



REQUEST FOR PROPOSAL (RFP)

**FOR SELECTION OF OPERATOR
TO SET-UP AND OPERATIONALISE**

EMERGENCY OPERATIONS CENTRE INFRASTRUCTURE (EOCI)

ON BUILD, OWN, OPERATE AND TRANSFER (BOOT) BASIS

**FOR A PERIOD OF 5 (FIVE) YEARS
IN BIHAR STATE**

Reference No:01/ 2013-14

(Revision-1)

Date: 10th May 2013

RFP Issued By:

**Disaster Management Department
Government of Bihar
Old (Main) Secretariat
Patna- 800015,
Bihar State**



TABLE OF CONTENTS

PART / SECTION	DETAILS	PAGE NUMBER
	Disclaimer	3
	Definitions, Acronyms And Interpretations	4
PART-A	Overview, Instructions to Bidder, Criteria For Evaluation Etc.	9
Section-1	Overview	10
Section-2	Instructions to bidders	16
Section-3	Criteria for evaluation	32
Section-4	Fraud and corrupt practices	39
Section-5	Miscellaneous	41
Section-6	Formats for bid documents	42
PART-B	Scope Of Work, Technical requirements, Specifications, Deliverables, Acceptance Test Procedure and Payment schedules and penalties	68
Section-1	Scope Of Work	69
Section-2	Technical Requirements	80
Section-3	Specifications	101
Section-4	Deliverables	126
Section-5	Acceptance Test Procedures	132
Section-6	Payment Schedules And Penalties	139
PART-C	Service Agreement	144
	Service Level Agreement	145



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

DISCLAIMER:

The Disaster Management Department (DMD), Government of Bihar has taken maximum care while preparation of the Notice for submission of Expression of Interest (RFP) document. This document includes statements, which reflect various assumptions and assessments arrived at by DMD in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. The information contained in this document may not be adequate. Each Bidder should, therefore, conduct its own investigations and obtain necessary information from appropriate sources.

The issue of this notice does not imply that DMD is bound to select a Bidder or to appoint the Selected Bidder, as the case may be, for the Project and DMD reserves the right to reject all or any of the Bids without assigning any reasons whatsoever.

The Bidder shall bear all costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by DMD or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will be borne by the Bidder and DMD shall not be liable in any manner whatsoever for the same, regardless of the outcome of the Bidding Process.



DEFINITIONS, ACRONYMS AND INTERPRETATION

I. Definitions

The following terms shall have the meaning ascribed to them below:

“Associate” means in relation to the Bidder, a person who controls, is controlled by, or is under the common control with such Bidder. As used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person.

“Authorised Representative” shall have the meaning ascribed to it in the section instructions to bidders (Section 2.11.3)

“Bid” shall mean the Technical Bid and the Commercial Bid submitted by the Bidder, in response to the RFP, in accordance with the terms and conditions hereof and shall also include the copies of the same.

“Bid Due Date” shall have the meaning ascribed to it in the section instructions to bidders

“Bidder” shall mean the applicant submitting a Bid as a response to the RFP. Any reference to the Bidder includes Sole Bidder/Consortium, Member of a Consortium including its successors, executors and permitted assigns and Lead Member of the Bidding Consortium jointly and severally, as the context may require;

“Bidding Documents” shall have the meaning ascribed to it in the section instructions to bidders

“Bidding Process” shall have the meaning ascribed to it in RFP

“Bid Security” shall have the meaning ascribed to in RFP

“Change of Control” means a transfer of the direct and/or indirect legal or beneficial ownership of any shares, or securities convertible into shares, in the Operator Company that causes the shareholding of the Selected Bidder, together with its Associates, in the total equity to decline below 51% (fifty one per cent) thereof, during the term of the Agreement; provided that any material variation (as compared to the representations made by the Selected Bidder during the Bidding Process for the purposes of meeting the minimum conditions of eligibility or for evaluation of its application or bid, as the case may be,) in the proportion of the equity holding of Operator to the total Equity, shall constitute Change of Control;

Or



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

In case of Consortium:

“**Change of Control**” means a transfer of the direct and/or indirect legal or beneficial ownership of any shares, or securities convertible into shares, in the Operator Company that causes the shareholding of the Lead Member, together with its Associates, in the total equity to decline below 51% (fifty one per cent) thereof, and the individual shareholding of the Member(s), together with its Associates, in the total equity to decline below 10% (ten per cent) thereof, during the term of the Agreement; provided that any material variation (as compared to the representations made by the Selected Bidder during the Bidding Process for the purposes of meeting the minimum conditions of eligibility or for evaluation of its application or bid, as the case may be,) in the proportion of the equity holding of Operator to the total Equity, shall constitute Change of Control;

“**Consortium**” shall mean a group of entities coming together with definitive agreement regarding responsibilities to implement the Project

“**Conflict of Interest**” shall have the meaning ascribed to it in RFP

“**Consortium Agreement**” shall have the meaning ascribed to it in RFP

“**Financial Capacity**” shall have the meaning ascribed to it in RFP

“**Implementation Phase**” shall mean the phase that shall commence from the date on which the Conditions Precedent by DMD is fulfilled and shall remain in force till the date of Acceptance Testing;

“**Lead Member**” shall have the meaning ascribed to it in RFP

“**Letter of Intent**” shall have the meaning ascribed to it in RFP

“**Member**” shall have the meaning ascribed to it in RFP

“**MEOC**” Mobile Emergency Operations Centre

“**Official Website**” shall refer to the website specified as www.disastermgmt.bih.nic.in/

“**Operator**” shall mean the Selected Bidder who executes the Service Agreement with DMD.

“**Operator Company**” shall mean the Selected Bidder itself or, where applicable, an SPV incorporated by the Selected Bidder for the purposes of the implementation and operation and management of the Project;



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

“**Project**” shall mean the design, procurement, supply, implementation and maintenance of EOCI.

“**Quarterly Guaranteed Revenue (QGR)**” means the maximum quarterly fees, on an equated basis, that the Operator shall be paid by DMD during the Operation and Maintenance Phase, as specified in the Commercial Bid by the Operator;

“**Selected Bidder**” shall have the meaning ascribed to it in RFP

“**Service Agreement**” shall mean the agreement to be executed between DMD and the Selected Bidder for undertaking the Project.

“**Sole Bidder**” shall mean an entity such as an individual, partnership firm or a company that has submitted the bid on its own capacity

“**State**” shall mean the State of Bihar.

“**Stakeholders**” means the contractors, citizens, businesses, Government departments and other agencies of the Government of Bihar and their employees.

“**Subject Person**” shall have the meaning ascribed to it in RFP

“**Technical Bid**” shall have the meaning ascribed to in RFP

“**Technical Capacity**” shall have the meaning ascribed to it in RFP

“**Tender Fee**” shall have the meaning ascribed to it in RFP

II. Acronyms

In addition to terms defined elsewhere herein, the following terms shall have the meaning ascribed to them below:

“**DEOC**” shall mean the District Emergency Operation Center.

“**DSS**” shall mean Decision Support System

“**EOC**” shall mean the Emergency Operation Center(s).

“**EOCI**” Shall Emergency Operations Centre Infrastructure including systems and facilities for effective disaster management activities at state and district EOCs and Emergency support Function organisations

“**ESF**” Emergency Support Functions

“**ERV**” shall mean Emergency Response Vehicle



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

“**MEOC**” shall mean EOC in installed in / operating from a vehicle

“**ESF**” shall mean Emergency Support Functions.

“**BSWAN**” shall mean Bihar State Wide Area Network.

“**HQ**” shall mean Head Quarter.

“**IMPS**” shall mean Information Management Portal System.

“**INR**” shall mean Indian National Rupees.

“**IP**” shall mean Internet Protocol.

“**ISDN:**” shall mean Integrated Services Digital Network

“**LOA**” shall mean Letter Of Award

“**MPLS**” shall mean Multi Protocol Label Switching

“**NCNC demo**” shall mean No Cost, No Commitment demonstration by vendor of capabilities of the offered system.

“**NGO**” shall mean a Non Governmental Organization.

“**NMS**” shall mean Network Monitoring and Control System.

“**PRI**” shall mean Primary Rate Interface (2.048 Mbps or equivalent 32 channels @ 64 Kbps rate interface in case of ISDN)

“**RFP**” shall mean Notice for submission of Expression of Interest i.e. this request document dated [10-05-2013] along with all formats and documents attached hereto and shall include any modifications, amendments, alterations or clarifications thereto.

“**SDC**” shall mean State Data Center.

“**SEOC**” shall mean the State Emergency Operation Center.

“**SPV**” shall mean Special Purpose Vehicle

“**VHF**” shall mean Very High Frequency.

“**VoIP**” shall mean Voice over Internet Protocol.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

“VPN” shall mean the Virtual Private Networks.

“VSAT” shall mean Very Small Aperture Terminal.

III Interpretation

In this RFP, unless otherwise expressly specified, a reference to:

- i. “**Include**” means include without limitation.
- ii. “**May**” means entitled, but not obliged, to exercise a particular right.
- iii. “**Shall**” means an obligation.
- iv. The headings in this RFP are for information only and are to be ignored in construing it.
- v. References to persons include a reference to body corporate, unincorporated associations, and partnerships and any organization or entity having legal capacity.
- vi. Grammatical variants of terms defined in Section A, Clause I shall bear their corresponding meanings.
- vii. References to recitals, clauses, paragraphs or schedules are to recitals, clauses and paragraphs of and schedules to this RFP.
- viii. Words denoting the singular shall include the plural and vice versa and words denoting any gender shall include all genders.



**PART A: OVERVIEW, INSTRUCTIONS TO BIDDER, SCOPE
OF WORK ETC.**

SECTION – 1: OVERVIEW

1.1 Introduction:

This RFP is being issued by Disaster Management Department of Government of Bihar (“DMD”) to establish and operationalise **Emergency Operations Center Infrastructure (EOCI)** on Build, Own, Operate and Transfer (BOOT) basis for a period of 5 (five) years to support Bihar State Disaster Response (DR) activities. *The Government of Bihar will make 20 (twenty) equated quarterly payments to the Operator during the BOOT period.*

1.2 Bihar State:

Bihar is located in the eastern part of India (between 83°-30' to 88°-00' longitude). It is an entirely land-locked state, although the outlet to the sea through the port of Kolkata is not far away. Bihar lies mid-way between the humid West Bengal in the east and the sub humid Uttar Pradesh in the west which provides it with a transitional position in respect of climate, economy and culture. It is bounded by Nepal in the north and by Jharkhand in the south. The Bihar plain is divided into two unequal halves by the river Ganga which flows through the middle from west to east.



Fig1.1: District Map of Bihar State

1.2.1 Vulnerability to Disasters

Large part of the state falls within Earthquake zones IV and V. As such many districts are vulnerable to severe earthquake. Around 18 districts of the state frequently suffer due to Riverine flood hazard due to flooding of major rivers flowing through the state.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Overall the state is vulnerable to multiple natural hazards including:

- a. Earthquakes,
- b. Riverine Floods and
- c. High speed winds

It is also vulnerable to accidental / manmade / technology related hazards such as fires, road and rail accidents, terrorist attacks etc

1.3 Disaster response

DMD of Bihar State has taken several initiatives under the disaster management policy and the advice / guidelines issued by the National Disaster Management Authority (NDMA) and Government of India. DMD has also finalized Standard Operating Procedure (SOP) to cope with major disasters, to pursue the holistic approach to disaster management. Various government departments / organisations support the efforts DMD at state level and District Magistrate (DM) at district levels are known as Emergency Support Function (ESF) organisations.

