                     |
| KUMILY                                       | 2                                                      | 2                        | 1                                                     |
| KURSEONG                                     | 7                                                      | 7                        | 2                                                     |
| MUMBAI                                       | 2                                                      | 2                        | 0                                                     |
| NEW DELHI                                    | 6                                                      | 6                        | 2                                                     |
| PALAMPUR                                     | 3                                                      | 3                        | 1                                                     |
| SILCHAR                                      | 2                                                      | 2                        | 1                                                     |
| SILIGURI                                     | 5                                                      | 5                        | 2                                                     |
| TEZPUR                                       | 2                                                      | 2                        | 0                                                     |
| THIRUMALA                                    | 1                                                      | 1                        | 0                                                     |

| Place            | Indicative number of network printer | Indicative number of heavy duty scanner |
|------------------|--------------------------------------|-----------------------------------------|
| COONOOR          | 2                                    | 2                                       |
| DIBRUGARH        | 1                                    | 1                                       |
| STGDD, DIBRUGARH | 1                                    | 1                                       |
| GUWAHATI         | 2                                    | 2                                       |
| JORHAT           | 1                                    | 1                                       |
| KOCHI            | 1                                    | 1                                       |
| KURSEONG         | 2                                    | 2                                       |
| NEW DELHI        | 1                                    | 1                                       |
| SILIGURI         | 1                                    | 1                                       |
| KOLKATA          | 9                                    | 5                                       |