At the district level, the District Magistrate (DM) who is the chief coordinator is the focal point for coordinating all activities relating to prevention, mitigation and preparedness pertaining to response and relief.

1.3.1 Proposed Emergency Operation Center Infrastructure (EOCI)

The DMD has planned to establish and operationalise Emergency Operation Center Infrastructure (EOCI) including state of the art EOCs at state and district headquarters as well as mobile and portable systems for effective disaster response, in case of natural or manmade disasters, on BOOT basis for a period of 5 (five) years. EOCI envisages:

- 2 (two) EOCs at the state level for redundant operations, one of which will be at the Disaster Management Department in Old Secretariat premises at Patna and the other will be located at the Police Headquarters in Patna after the building under construction is ready for occupation. The VSAT network hub will be set-up at Primary State EOC at Old secretariat. Both EOCs will be interconnected with Optical Fibre Cable (OFC) of required capacity to ensure that Incident Management Systems (IMS) are in step. Back-up EOC will have a VSAT providing a dedicated carrier to provide back-up for OFC cable.
- 1 (One) EOC is at each of the 38 (thirty eight) districts in Bihar state and 9 (Nine) offices of divisional Commissioners
- 10 (Ten) self contained vehicle mounted (mobile) EOCs (to be located at 9 divisional headquarters and 1 at State EOC) to operate from disaster sites and to act as a back-up EOC to any of the fixed EOCs in case it is non functional due to disaster or any other reason.
- 7 (Seven) portable VSAT based communication systems with integrated micro BTS to provide limited cell phone coverage at disaster site as well as long distance phone connectivity via VSAT link are planned for districts (Sitamarhi, Madhubani, Darbhanga, Saharsa, Madhepura, Supaul, Araria) falling in seismic zone V



RFP for setting-up and Operationalization of EOICI on BOOT basis in Bihar State

1.4 Request for Proposal (RFP)

This RFP document describes functional, technical and communication network requirements of the system to be set-up.

1.4.1 Purpose

Disaster Management Department (DMD), Government of Bihar (GoB) invites bids for selection of an Operator (“**Bid**”) for setting-up and operationalisation of Emergency Operations Centre Infrastructure (EOICI). DMD intends to select the Operator through an open competitive bidding in accordance with the procedure set out herein.

1.4.2 Bidders pre-qualifications in respect of Organisation, Technical Expertise, Certification, Financial Strength and

- **Organisation**

Any firm, association, company or a consortium with previous experience of similar work can submit EOI bid. The bid should include detailed technical capabilities of the bidder. If the bidder has experience of implementing similar projects for government/ public sector / corporations in India or abroad, these should be furnished.

In case the bidder is a consortium, the same shall not consist of more than six entities and shall be formed under a duly stamped consortium agreement and the lead partner must submit.

- The details of the consortium with roles and responsibilities of each partner. The same should be endorsed by an authorized representative of the lead partner.
- The original stamped consortium agreement shall be attached along with the Bid.
- No change in the constitution of the consortium (Lead Partner/ partners of consortium) will be allowed within the BOOT period without explicit approval of Disaster Management Department, Government of Bihar.

- **Technical Expertise:**

The bidder should have minimum 200 (two hundred) regular IT professional employees on its payrolls as on 31.03.2013 and maintain the minimum strength throughout the BOOT period. A self-certificate to the effect signed and stamped by the Authorized Representative of the bidder/ Lead Partner of consortium should be submitted. The project staff should have minimum 3 (three) years of experience in the field of responsibility.

- a. The bidder must have established and managed at least Two highly reliable ICT infrastructure/ Wide Area Network service delivery projects (including but not limited to System Integration) with a minimum value of Fifty Crore that were successfully completed during the last five years.
- b. The bidder must have experience of at least one project in respect of Emergency management/ Incident management/ Tactical Operations Center (TOC)/ Defence Command Center or Emergency Operation Center that included Decision Support System (DSS) or Incident management system (IMS) was successfully completed with any State Government/Central Government/ PSU in India or any other Government or public organization in the world in last 5 years.
- c. The bidder should have completed at least one project that included design, supply, installation and commissioning, software application development, integration of third party Geographical



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Information System (GIS) applications. Last date of Submission: on or before pre bid conference.

- **Certification** (bidder to submit copies of certificates):

The bidder, individually or in consortium is expected to have the latest ISO certification in respect of:

- a. Network Quality policy.
- b. Network Security Management
- c. IT Services Management

- **Financial Strength:**

- a. The bidder/ lead partner should have an average turnover of Rs. 200.0 (Two hundred) Crore for the last three years. Of the turnover, the bidder should have average revenues of Rs. 50.0 (Fifty) Crore from the IT/ Networking services for the last three years. Bidder/ lead partner should submit the Audited Balance sheets and Profit & Loss statements for the last 3 (three) years and should also submit the Statutory Auditor's certificate for revenues from IT/ Networking services.
- b. Bidder/ all partners of consortium should have positive net worth (measured as paid-up capital plus free reserves) for each of the last three financial years. The bidder/ all partners of consortium also should be in profit for the last three financial years. Bidder/ all partners of consortium should submit the audited Balance Sheet and Profit & Loss account statements. Certificate from Statutory Auditor for the same effect shall be attached by the bidder/ all partners of consortium.

1.4.3 Due diligence by Bidder

Bidders are encouraged to inform themselves fully about the assignment and the local conditions before submitting the Bid by paying a visit to the site, sending written queries to the DMD, and attending the pre-bid conference on the date and time specified in Clause 1.4.6 and obtain additional information at their own cost and responsibility.

1.4.4 RFP Document and Tender Fees

The RFP document can be downloaded from the Official Website of DMD (www.DMD.org) from 10th May 2013 till bid due date mentioned in section 1.3.8 A Tender Fee of INR 10,000/- (INR Ten Thousand only) in the form of a demand draft drawn on any bank mentioned in Clause 2.14.1 in favour of " **Disaster Management Department**", payable at **Patna** shall be paid along with the Bid ("Tender Fee"). The Bid Security of INR 1, 00, 00,000/- (INR One Crore only) in the form of a Bank Guarantee should also be submitted in accordance with the RFP document.

1.4.5 Validity of the Bid

Bids shall remain valid for 180 days from the Bid Due Date. A Bid valid for a shorter period may be rejected as non-responsive.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

In exceptional circumstances, DMD may request the Bidder(s) for an extension of the period of validity. The request and the responses thereto shall be made in writing (or by fax). The validity of the Bid Security shall also be suitably extended.

1.4.6 Brief description of the Bidding Process

DMD has adopted a single stage, two phase selection process (collectively “**Bidding Process**”) for evaluating the Bids comprising Technical Bid and Commercial Bid. Technical Bid and Commercial bids are to be submitted in separate sealed envelopes and to be superscribed as described in section 2.11. Both envelopes should be clearly marked with name and address of the bidder (s), due date of bids and name and address of the bidder.

In the first phase, a pre-qualification process will be carried out on the basis of minimum criteria (included in Section 2) necessary to be selected for further evaluation process. Bids of only those Bidders that qualify in pre-qualification process will be considered for technical and commercial evaluation.

The technical evaluation will be carried out as specified in section 3 of Part A of this RFP, pursuant to which a list of short-listed Bidders shall be prepared. These short listed Bidders will be asked to demonstrate performance of various applications / software offered for the Project at No Cost (to DMD) and No Commitment (“**NCNC**”) for placement of orders even in case of successful demonstration of capabilities of offered systems. Commercial Bids of those Bidders who don’t participate in NCNC demo or those Bidders that are unable to successfully demonstrate capabilities as specified in their Bids will not be considered for further evaluation.

In the second phase, a commercial evaluation will be carried out, only with respect to the short-listed Bidders, as specified in section 3. Bids will finally be ranked according to their combined technical and financial scores, calculated in accordance with Clause 3.4 of this RFP. The first ranked Bidder shall be declared as selected (“**Selected Bidder**”) and LOA shall be issued to him, while the second ranked Bidder will be kept in reserve.

The Selected Bidder shall be required to execute, within 15 days of receipt of LOA, the Service Agreement with DMD.

1.4.7 Currency and payment

For the purposes of technical evaluation of Bidder, prices shall be quoted in Indian National Rupees (“**INR**”) by all Bidders, including the foreign Bidders. The bids should be fixed and final and should not be related to any variations in International currencies or any other reasons such as changes in customs or Excise duties etc. Service Tax can be claimed extra at applicable government rates

All payments to the Operator shall be made in INR in accordance with the provisions of this RFP. The Operator may convert INR into any foreign currency as per the applicable laws and the exchange risk, if any, shall be borne by the Operator.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

1.4.8 Key Events / activities and Dates

DMD would endeavor to adhere to the following schedule:

Sr. No.	Event	Target Date
1.	RFP issue date	10 th May 2013
2.	Pre Bid Conference	10 th June at DMD office, Patna, Bihar
3.	Bid Due Date	1500 Hrs on 9 th July 2013,.
4.	Technical Bid Opening	1600 Hrs on 9 th July 2013
5.	Presentation and NCNC Demo on Technical Bid by short-listed Bidders.	To be intimated later
6.	Declaration of short-list of Bidders for Commercial Bid opening.	To be intimated later
7.	Opening of Commercial Bids	To be intimated later
8.	Date of signing of the Service Agreement.	To be intimated later

1.4.9 Communications

All communications regarding RFP including the submission of the Bid should be addressed to:

**The Principal Secretary
Disaster Management Department
Government of Bihar
Old Secretariat,
Patna-800015, Bihar State**

The **Official Website** of the DMD is: www.disastermgmt.bih.nic.in

All queries regarding RFP may be forwarded to following e-mail address:
"Secretary, Disaster Management, Govt. of Bihar" secy-disastermgmt-bih@nic.in

Modifications to RFP as well as response to bidder's queries will be uploaded on official website of DMD and bidders may access the information from the website.

All communications, including the sealed envelopes containing bids, should contain the following information, to be marked at the top in bold letters:

RFP Notice No.: XX of 2013

Name and address of the Bidder



SECTION – 2: INSTRUCTIONS TO BIDDERS

A. GENERAL

2.1 Scope of Proposal

- 2.1.1 Detailed description of the objectives, scope of services, deliverables and other requirements relating to this Project are specified in this RFP. In case an applicant firm possesses the requisite experience and capabilities required for undertaking the Project, it may participate in the Bidding Process either individually (“**Sole Bidder**”) or as Lead Member of a consortium of firms in response to this invitation. The term applicant (“**Bidder**”) means the Sole Bidder or the Lead Member, as the case may be. The manner in which the Bid is required to be submitted, evaluated and accepted is explained in this RFP.
- 2.1.2 Bidders are advised that the selection of Operator shall be on the basis of an evaluation by DMD through the Bidding Process specified in this RFP. Bidders shall be deemed to have understood and agreed that no explanation or justification for any aspect of the Bidding Process will be given and that DMD’s decisions are final, without any right of appeal whatsoever.
- 2.1.3 Bidders shall submit their Bids in the form and manner specified in this RFP. The Technical Bid shall be submitted in the form at Appendix- A and the Commercial Bid shall be submitted in a separate sealed envelope along with Technical bid. The commercial bid should be marked marking as per the form at Appendix-E. Upon selection, the Bidder shall be required to enter into a Service Agreement with DMD in the form specified at Schedule III.

2.2 Eligibility of Bidders

- 2.2.1 For determining the eligibility of Bidders for their qualification hereunder, the following shall apply:
- A Bidder may be an individual, partnership firm or association of people, a body corporate or a company duly incorporated in accordance with the applicable local laws, or any combination of them with a formal intent to enter into an agreement or under an existing agreement to form a Consortium. The Bidder may be a Sole Bidder or a group of entities (“**Consortium**”), coming together to implement the Project. However, no Bidder applying individually or as a member of a Consortium (“**Member**”), as the case may be, can be member of another Bidder.
 - A Bidder must be a body corporate or a company duly incorporated in accordance with the applicable local laws, or any combination of them with a formal intent to enter into an agreement or under an existing agreement to form a Consortium. A Consortium shall be eligible for consideration subject to the conditions set out in Clause 2.2.6 below.
 - A Bidder shall not have a conflict of interest (“**Conflict of Interest**”) that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified. A Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

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- (i) The Bidder, any Member or Associate (or any constituent thereof) and any other Bidder, any Member or any Associate thereof (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding of a Bidder, any Member or an Associate thereof (or any shareholder thereof having a shareholding of not more than twenty five per cent of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case may be) in the other Bidder, its Member or Associate, as the case may be, is not more than twenty five per cent of the paid up and subscribed share capital thereof; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in section 4A of the Companies Act, 1956. For the purposes of this Clause 2.2.1(c), indirect shareholding held through one or more intermediate persons shall be computed as follows:
- (aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (“**Subject Person**”) shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and
 - (bb) subject always to sub-clause (aa) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this sub-clause (bb) if the shareholding of such person in the intermediary is less than 26% of the subscribed and paid up equity shareholding of such intermediary; or
- (ii) a constituent of such Bidder is also a constituent of another Bidder; or
- (iii) such Bidder, or any Associate thereof receives or has received any direct or indirect subsidy, grant, concessional loan or subordinated debt from any other Bidder, or any Associate thereof or has provided any such subsidy, grant, concessional loan or subordinated debt to any other Bidder, any Member or any Associate thereof; or
- (iv) Such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or
- (v) such Bidder, or any Associate thereof has a relationship with another Bidder, or any Associate thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each others’ information about, or to influence the Bid of either or each other; or
- (vi) Such Bidder, or any Associate thereof has participated as a consultant to the DMD in the preparation of any documents, design or technical specifications of the Project.
- (d) A Bidder shall be liable for disqualification if any financial or technical adviser of DMD in relation to the Project is engaged by the Bidder, any Member or any Associate thereof, as the case may be, in any manner for matters related to or incidental to the Project. For the avoidance of doubt, this disqualification shall not



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

apply where such adviser was engaged by the Bidder, any Member or Associate in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of this RFP. Nor will this disqualification apply where such adviser is engaged after a period of 3 (three) years from the date of commercial operation of the Project.

Explanation: In case a Bidder is a Consortium, then the term Bidder as used in this Clause 2.2.1, shall include each Member of such Consortium.

- 2.2.2 To be eligible for qualification, a Bidder shall fulfil the following conditions of eligibility:
- Technical Capacity:** For demonstrating technical capacity and experience (“**Technical Capacity**”), the Bidder shall have relevant experience as mentioned in the clause 3.2.1
 - Financial Capacity:** The Bidder shall satisfy the requirements as mentioned in the clause 3.2.1

In case of a Consortium, the combined Technical Capacity of all the Members should satisfy the conditions of eligibility and unless otherwise specified herein, the Financial Capacity should be satisfied by the Lead Member of the Consortium.

2.2.3 Change of Control

In case a Sole Bidder decides to form an SPV, the Sole Bidder shall, for the term of the Service Agreement, including the Operation and Maintenance Phase, hold equity share capital of not less than 51% (fifty one percent) of the subscribed and paid up equity of the SPV.

In case a Consortium decides to form an SPV, each Member, other than the Lead Member, shall, for the term of the Service Agreement, including the Operation & Maintenance Phase, hold equity share capital of not less than 10% (ten per cent) and the Lead Member, shall, for the term of the Service Agreement, including Operation and Maintenance Phase, hold equity share capital of not less than 51% (fifty one per cent) of the subscribed and paid up equity of the SPV.

2.2.4 Certificates of works completed

The Bidders shall enclose with its application, to be submitted as per the format at Appendix-A, complete with its Annexes, the following:

- Certificate(s) from a chartered accountant duly certified or the concerned client(s) stating the payments made/ received or works commissioned, as the case may be, during the past 5 years in respect of the projects specified in clauses 3.2.1 and 3.2.2. In case a particular job/ contract has been jointly executed by the Bidder (as part of a consortium), it should further support its claim for the share in work done for that particular job/ contract by producing a certificate from the chartered accountant or the client; and
- Duly certified Certificate(s) from a chartered accountant, specifying the turnover (including the turnover from IT infrastructure services), net worth and net profit of



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

the Bidder and /or each Member of the Consortium, as the case may be, as mentioned in the Annex VII of Appendix A, and also specifying that the methodology adopted for calculating such net worth conforms to the provisions of this Clause 2.2.4 (ii). For the purposes of this RFP, net worth shall mean the sum of subscribed and paid up equity and reserves from which shall be deducted the sum of revaluation reserves, miscellaneous expenditure not written off and reserves not available for distribution to equity share holders.

2.2.5 Power of Attorney

The Bidder should submit a Power of Attorney as per the format at Appendix-B, authorising the signatory of the Bid to commit the Bidder. In the case of a Consortium, the Members, except the Lead Member should submit a Power of Attorney in favour of the Lead Member as per format at Appendix-C.

2.2.6 Special Purpose Vehicle (SPV)

The Selected Bidder, whether a Sole Bidder or a Consortium, may, in its discretion, form an appropriate Special Purpose Vehicle, incorporated under the Companies Act, 1956 ("SPV"), to execute the Service Agreement and implement the Project. In case a Consortium elects to form an SPV, it shall, in addition to forming an SPV, comply with the following additional requirements:

- (a) The Bid should contain the information required for each member of the Consortium;
- (b) Members of the Consortium shall nominate one Member as the Lead Member (the "**Lead Member**"), who shall have an equity share holding of at least 51% (fifty one per cent) of the paid up and subscribed equity of the SPV. The nomination(s) shall be supported by a Power of Attorney, as per the format at Appendix-C, signed by all the other Members of the Consortium, except the Lead Member;
- (c) the Bid should include a brief description of the roles and responsibilities of individual Members, particularly with reference to financial, technical and obligations during the Operation and Maintenance Phase;
- (d) a Sole Bidder cannot at the same time be a member of a Consortium applying for qualification.
- (e) Further, a Member of a particular Consortium cannot be member of any other Consortium applying for qualification;
- (f) the Members of a Consortium shall form an appropriate SPV to execute the Project, if awarded to the Consortium;
- (g) Members of the Consortium shall enter into a Consortium Agreement, substantially in the form specified at Appendix-D ("**Consortium Agreement**"), for the purpose of making and submitting the Bid. The Consortium Agreement, to be submitted along with the Bid, shall, inter alia:
 - (i) Convey the intent to form an SPV with shareholding/ ownership equity commitment(s) in accordance with this RFP, which would enter into the Service Agreement and subsequently perform all the obligations of the Operator in terms of the Service Agreement, in case the Project is awarded to the Consortium;



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- (ii) Clearly outline the proposed roles and responsibilities, if any, of each Member;
 - (iii) Commit the minimum equity stake to be held by each Member;
 - (iv) Commit that each of the Members, whose experience will be evaluated for the purposes of this RFP, shall subscribe to 10% (ten per cent) or more of the paid up and subscribed equity of the SPV, except the Lead Member, who shall subscribe to 51% or more of the paid up and subscribed equity of the SPV and shall further commit that each such member shall hold equity share capital during the term of the Service Agreement, including the Operation and Maintenance Phase;
 - (v) Members of the Consortium undertake that they shall seek prior written consent of DMD for any Change of Control;
 - (vi) include a statement to the effect that all Members of the Consortium shall be liable jointly and severally for all obligations of the Operator in relation to the Project in accordance with the Service Agreement; and
- (h) Except as provided under this RFP and the Documents, there shall not be any amendment to the Consortium Agreement without the prior written consent of the Authority.

2.2.6 Conditions in case bidders opt not to form SPV

A In case a Sole Bidder or a Consortium elects NOT to form an SPV, all the conditions specified in Clause 2.2.6, except for Clauses 2.2.6(b), (f) and (g) shall apply to the Consortium. In addition to these conditions, the following additional conditions shall apply:

- (a) Parties – the Parties to the Service Agreement will be the Sole Member or each of the Consortium Members as the case may be. Therefore, the Members whose Financial Capacity and Technical Capacity has been evaluated for qualification, will need to be direct parties to the Service Agreement, together with the other Members, if any. One cannot be a sub contractor to the other. To explain by way of example, where a Consortium consisting of two companies “A” and “B” are the Selected Bidder, then the Service Agreement will have to be executed by each of “A” and “B” as parties to the Service Agreement. One of “A” or “B” cannot be a sub contractor to the other.
- (b) Joint and severe liability in case of a Consortium – each of the Consortium Members, whose Financial Capacity and Technical Capacity have been evaluated for qualification, will need to undertake explicit joint and severe liability obligations in favour of DMD in the Service Agreement.
- (c) The Consortium shall not exceed six Members. The Member whose Financial Capacity has been evaluated for qualification, shall be the Lead Member. The Lead Member shall be duly authorized by the other Members and shall be the designated Member responsible for compliance, execution and performance under the Service Agreement – notwithstanding the joint and severe liability. DMD’s dealings with such Lead Member will qualify as adequate dealing with the other Members.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- (d) Where the Consortium Members whose Financial Capacity and Technical Capacity has been evaluated for qualification rely upon their respective Associates for achieving their financial and technical qualifications, then such Associates will need to provide an appropriate undertaking to DMD in the format prescribed in Annexure VIII to Appendix "A" hereto. A Sole Bidder shall also furnish the undertaking in the format prescribed in Annexure VIII to Appendix "A" hereto.
- (e) Members of the Consortium shall nominate the Member whose Financial Capacity had been evaluated for qualification, as the Lead Member (the "**Lead Member**"). The nomination(s) shall be supported by a Power of Attorney, as per the format at Appendix-C, signed by all the other Members of the Consortium, except the Lead Member;
- (f) Members of the Consortium shall enter into a Consortium Agreement, substantially in the form specified at Appendix-DD ("**Consortium Agreement**"), for the purpose of making and submitting the Bid. The Consortium Agreement, to be submitted along with the Bid, shall, inter alia:
- (i) clearly outline the proposed roles and responsibilities, if any, of each Member; and
 - (ii) Include a statement to the effect that all Members of the Consortium shall be liable jointly and severally for all obligations of the Operator in relation to the Project in accordance with the Service Agreement

2.2.7 Non eligibility in case of debaring by central / state government

Any entity which has been barred by the Central/ State Government, or any entity controlled by it, from participating in any project, and the bar subsists as on the date of Bid, would not be eligible to submit a Bid, either individually or as member of a Consortium.

2.2.8 A Bidder including any Member or Associate should, in the last 3 (three) years, have neither failed to perform any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder, Member or Associate, as the case may be; nor have been expelled from any project or contract by any public entity; nor have had any contract terminated any public entity for breach by such Bidder, Member or Associate.

2.2.9 In computing the Technical Capacity and Financial Capacity of the Bidder/ Members under Clauses 2.2.2, 2.2.4 and 3.2, the Technical Capacity and Financial Capacity of their respective Associates would also be eligible hereunder.

For the avoidance of doubt, a certificate from a qualified external auditor who audits the book of accounts of the Bidder or the Consortium Member shall be provided to demonstrate that a person is an Associate of the Bidder or the Consortium, as the case may be.

2.2.10 The following conditions shall be adhered to while submitting a Bid:



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- (a) Bidders should attach clearly marked and referenced continuation sheets in the event that the space provided in the prescribed forms in the Annexes is insufficient. Alternatively, Bidder may change the prescribed forms making due provision for incorporation of the requested information;
- (b) information supplied by a Bidder (or other constituent Member if the Bidder is a Consortium) must apply to the Bidder, Member or Associate named in the Bid and not, unless specifically requested, to other associated companies or firms; and
- (c) in case the Bidder is a Consortium, each Member should substantially satisfy the pre-qualification requirements to the extent specified herein.

2.2.11 Notwithstanding anything to the contrary contained herein, in the event that the Bid Due Date falls within three months of the closing of the latest financial year of a Bidder, the Bidder shall ignore such financial year for the purposes of its Bid and furnish all its information and certification with reference to the 5 (five) years or 3 (three) years or 1 (one) year, as the case may be, preceding its latest financial year. For the avoidance of doubt, financial year shall, for the purposes of Bid hereunder, mean the accounting year followed by the Bidder in the course of its normal business.

2.3 Number of Bids

No Bidder or its Associate shall submit more than one Bid for the Project. A Bidder applying individually or as an Associate shall not be entitled to submit another Bid either individually or as a member of any Consortium, as the case may be.

2.4 Cost of Bids

The Bidders shall be responsible for all of the costs associated with the preparation of their Bids and their participation in the Bidding Process including subsequent negotiation, visits to DMD, Project site etc. DMD will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

2.5 Acknowledgement by the Bidder

2.5.1 It shall be deemed that by submitting the Bid, the Bidder has:

- (a) made a complete and careful examination of the RFP;
- (b) received all relevant information requested from DMD;
- (c) Acknowledged and accepted the risk of inadequacy, error or mistake in the information provided in the RFP or furnished by or on behalf of DMD;
- (d) Satisfied itself about all matters, things and information necessary and required for submitting an informed Bid and performance of all of its obligations there under;
- (e) Acknowledged that it does not have a Conflict of Interest; and
- (f) Agreed to be bound by the undertaking provided by it under and in terms hereof.

2.5.2 DMD shall not be liable for any omission, mistake or error on the part of the Bidder in



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP or the Bidding Process, including any error or mistake therein or in any information or data given by DMD.

2.6 Right to reject any or all Bids

- 2.6.1 Notwithstanding anything contained in this RFP, DMD reserves the right to accept or reject any Bid and to annul the Bidding Process and reject all Bids, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.
- 2.6.2 Without prejudice to the generality of Clause 2.6.1, DMD reserves the right to reject any Bid if:
- at any time, a material misrepresentation is made or discovered, or
 - the Bidder does not provide, within the time specified by DMD, the supplemental information sought by DMD for evaluation of the Bid.

Misrepresentation/ improper response by the Bidder may lead to the disqualification of the Bidder. If the Bidder is the Lead Member of a Consortium, then the entire consortium may be disqualified / rejected. If such disqualification / rejection occurs after the Bids have been opened and the highest ranking Bidder gets disqualified / rejected, then DMD reserves the right to consider the next best Bidder, or take any other measure as may be deemed fit in the sole discretion of DMD, including annulment of the Bidding Process.

- 2.7.1 This RFP comprises the Disclaimer set forth hereinabove. RFP also includes. Overview, instructions to bidders, criteria for evaluation, definitions of fraud and corrupt practices, miscellaneous, formats for various documents to be included in the bid documents, scope of work, project management, EOCI technical requirements, specifications of subsystems, list of deliverables, acceptance test procedures, payment schedules and service level agreement and will additionally include any Addenda issued

2.8 Clarifications on RFP

- 2.8.1 Bidders requiring any clarification on the RFP may send their queries to DMD in writing one week before the date for Pre-Bid meeting mentioned in the Schedule of Bidding Process at Clause 1.4.8

The envelopes shall clearly bear the following identification:

“Queries/Request for Additional Information concerning RFP Notice No.0X of 2013 for Selection of *BOOT (Build, Own, Operate, Transfer) Operator for setting up and operationalise EOCI for DMD, Bihar state*” . Queries should also be e-mailed to "Secretary, Disaster Management, Govt. of Bihar" <secy-disasterngmt-bih@nic.in>

DMD shall endeavour to respond to the queries within the period specified therein but not later than 7 (seven) days prior to the Bid Due Date. DMD will post the reply to all such queries on the Official Website only without identifying the source of queries.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- 2.8.2 DMD reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this Clause 2.8 shall be construed as obliging DMD to respond to any question or to provide any clarification.

2.9 Amendments to RFP

- 2.9.1 At any time prior to the Bid Due Date, DMD may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, modify the RFP document by the issuance of addendum/ amendment and posting it on the Official Website.
- 2.9.2 The amendments will be posted on the Official Website along with the revised RFP containing the amendments and will be binding on all Bidders.
- 2.9.3 In order to afford the Bidders a reasonable time for taking an amendment into account, or for any other reason, DMD may, in its sole discretion, extend the Bid Due Date.

2.10 Language

- 2.10.1 The Bid with all accompanying documents (“**Bidding Documents**”) and all communications in relation to or concerning the Bidding Process shall be in English language and strictly in the forms provided in this RFP, wherever applicable. In case any of the Bidding Documents are in another language, it must be accompanied with an accurate translation of the relevant passages in English, and in case of any discrepancy between the original and the translated copy, the translated (in English) copy shall prevail.

2.11 Format and signing of Bid

- 2.11.1 The Bidder shall provide all the information sought under this RFP. DMD would evaluate only those Bids that are received in the specified forms and complete in all respects.
- 2.11.2 The Tender Fee shall be placed in a sealed envelope clearly marked as “TENDER FEE”. The original and two copies of the Technical Bid shall be placed in a sealed envelope clearly marked “TECHNICAL BID”. The envelopes containing the Tender Fee & Technical Bid shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address, reference number, and be clearly marked “DO NOT OPEN, EXCEPT IN PRESENCE OF THE OFFICIAL APPOINTED, BEFORE [*insert the time and date of the submission deadline as indicated in this RFP*]” and shall bear the submission address and RFP No. Covers thus prepared should also indicate clearly the name, address, telephone number, e-mail ID and fax number of the Bidder to enable the Bid to be returned unopened in case it is not received in time. The Client shall not be responsible for misplacement, losing or premature opening. If the Technical Bid envelope is not sealed and/or marked as stipulated, DMD may decide this to be case for rejection of Bid.

All Bidding Documents, other than the Commercial Bid, should be hard bound and numbered in volumes if there are more than 1 (e.g. Technical Bid Volume-1, 2 etc.). All



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Bidding Documents should be page numbered and appropriately flagged and must contain an index showing contents with page numbers. **Any deficiency in the documentation may result in the rejection of the Bid.**

In case of any discrepancy observed by DMD in the contents of the submitted original bid documents with respective copies, the information furnished in original paper bid document will prevail over others.

As part of the Bid, Bidder should also provide the Technical Bid in soft copy format, in the form of a non-re-writeable CD (Compact Disc) as follows:

- Two copies of CD each containing the Technical Bid - should be sealed along with the hard copies of the Technical Bids.
- All CDs submitted by the Bidder must be in sealed covers. The sealed covers as well as the CD media must be duly signed by the Bidder using a "Permanent Pen / Marker", should be super-scribed with "Technical Bid-Soft Copy" and should bear the name of the Bidder.

Bidder must ensure that the information furnished by him in respective CDs is identical to that submitted in the original paper bid document. In case of any discrepancy observed by DMD in the contents of the CDs and original paper bid documents, the information furnished on original paper bid document will prevail over the soft copy.

Commercial Bid should be submitted in a sealed envelope along with technical bid. The envelope containing commercial bid should be superscribed as:

COMMERCIAL BID

Not to be opened without approval of tendering authority
RFP No.

NAME AND ADDRESS OF THE BIDDER

Please note that:

- Prices should not be indicated in the Technical Bid document or CD and should only be indicated in the Commercial Bid.
- Telex / Telegraphic / Tele-fax / E-mail Bids will not be considered.
- Copies of technical bids to be submitted along with the original.
- If the outer cover is not sealed and marked as indicated above, DMD will assume no responsibility for the Bid's misplacement or premature opening and may at its discretion, reject the Bids.

2.11.3 The Bid and its copy shall be typed or written in indelible ink and signed by the authorised signatory of the Bidder who shall initial each page, in blue ink. In case of printed and published Bidding Documents, only the cover may be initialed. All the alterations,



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

omissions, additions, or any other amendments made to the Bid shall be initiated by the person(s) signing the Bid. The Bids must be properly signed by the authorised representative (“**Authorised Representative**”) as detailed below:

- (a) by a duly authorised person holding the Power of Attorney, in case of a Limited Company or a corporation; or
- (b) by a duly authorised person of the Lead Member, holding the Power of Attorney, in case of consortium.

A copy of the Power of Attorney certified under the hands of a partner or director of the Bidder and notarised by a notary public in the form specified in Appendix-B shall accompany the Proposal.

- 2.11.4 Except as specifically provided in this RFP, no supplementary material will be entertained by DMD, and that evaluation will be carried out only on the basis of Bidding Documents received by the closing time of Bid Due Date. Bidders will ordinarily not be asked to provide additional material information or documents subsequent to the date of submission, and unsolicited material if submitted will be summarily rejected. For avoidance of any doubt, DMD reserves the right to seek clarifications under and in accordance with the provisions of Clause 2.18.

2.12 Technical Bid

- 2.12.1 Bidders shall submit the Technical Bid in the formats at Appendix-A (“**Technical Bid**”).

- 2.12.2 The Technical Bid, besides the other requirements of the Bid, shall comprise of the following, in the appropriate format, properly indexed wherever provided and appropriately indexed:

- Technical Bid Letter;
- General Information about the Bidder;
- Bidder’s financial strength;
- Bidders experience in design, implementation, operation and maintenance of EOC or similar highly reliable systems;
- Technical Solution development and Integration approach;
- Specifications of systems, equipment and software offered by the bidder and Bill of Quantities (BoQ);
- Manpower resource allocation and their qualifications and experience;
- Project Implementation and Management Plan;
- Training approach and methodology;
- Bidder’s experience in establishing and managing network operation and Help desk management; and
- Deviations from the Tender Terms & Conditions along with clauses and page numbers.

- 2.12.3 Failure to comply with the requirements spelt out in this Clause 2.12 shall make the Bid



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

liable to be rejected.

- 2.12.4 If the Bidder makes a false averment regarding his qualification, experience or other particulars, or its commitment of services for the Project is not fulfilled at any stage after signing of the Service Agreement, it shall be liable to be debarred for any future assignment of DMD for a period of 5 years. The award of this Bid to the Bidder may also be liable to cancellation in such an event.
- 2.12.5 The Technical Bid shall not include any financial information relating to the Commercial Bid.
- 2.12.6 DMD reserves the right to verify all statements, information and documents, submitted by the Bidder in response to the RFP. Any such verification or the lack of such verification by DMD to undertake such verification shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of DMD there under.
- 2.12.7 In case it is found during the evaluation or at any time before signing of the Service Agreement or after its execution and during the period of subsistence thereof, that one or more of the eligibility conditions have not been met by the Bidder or the Bidder has made material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith if not yet appointed as the Operator, and if the Operator has already been issued a LOA or entered into the Service Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by DMD without DMD being liable in any manner whatsoever to the Bidder or Operator, as the case may be.
- In such an event, DMD shall forfeit and appropriate the Bid Security as mutually agreed pre-estimated compensation and damages payable to DMD for, *inter alia*, time, cost and effort of DMD, without prejudice to any other right or remedy that may be available to DMD.

2.13 Commercial Bid

- 2.13.1 Bidders shall submit the Commercial Bid in the format at Appendix-E (“**Commercial Bid**”) clearly indicating the QGR to be charged by the Bidder, in both figures and words, in INR. In the event of any difference between figures and words, the amount indicated in words shall prevail. For the avoidance of doubt, it is clarified that the QGR shall be quoted in equal installments for the duration of the Operation and Maintenance Phase i.e. 5 years.
- 2.13.2 The QGR of the Project shall only be indicated in INR. A Bid in any other currency may be summarily rejected.
- 2.13.3 Bid shall be opened on the dates mentioned in Clause 1.4.8 in the presence of Bidders representatives who may attend at their cost. The Bidders' representatives who are present shall sign a register evidencing their attendance.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

2.13.4 Bid Prices

- a. The Commercial Bid once submitted cannot be amended. However, in some circumstances (such as major anomaly in the technical specifications having a major impact on pricing), DMD may decide to take fresh Commercial Bids from all the technically qualified Bidders before the actual opening of the Commercial Bid.
- b. Prices quoted shall be inclusive of all taxes and duties, including but not limited to service tax, and shall be firm and not be subject to any upward revision on any account whatsoever, throughout the period and scope of the Service Agreement, subject to change order provisions. In the event of any increase or decrease of the rate of taxes and duties due to any statutory notification/s during the term of the Service Agreement, the consequential effect shall be to the account of the DMD.

2.13.5 Amount of Bid Security and currency

The Bidder shall furnish, as part of its Bid, a Bid Security in the form of Bank Guarantee in accordance to the format detailed in Annex-VI of Appendix- A issued by any of the Nationalised /Schedule banks in India or from any of the following Private Sector banks located in India: ICICI Bank, Axis Bank, IDBI Bank and HDFC Bank for INR. 1, 00, 00,000/- (INR One Crore only). The Bid Security shall be furnished in INR by all the Bidders, including any foreign Bidders.

2.14 Rejection of Bids and Validity of Bids

Any Bid not secured in accordance with above mentioned Clause 2.13.5, may be rejected by DMD as being non-responsive, without any further correspondence. DMD may decide to relax this provision and call for the security afresh from the defaulting Bidder.

Bids shall remain valid for 180 days from the Bid Due Date prescribed by DMD. A Bid valid for shorter period may be rejected as non-responsive.

In exceptional circumstances, DMD may request the Bidder(s) for an extension of the period of validity. The request and the responses thereto shall be made in writing (or by fax). The validity of the Bid Security shall also be suitably extended.

2.15 Handling of Bid Security

2.15.1 Discharge in case of Unsuccessful Bidder

Bid Security of the unsuccessful Bidders', except the second highest Bidder, will be discharged / returned by DMD within 30 days from the date of award of contract to the successful Bidder. The Bid Security of the second highest Bidder will be released upon the Operator furnishing the Implementation Phase Performance Guarantee in accordance with the Service Agreement. DMD shall not be liable to pay any interest on the Bid Security.

2.15.2 Discharge in case of Selected Bidder



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

The Bid Security furnished by the Selected Bidder shall be refunded to the Bidder after submission of Implementation Phase Performance Guarantee. DMD shall not be liable to pay any interest on the Bid Security.

2.15.3 Forfeiture of Bid Security

The Bid Security can be forfeited if a Bidder:

- a. Withdraws its Bid during the period of bid validity;
- b. Having been notified of the acceptance of its Bid by DMD during the period of bid validity:
- c. fails or refuses to execute the Service Agreement;
- d. fails or refuses to furnish the Performance Security, in accordance with the bid requirement;
- e. engages in any of the Prohibited Practices specified in Section 4 of the RFP; or
- f. is found to have Conflict of Interest as specified in Clause 2.2.1

2.16 Modification and Withdrawal of Bids

2.16.1 Written Notice

The Bidder may modify, substitute or withdraw its Bid after the Bid's submission, provided that DMD receives written notice of the modification, substitution or withdrawal, prior to the Bid Due Date.

2.16.2 Signing and Marking of Notice

The Bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the abovementioned provisions.

2.16.3 Last Date for Notice

No Bid may be altered / modified subsequent to the Bid Due Date, unless expressly sought by DMD. Unsolicited correspondences from Bidders will not be considered. No Bid may be withdrawn in the interval between the last date for receipt of Bids and the expiry of the bid validity period specified by the Bidder in the Bid. Withdrawal of a Bid during this interval may result in the forfeiture of the Bid Security of the Bidder.

B. EVALUATION PROCESS

2.17 Evaluation of Bids

2.17.1 DMD shall first open the Technical Bid, in the presence of the representatives of the Bidders who choose to attend, at the time, date and place, as mentioned in Clause 1.4.8. In the event of the specified date of Bid opening is declared a holiday for DMD, the Bids shall be opened at the appointed time and location on the next working day. The Bidder's name, modifications, Bid withdrawals and the presence or absence of the requisite Bid Security and such other details considered appropriate will be announced at the bid opening. The Commercial Bid submitted shall be opened at a later date.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- 2.17.2 Bids for which a notice of withdrawal has been submitted in accordance with Clause 2.15 shall not be opened.
- 2.17.3 Prior to evaluation of Bids, DMD will determine whether each Bid is responsive to the requirements of the RFP. DMD may, in its sole discretion, reject any Bid that is not responsive hereunder. A Bid shall be considered responsive only if:
- (a) the Technical Bid is received in the form specified at Appendix-A;
 - (b) it is received by the Bid Due Date including any extension thereof;
 - (c) it is accompanied by the Bid Security as specified in Clause 2.14;
 - (d) it is signed, sealed, bound together in hard cover and marked as stipulated in Clauses 2.11;
 - (e) it is accompanied by the Power of Attorney as specified in Clause 2.11.3;
 - (f) it contains all the information (complete in all respects) as requested in the RFP;
 - (g) it does not contain any condition or qualification; and
 - (h) it is not non-responsive in terms hereof.
- 2.16.4 DMD reserves the right to reject any Bid which is non-responsive and no request for alteration, modification, substitution or withdrawal shall be entertained by DMD in respect of such Bids.
- 2.16.5 DMD shall subsequently examine and evaluate Bids in accordance with the Bidding Process and the criteria set out in Section 2 of this RFP.
- 2.16.6 After the technical evaluation, DMD shall prepare a list of pre-qualified and shortlisted Bidders and Commercial Bids only of the said shortlisted bidders will be opened. A date, time and venue will be notified to all Bidders for announcing the result of evaluation and opening of Commercial Bids. Before opening of the Commercial Bids, the list of pre-qualified and shortlisted Bidders along with their technical score will be read out. The opening of Commercial Bids shall be done in presence of respective representatives of Bidders who choose to be present. DMD will not entertain any query or clarification from Bidders who fail to qualify at any stage of the Bidding Process. The financial evaluation and final ranking of the Bids shall be carried out in terms of Clauses 3.3 and 3.4.
- 2.16.7 Bidders are advised that selection will be entirely at the discretion of DMD. Bidders will be deemed to have understood and agreed that no explanation or justification on any aspect of the Bidding Process or selection will be given.
- 2.16.8 Any information contained in the Bid shall not in any way be construed as binding on DMD, its agents, successors or assigns, but shall be binding against the Bidder if the Project is subsequently awarded to it.

Confidentiality

Information relating to the examination, clarification, evaluation, and recommendation for the



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

selection of Bidders shall not be disclosed to any person who is not officially concerned with the Bidding Process or is not a retained professional adviser advising DMD in relation to matters arising out of, or concerning the Bidding Process. DMD will treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. DMD may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/or DMD.

Clarifications by DMD

- 2.18.1 To facilitate evaluation of Bids, DMD may, at its sole discretion, seek clarifications from any Bidder regarding its Bid. Such clarification(s) shall be provided within the time specified by DMD for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing.
- 2.18.2 If a Bidder does not provide clarifications sought under Clause 2.18.1 above within the specified time, its Bid shall be liable to be rejected. In case the Bid is not rejected, DMD may proceed to evaluate the Bid by construing the particulars requiring clarification to the best of its understanding, and the Bidder shall be barred from subsequently questioning such interpretation of DMD.

Award of Project

- 2.19.1 After selection, a Letter of Award (“LOA”) shall be issued, in duplicate, by DMD to the Selected Bidder and the Selected Bidder shall, within 7 (seven) days of the receipt of the LOA, sign and return the duplicate copy of the LOA in acknowledgement thereof. In the event the duplicate copy of the LOA duly signed by the Selected Bidder is not received within the stipulated date, DMD may, unless it consents to extension of time for submission thereof, appropriate the Bid Security of such Bidder as mutually agreed genuine pre-estimated loss and damage suffered by DMD on account of failure of the Selected Bidder to acknowledge the LOA, and the next highest ranking Bidder may be considered.

Execution of Service Agreement

- 2.20.1 After acknowledgement of the LOA as aforesaid by the Selected Bidder, it shall execute the Service Agreement within the period prescribed in Clause 1.3.6. The Selected Bidder shall not be entitled to seek any deviation in the Service Agreement



SECTION – 3: CRITERIA FOR EVALUATION

3.1 Evaluation of Bids

- 3.1.1 An evaluation committee has been formed for technical evaluation of the Bids (“**Evaluation Committee**”). Decision of the Evaluation Committee will be final and binding upon all the Bidders. The evaluation process of the Bid, proposed to be adopted by DMD is indicated under this Clause. DMD reserves the right to modify the evaluation process at any time during the Bidding Process, without assigning any reason, whatsoever and without any requirement of intimating the Bidders of any such change.

The evaluation of the Bids shall be carried out in two phases, evaluation of the Technical Bid in the first phase followed by evaluation of the Commercial Bid. Weightage in the ratio of 70:30 shall be given to the technical and commercial score reached after evaluation of the respective Bids.

DMD will review the Technical Bids of the Bidders in accordance with Clause 3.2 to determine whether the Technical Bids are substantially responsive. All the Bidders who secure a technical score of seventy percent (70%) or more will be declared as technically qualified. Bids that are not substantially responsive are liable to be rejected.

The Commercial Bids of only technically qualified Bidders will be opened for further evaluation in order to determine whether the Commercial Bids are substantially responsive. The bidders who are declared as technically qualified shall be eligible for the commercial evaluation

- 3.1.2 DMD may waive any informality or non-conformity or irregularity in a Bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder. However, conditional Bids shall be summarily rejected. DMD may at its discretion ask the Bidder to make a presentation on their proposal to the Evaluation Committee. DMD may also ask for a clarification regarding the Bid and the clarification shall be given in writing immediately, but no change in the price shall be sought, offered or permitted. However, while giving a clarification, a Bidder may offer a higher specification or model without any impact on Commercial Bid to be opened subsequently.
- The final ranking of the Bidders viz. R1, R2 etc shall be decided on the basis of total score achieved by the Bidders after the technical and commercial evaluation.
- 3.1.3 With regard to the Commercial Bid evaluation, arithmetical errors will be rectified on the following basis:
- a. If there is a discrepancy between words and figures, the amount in words will prevail.

3.2 Evaluation of Technical Bids



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

A prequalification criteria is worked out as a Go-No Go checklist (given below in clause 3.2.1) to ensure that only those bidders who qualify these criteria are considered for further detailed technical and commercial bid evaluation.

Detailed evaluation of the Technical Bids shall be carried out in order to determine whether the Bidders are competent and whether their Technical Bids are substantially responsive to the requirements set forth in the RFP. Focused on the Bidders EOC related capabilities, the Technical Bid received would be assigned scores based on the parameters defined in the section 3.2.2 below

3.2.1 Pre Qualification Criteria

Sr. No.	Criteria	Documents to be submitted
1	Quality Certification	
a	Relevant ISO for Systems Integration or Security Management certification valid at least till end of 2013	Authenticated Copy of Certificate
b	Relevant ISO certification in the area of IT Services Management certification valid at least till end of 2013	Authenticated Copy of Certificate
2	Financial Strength	Documents Required
a	The Bidder should have a minimum average turnover of INR 200.0 (Two Hundred) Crores for the last three financial years from all its businesses and a minimum average turnover of INR 50.0 (Fifty) Crores for the last three financial years from all its IT infrastructure services businesses.	Sole Bidder or Lead Member of Consortium, as the case may be, should submit audited annual reports, including balance sheet and profit and loss account statement, for the last 3 (three) financial years along with the statutory auditor's certificates for turnover, net worth and net profit.
b	Sole Bidder / Lead Member of the Consortium should have positive net worth for each of the last three financial years.	
c	Minimum net worth of the Sole Bidder/ Lead Member at the end of last financial year should be at least INR 50.0 (Fifty) Crores.	
d	The Sole Bidder/ Lead Member of the Consortium should have positive earnings (net profit), for at least the last three financial years.	



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

3	Technical Expertise and experienced staff	Documents Required
a	The Bidder should have minimum 200 regular IT professional employees on its payrolls as on 31 March 2013.	A certificate to the effect signed and stamped by the Authorized Representative of the Bidder should be submitted.
b	Experience of the staff responsible for the Project. Each senior manager should have at least 3 years experience in the respective field.	CV of the project manager, operations manager and other senior professionals who shall be involved in the implementation and operation of the project also needs to be submitted.
c	The Bidder must have experience of at least: <ul style="list-style-type: none"> • One project of ICT infrastructure / services in WAN environment including application deployment and/or • System integration with an aggregate value of Rs 50.0 (Fifty) Crores successfully completed during the last 5 (Five) years. 	Work order issued by the appropriate authority, indicating the scope and cost of the project to be submitted.
D	The Bidder must have experience of implementing at least one project related to: <ul style="list-style-type: none"> • Tactical Operations Center (TOC) or • Emergency Operation Center (EOC) or • Fusion Center or • Defense Command Center successfully completed with any State Government/Central Government/PSU in India or a government organisation anywhere in the world in last 5 years, of value more than Rs 5.0 (Five) Crore. <p>The scope of above project should include implementation of EOC project or deployment of Incident Management Application or Crisis Information Management System.</p>	Work Order issued by the appropriate authority, indicating the scope and cost of the project to be submitted.



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

3.2.2 Detailed Technical Evaluation Criteria

Sr. No.	Attribute	Criteria	To be Allotted marks	Maximum marks
1	EOC Design and Implementation Projects (including Crisis mgmt. application, Audio Video systems, communication networks but excluding civil works)	≥ 3 Projects	10	10
		≥ 2 Projects	7	
		1 Project:	3	
2	EOC operation and Management Experience	≥ 2 Projects	10	10
		1 Project	5	
3	BOOT experience in IT Network projects	≥2 Projects	10	10
		1 Project	5	
4	Network Operations Centre experience (Mission Critical, WAN, LAN, Security, managing E-mail services, Internet services etc., for 24x7 operations) in Projects with over 100 (hundred) WAN nodes	≥ 2 Projects	10	10
		1 Project	5	
5	Call centre based facility management including 24X7 operation of call centre with at least 100 (hundred) agents	≥ 3 Years	5	5
		≥1 year	2	
6	Proposed Solution/Architecture for DMD applications and operations, software platforms proposed, development & integration approach and methodologies and capability demonstrated during NC-NC Demo	Based on Qualitative analysis of evaluation committee		15



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

7	Experience and qualification of Resources (Project management, Operations and facility management)		Based on data and Qualitative analysis of evaluation committee	15
	<ul style="list-style-type: none"> • Project head, • Network system designers, • IT experts including security system handlers, • Communication network installers , • testing and commissioning personnel 	≥ 10 to 15 years in relevant field		
	Operations and maintenance personnel <ul style="list-style-type: none"> • Operations General manager • VSAT network in-charge • Call centre and alert system manager • IT network systems and security systems including access control manager • Audio Video systems manager • Facility engineer 	≥ 5 to 10 years in relevant field		
8	Proposed Training Management Plan, experience and quality of training personnel and proposed training tools / material		Based on Qualitative analysis of evaluation committee	5
9	Financial strength (average turnover from all its businesses for the last three financial years)	≥1,000 Crores	15	15
		≥500 Crores	10	
		≥200 Crores	5	
10	Relationship with OEM for major system and Spare Parts	≥ 5 years:	5	5
		≥3 years:	3	



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

		≥1 year :	1	
	Qualifying marks		70	
	Total Marks			100

No further discussions/ interface will be held with the Bidder whose bid has been technically disqualified/ rejected.

3.3 Evaluation of Commercial Bids

Commercial Bids of those Bidders who qualify the technical evaluation will only be opened. The place, date and time for the opening of the Commercial Bids shall be announced separately.

The commercial scores will be calculated as

$$F_n = F_{min} / F_b * 100$$

Where

F_n = Normalized financial score of the Bidder under consideration,

F_b = Evaluated cost for the Bidder under consideration,

F_{min} = Minimum evaluated cost for any Bidder.

Evaluation of Bid - Final Evaluation

The overall score will be calculated as follows:-

$$B_n = 0.7 * T_n + 0.3 * F_n$$

Where

B_n = Overall score of Bidder under consideration

T_n = Technical score for the Bidder under consideration

F_n = Normalized financial score of the Bidder under consideration

3.4 Deciding Award of Contract

DMD will decide the Selected Bidder and award the Project to the Bidder ranked 1 after the Technical and Commercial evaluation. The 2nd ranked bidder shall be kept in reserve and it shall replace the 1st ranked bidder in case the 1st ranked bidder fails to fulfill the conditions laid down in the RFP

3.5 Notification to award to Selected Bidder



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Before the expiry of the period of bid validity and on completion of the Commercial Bid evaluation, DMD shall notify the successful Bidder in writing by registered letter or by fax, that its Bid has been accepted. The Bidder shall acknowledge in writing receipt of the notification of award and will send his acceptance to enter into Agreement within seven (7) days. The signing of agreement will amount to award of contract and Bidder will initiate the execution of the work as specified in the agreement.

3.6 Performance Guarantee

Subsequent to awarding of Project, Bidder shall furnish Implementation Phase Performance Guarantee and Project Performance Guarantee as detailed in the Service Agreement. The Bid Security, of the Selected Bidder, shall only be released after such Bidder furnishes the Implementation Phase Performance Guarantee in the prescribed form.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

SECTION – 4: FRAUD AND CORRUPT PRACTICES

- 4.1 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained in this RFP, DMD may reject a Bid without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the “**Prohibited Practices**”) in the Bidding Process. In such an event, DMD shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to DMD for, *inter alia*, time, cost and effort of DMD, in regard to the RFP, including consideration and evaluation of such Bidder’s Bid.
- 4.2 Without prejudice to the rights of DMD under Clause 4.1 hereinabove and the rights and remedies which DMD may have under the LOA or the Service Agreement, if a Bidder or Operator, as the case may be, is found by DMD to have directly or indirectly or through an agent, engaged or indulged in any Prohibited Practice during the Bidding Process, or after the issue of the LOA or the execution of the Service Agreement, such Bidder or Operator shall not be eligible to participate in any tender or RFP issued by the DMD during a period of 5 years from the date such Bidder or Operator, as the case may be, is found by the DMD to have directly or through an agent, engaged or indulged in any Prohibited Practice.
- 4.3 For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:
- (a) “**Corrupt Practice**” means
- (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the DMD who is or has been associated in any manner, directly or indirectly with the Bidding Process or the LOA or has dealt with matters concerning the Service Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the DMD, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or
- (ii) save as provided herein, engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Service Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Service Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the DMD in relation to any matter concerning the Project;
- (b) “**Fraudulent Practice**” means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Bidding Process;



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

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- (c) **“Coercive Practice”** means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the Bidding Process;
- (d) **“Undesirable Practice”** means
- (i) establishing contact with any person connected with or employed or engaged by the DMD with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or
 - (ii) having a Conflict of Interest; and
- (e) **“Restrictive Practice”** means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

SECTION – 5: MISCELLANEOUS

- 5.1 The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the Courts at Patna shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the Bidding Process.
- 5.2 DMD, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:
- Suspend and/or cancel the Bidding Process and/or amend and/or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
 - Consult with any Bidder in order to receive clarification or further information;
 - Retain any information and/or evidence submitted to the DMD by, on behalf of and/or in relation to any Bidder; and/or
 - Independently verify, disqualify, reject and/or accept any and all submissions or other information and/or evidence submitted by or on behalf of any Bidder.
- 5.3 It shall be deemed that by submitting the Proposal, the Bidder agrees and releases the DMD, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/or performance of any obligations hereunder, pursuant hereto and/or in connection herewith and waives any and all rights and/or claims it may have in this respect, whether actual or contingent, whether present or future.
- 5.4 All documents and other information supplied by DMD or submitted by a Bidder shall remain or become, as the case may be, the property of the DMD. The DMD will not return any submissions made hereunder. Bidders are required to treat all such documents and information as strictly confidential.
- 5.5 DMD reserves the right to make inquiries with any of the clients listed by the Bidders in their previous experience record



SECTION 6- FORMATS FOR BID DOCUMENTS



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

Appendix A – Technical Bid Letter

ON THE LETTERHEAD OF THE BIDDER

Reference:

To,

**The Principal Secretary
Disaster Management Department
Government of Bihar
Old (Main) Secretariat,
Patna-800015, Bihar State**

Subject: Appointment of BOOT (Build, Own, Operate, Transfer) Operator for setting up and operationalisation of Emergency Operations Centre Infrastructure (EOCI) for Bihar State for Disaster Management Department (DMD), Bihar State

Reference: <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

Dear Sir,

With reference to your RFP Document dated [●], I/we, having examined all relevant documents and understood their contents, hereby submit our Bid for selection as Operator for [*Appointment of BOOT (Build, Own, Operate, Transfer) Operator for setting up and Operationalisation of EOICI*]. The Bid is unconditional and unqualified.

1. All information provided in the Bid and in the Appendices is true and correct and all documents accompanying such Bid are true copies of their respective originals.
2. This statement is made for the express purpose of appointment as the Operator for the aforesaid Project.
3. I/We shall make available to DMD any additional information it may deem necessary or require for supplementing or authenticating the Bid.
4. I/We acknowledge the right of the DMD to reject our application without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
5. I/We certify that in the last three years, we or any of our Associates have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder, nor been expelled from any project or contract by any public authority nor have had any contract terminated by any public authority for breach on our part.



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

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6. I/We declare that:
- (a) I/We have examined and have no reservations to the RFP and the Bidding Documents, including any addendum issued by DMD;
 - (b) I/We do not have any Conflict of Interest in accordance with Clause 2.2.1 of the RFP Document;
 - (c) I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in Clause 4.1 of the RFP document, in respect of any tender or request for proposal issued by or any agreement entered into with DMD or any other public sector enterprise or any government, Central or State;
 - (d) I/We hereby certify that we have taken steps to ensure that in conformity with the provisions of Section 4 of the RFP, no person acting for us or on our behalf will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice; and
 - (e) No bar from any Central/State Government or any other entity controlled by it, for participating in any project, subsists as on the date of Bid.
7. I/We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Bid that you may receive nor to select the Operator, without incurring any liability to the Bidders in accordance with the RFP document.
8. I/We declare that we/any member of the consortium, are/is not a Member of a/any other Consortium applying for selection as an Operator.
9. I/We certify that in regard to matters other than security and integrity of the country, we or any of our Associates have not been convicted by a court of law or indicted or adverse orders passed by a regulatory authority which would cast a doubt on our ability to undertake the Project or which relates to a grave offence that outrages the moral sense of the community.
10. I/We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a court of law for any offence committed by us or by any of our Associates.
11. I/We further certify that no investigation by a regulatory authority is pending either against us or against our Associates or against our CEO or any of our directors.
12. I/We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by DMD [and/ or the Government of India] in connection with the selection of Operator or in connection



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

with the Bidding Process itself in respect of the above mentioned Project.

13. The Bid Security of INR 1, 00, 00,000/- (INR One Crore only) in the form of a Bank Guarantee is attached, in accordance with the RFP document.
14. I/We agree and understand that the Bid is subject to the provisions of the RFP document. In no case, shall I/we have any claim or right of whatsoever nature if the Project is not awarded to me/us or our Bid is not opened or rejected.
15. I/We agree to keep this offer valid for 180 (one hundred and eighty) days from the Bid Due Date specified in the RFP.
16. A Power of Attorney in favour of the authorised signatory to sign and submit this Bid and documents is attached herewith in Appendix B.
17. In the event of my/our entity/ consortium being selected as the Operator, I/we agree to enter into the Service Agreement in accordance with the form provided by DMD. We agree not to seek any changes in the aforesaid form and agree to abide by the same.
18. I/We have studied RFP and all other documents carefully and also surveyed the Project site. We understand that except to the extent as expressly set forth in the Service Agreement, we shall have no claim, right or title arising out of any documents or information provided to us by the DMD or in respect of any matter arising out of or concerning or relating to the Bidding Process including the award of the Project.
19. The Commercial Bid is being submitted online. This Technical Bid read with the Commercial Bid submitted online shall constitute the Bid which shall be binding on us.
20. I/We agree and undertake to abide by all the terms and conditions of the RFP Document. In witness thereof, I/we submit this Bid under and in accordance with the terms of the RFP Document.

Yours faithfully,

(Signature, name, designation and address of the authorised
signatory)

(Name and seal of the Bidder / Lead Member)



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Annex I – General Information about the Bidder

Details of the Bidder		
1.	Name of the Bidder	
2.	Address of the Bidder	
3.	Status of the Company (Public Ltd/ Pvt. Ltd)	
4.	Details of Incorporation of the Company	Date:
		Ref. #
5.	Details of Commencement of Business	Date:
		Ref. #
6.	Valid Sales tax registration no.	
7.	Valid Service tax registration no.	
8.	Permanent Account Number (PAN)	
9.	Name & Designation of the contact person to whom all references shall be made regarding this tender	
10.	Telephone No. (with STD Code)	
11.	E-Mail of the contact person:	
12.	Fax No. (with STD Code)	
13.	Website	



Annex II – Technical Solution

1. The Bidder is required to describe the proposed technical solution in this section. Following should be captured in the explanation:
 - a) Clear articulation and description of the design and technical solution and various components including manufacturer of equipment or sizing of infrastructure (including diagrams and calculations wherever applicable).
 - b) Extent of compliance to technical requirements specified in the scope of work.
 - c) Technical Design and clear articulation of benefits to DMD of various components of the solution vis-a-vis other options available.
 - d) Strength of the Bidder to provide services including examples or case-studies of similar solutions deployed for other customers.

2. The Bidder should provide detailed design and sizing calculation for the following listing all assumptions that have been considered:
 - a. IT Components design Approach & Methodology
 - b. Operations & Maintenance
 - c. Approach & Methodology for Commissioning of the EOCI for Bihar.
 - d. Adherence to Best practices like ISO etc.

3. Bidder shall provide a detailed project plan with timelines, resource allocation, milestones etc. in for Supply, Installation, Commissioning, Operations and Maintenance of the IT components for EOCI

4. The bidder should provide detailed specifications of communications and Information technology (IT) products and services proposed for EOCI project



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Annex III – Manpower Details

The Bidder should provide a detailed resource deployment plan to ensure that technically qualified staff is available to deliver the Project. The Bidder would require qualified Emergency Operations Centre Design expert, Project Manager, etc. who have to be necessarily the employee of the Vendor. But the other resources like the civil works staff, etc. may be employed/ sub-contracted by the Bidder. However, the Bidder would have to monitor and manage the staff on a daily basis.

1. The Bidder should provide the summary table of details of the typical manpower that will be deployed on this project for **implementation and Operations & Maintenance (O&M)**.

Sr. No.	Details of staff	No. of Human Resources	Key Responsibilities	Academic Qualifications and Certifications (e.g. EOC operation and emergency management, Communication, Network, IT security etc)	Years of Experience in Relevant domain
1.	Project manager				
2.	Emergency Operations Centre Design Expert				
3.	Onsite support				
4.	Others				



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Annex IV – Deviations from Bid Terms & Conditions

The given format should be followed while marking out the deviations from Bid terms and conditions:

Sr. No.	Page No.	Section No.	Clause No.	Statement of deviations and variations.if any	Remarks
1.					
2.					
3.					
4.					
5.					
6.					



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Annex V – Profarma of Bank Guarantee towards Bid Security

Format of the Unconditional and Irrevocable Bank Guarantee for Bid Bond (E

(To be executed on a non-judicial stamp paper of appropriate value as per the stamp duty laws, relevant to the place of execution. Foreign entities submitting Bids are required to follow the applicable law in their country.)

In consideration of the [●] (Insert name of the Bidder) submitting the Bid for *Appointment of BOOT (Build, Own, Operate, Transfer) Operator for setting up and operationalisation of EOCI (Emergency Operations Centre Infrastructure) for (DMD)* in response to the RFP dated [●] [Insert date of RFP] issued by DMD, and DMD agreeing to consider the Bid of [●] [Insert the name of the Bidder] as per the terms of the RFP, the [●] [Insert name and address of the bank issuing the Bid Bond, and address of the head office] (hereinafter referred to as “**Guarantor Bank**”) hereby agrees unequivocally, irrevocably and unconditionally to pay to DMD or its authorized representative at [●] forthwith on demand in writing from DMD or any representative authorized by it in this behalf an amount not exceeding INR 1,00,00,000/- (INR One Crore) only, on behalf of M/s [●][Insert name of the Bidder].

This guarantee shall be valid and binding on the Guarantor Bank up to and including [●] [Insert date of validity of Bid Bond in accordance with Clause 2.14.2 of the RFP] and shall not be terminable by notice or any change in the constitution of the Guarantor Bank or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between concerned parties.

Our liability under this Guarantee is restricted to INR [●] [insert amount in words] only. DMD or its authorized representative shall be entitled to invoke this Guarantee until [] [Insert Date, which is 30 days after the date in the preceding sentence]. The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from DMD or its authorized representative, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to DMD or its authorized representative.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection, disputes, or disparities raised by the Bidder or any other person. The Guarantor Bank shall not require DMD or its authorized representative to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against DMD or its authorized representative in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at [●] shall have exclusive jurisdiction.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

the Guarantor Bank in the manner provided herein.

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution or any other change in the constitution of the Guarantor Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly, DMD or its authorized representative shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Bidder, to make any claim against or any demand on the Bidder or to give any notice to the Bidder to enforce any security held by DMD or its authorized representative or to exercise, levy or enforce any distress, diligence or other process against the Bidder.

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to DMD and may be assigned, in whole or in part, (whether absolutely or by way of security) by DMD to any entity to whom it is entitled to assign its rights and obligations under the RFP Documents.

The Guarantor Bank hereby agrees and acknowledges that DMD shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to INR 1,00,00,000/- (INR One Crore only) and it shall remain in force until [●] [*Date to be inserted on the basis of Clause 2.14.2 of RFP*], with an additional claim period of thirty (30) days thereafter. We are liable to pay the guaranteed amount or any part thereof under this BANK GUARANTEE only if DMD or its authorized representative serves upon us a written claim or demand.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this [●] day of [●] at [●]

Witness:

- 1 [●]
Signature
Name and address.
Name:
Designation with Bank Stamp Signature

- 2 [●]
Signature
Name and address.
Name:
Designation with Bank Stamp Signature

Name and address



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Attorney, as per power of attorney No. [●]

For: [●] [*Insert Name of the Bank*]

Banker's Stamp and Full Address:

Dated this [●] day of [●] 2013

Note: The Stamp Paper should be in the name of the Executing Bank.

Instructions for Furnishing Bank Guarantee

The Bank Guarantee by Indian Bidders will be given on non-judicial stamp paper as per stamp duty applicable in the state in which the guarantee is executed, from where the purchase contract will be placed. The non-judicial stamp paper should be in name of the issuing bank.



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Annex VI – Certificate for Turnover, Net Worth and Net Profit

To,
**The Principal Secretary
Disaster Management Department
Government of Bihar
Old (Main) Secretariat,
Patna-800015, Bihar State**

Sub: <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

Dear Sir,

We certify that [•], the Sole Bidder/ Lead Member had a Net worth of INR [•] Crores or equivalent USD* based on unconsolidated audited annual accounts (refer ** below) as of close of last financial years on [•].

I/We, [•], the Statutory Auditor of the Bidder hereby declares that:

- i. The Bidder has a minimum average turnover of INR 200 Crores for the last three financial years from all its businesses and a minimum average turnover of INR 80 Crores for the last three financial years from all its IT infrastructure services businesses.
- ii. Sole Bidder / Lead Member of the Consortium has recorded a positive net worth for each of the last three financial years.
- iii. Minimum net worth of the Sole Bidder/ Lead Member at the end of last financial year was INR [•], which is more than INR50.0 Crores.
- iv. The Sole Bidder/ Lead Member of the Consortium has positive earnings (net profit), for atleast the last three financial years.

*Conversion to INR will be done as per average conversion rates published by Reserve Bank of India applicable 60 days prior to the Bid Due Date.

** The column for “Relationship with Bidding Company” is to be filled in only in case financial capability of Parent/Affiliate has been used for meeting Networth Requirements.

Yours faithfully

(Signature and stamp of any Director of Bidding Company/ Lead Member of Consortium)

Name:

Date:

Place:



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

(Signature and Stamp of Chartered Accountant)

Name:

Date:

Place:

Date:

Note:

1. Along with the above format, in a separate sheet, please provide details of computation of Net worth duly certified by a Chartered Accountant.
2. Audited consolidated annual accounts of the Bidder may be used for the purpose of financial criteria provided the Bidder has at least 50% equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Annex VIII – Undertaking by the Associate

ON THE LETTERHEAD OF THE ASSOCIATE OF THE BIDDER

To,

**The Principal Secretary
Disaster Management Department
Government of Bihar
Old (Main) Secretariat,
Patna-800015, Bihar State**

**Sub: Undertaking in response to RFP <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>
(hereinafter “RFP”)**

Dear Sir,

1. We acknowledge that we M/s _____ (*insert name of Associate*) are an Associate of M/s _____ (“Bidder”) (*insert name of the Member or Sole Bidder that is relying on the Associate’s financial/technical capacity*) in accordance with the terms of the RFP. We acknowledge that we have read and understood the RFP and the defined terms used in this letter shall have the same meaning ascribed to them in the RFP.
2. We have, vide resolution dated _____ passed by our Board of Directors, duly authorised the Bidder to use our [financial and/or technical capacity] for purposes of qualification under the RFP.
3. We undertake that, in the event the Bidder/Consortium of which the Bidder is a Member, is awarded the Project, we shall, throughout the subsistence of the Service Agreement, maintain the relationship of Associate (as defined in the RFP) with the Bidder and we shall be responsible for ensuring performance by the Bidder of its obligations under the Service Agreement.

Yours faithfully,

(Signature, name, designation and address of the authorised signatory)

(Name and seal of the Associate)



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Appendix B – Power of Attorney

(To be executed on a non-judicial stamp paper of appropriate value as per the stamp duty laws, relevant to the place of execution. Foreign companies submitting Bids are required to follow the applicable law in their country)

Power of Attorney to be provided by the Sole Bidder/ Lead Member in favor of its representative as evidence of authorized representative's authority.

Know all men by these presents, We [●] (name and address of the registered office of the Bidder or Lead Member of the Consortium, as applicable) do hereby constitute, appoint and authorize Mr./Ms [●] (name and residential address) who is presently employed with us and holding the position of [●] as our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for *Appointment of BOOT (Build, Own, Operate, Transfer) Operator for setting up and Operationalisation of Emergency Operations Centre) Infrastructure (EOCI) for Disaster Management Department (DMD), Bihar state* in response to the RFP dated [●] issued by DMD, including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, power of attorney in favour of the lead member, guarantees or any other document which DMD may require us to submit. The aforesaid attorney is further authorized for making representations to and providing information / responses to DMD, representing us in all matters and generally dealing with DMD in all matters in connection with our Bid till the completion of the Bidding Process as per the terms of the RFP.

We hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

Signed by the within named [●] [Insert the name of the executant company] through the hand of

Mr. [●] duly authorized by the Board to issue such Power of Attorney

Dated this [●] day of [●]

Accepted

[●] Signature of Attorney (Name, designation and address of the Attorney)

Attested

[●]

(Signature of the executant) (Name, designation and address of the executant)

[●]

Signature and stamp of Notary of the place of execution



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Common seal of [●] has been affixed in my/our presence pursuant to Board of Director's Resolution dated [●].

WITNESS

1. [●]
(Signature)
Name [●]
Designation [●]

2. [●]
(Signature)
Name [●]
Designation [●]

Notes:

- (1) The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).

- (2) In the event, power of attorney has been executed outside India, the same needs to be duly notarized by a notary public of the jurisdiction where it is executed.

- (3) Also, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Appendix C – Power of Attorney to be provided by each of the Members of the Consortium (other than the Lead Member) in favor of the Lead Member

WHEREAS DMD has issued a Request for Proposal (RFP) on [●] [Insert Date] for inviting Bids in respect of *Appointment of BOOT (Build, Own, Operate, Transfer) Operator for setting up Emergency Operations Center Infrastructure (EOCI) for Disaster Management Department (DMD) Bihar State (DMD)* on the terms and conditions contained in the RFP and the Bidding Documents (as defined in RFP);

AND WHEREAS [●], [●] and [●] (Insert names of all Members of Consortium) the Members of the Consortium are desirous of submitting a Bid in response to the RFP, and if selected, undertake the Project in accordance with the RFP;

AND WHEREAS all the Members of the Consortium have agreed under the Consortium Agreement dated [●] entered into between all the Members and submitted along with the Bid to appoint [●] (Insert the name and address of the Lead Member) as the Lead Member to represent all the Members of the Consortium for all matters regarding the RFP and the Bid Documents and the Bid;

AND WHEREAS pursuant to the terms of the RFP and the Consortium Agreement, we, the Members of the Consortium hereby designate M/s [●] (Insert name of the Lead Member) as the Lead Member to represent us in all matters regarding the Bid and the RFP, in the manner stated below:-

Know all men by these presents, We [●] (Insert name and address of the registered office of the Member 1), [●] (Insert name and address of the registered office of the Member 2) [●] (Insert name and address of the registered office of the Member n) do hereby constitute, appoint and authorise [●] (name and registered office address of the Lead Member), which is one of the Members of the Consortium, to act as the Lead Member and our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of Consortium's Bid in response to the Request For Proposal dated [●], issued by DMD including signing and submission of the Bid and all documents related to the Bid as specified in the RFP, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document, which DMD may require us to submit. The aforesaid Attorney shall be further authorized for making representations to and providing information / responses to DMD, representing us and the Consortium in all matters named in the RFP, and generally dealing with DMD in all matters in connection with our Bid, till completion of the Bidding Process in accordance with the RFP.

We, as Members of the Consortium, hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

the RFP.

Signed by the within named [●][Insert the name of the executant company] through the hand of

Mr. [●] duly authorized by the Board to issue such Power of Attorney

Dated this [●] day of [●]

Accepted

[●]

Signature of Attorney (Name, designation and address of the Attorney)

Attested

[●]

(Signature of the executant) (Name, designation and address of the executant)

[●]

Signature and stamp of Notary of the place of execution

Common seal of [●] has been affixed in my/our presence pursuant to Board of Director's Resolution dated [●]

WITNESS:

1. [●]
(Signature)
Name [●]
Designation [●]

2. [●]
(Signature)
Name [●]
Designation [●]

Notes:

- (1) The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).
- (2) In the event, power of attorney has been executed outside India, the same needs to be duly notarized by a notary public of the jurisdiction where it is executed.
- (3) Also, wherever required, the executant(s) should submit for verification the extract of the chartered documents and documents such as a Board resolution / power of attorney, in favour of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).



Annexure 1 to the Consortium Agreement

Role and Responsibility of each Member of the Consortium:

1. Role and Responsibility of Lead Member
2. Role and Responsibility of Technical Member
3. Role and Responsibility of [•] Member



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Appendix DD – Format for the Consortium Agreement where the Members elect NOT to set up an SPV

(To be executed on a non-judicial stamp paper of appropriate value as per the stamp laws, relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country)

FORM OF CONSORTIUM AGREEMENT BETWEEN

M/S [●],
M/S [●],
M/S [●] AND
M/S [●] FOR [●] AS PER CLAUSE 2.2.6A(f)

THIS Consortium Agreement (hereinafter referred to as “Agreement”) executed on this [●] day of [●] 2013 between M/s [●] a company incorporated under the laws of [●] and having its Registered Office at [●] (hereinafter called the “**Party 1**”, which expression shall include its successors, executors and permitted assigns), M/s [●] a company incorporated under the laws of [●] and having its Registered Office at [●] (hereinafter called the “**Party 2**”, which expression shall include its successors, executors and permitted assigns) and M/s [●] a Company incorporated under the laws of [●] and having its Registered Office at [●] (hereinafter called the “**Party n**”, which expression shall include its successors, executors and permitted assigns) {The Bidding Consortium should list the name, address of its registered office and other details of all the Consortium Members} for the purpose of submitting the Bid in response to the RFP and in the event of selection as Selected Bidder to comply with the requirements as specified in the RFP and ensure execution of the Bidding Documents as may be required to be entered into with DMD.

Party 1, Party 2, and Party n are hereinafter collectively referred to as the “Parties” and individually as a “Party”.

(Note : Party n shall be a maximum No. of 6 Members)

WHEREAS the DMD proposes to set up the Project for *Appointment of BOOT (Build, Own, Operate, Transfer) Operator for setting up Emergency Operations Centre Infrastructure (EOCI) to improve state’s response to disasters*

AND WHEREAS, DMD had invited Bids, vide RFP dated [●] [Insert date] issued to [●] [Insert the name of purchaser of RFP].

AND WHEREAS, Clause 2.2.6A (f) of the RFP stipulates that the Bidders qualifying on the strength of a Bidding Consortium shall submit a legally enforceable Consortium Agreement in a format specified in the RFP, whereby the Members undertake to be severally and jointly liable for all obligations of the Operator in relation to the Project in accordance with the Service Agreement and undertake to submit the Bid Security and Implementation Phase Performance



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Guarantee / Project Performance Guarantee as required as per the provisions of the RFP, as specified herein.

NOW THEREFORE, THIS INDENTURE WITNESSTH AS UNDER:

In consideration of the above premises and agreement, all the parties in this Consortium do hereby mutually agree as follows:

1. In consideration of the selection of the Consortium as the Selected Bidder by DMD, we the Members of the Consortium and Parties to the Consortium Agreement do hereby unequivocally agree that M/s [●] (Insert name of the financial qualified Member), shall act as the Lead Member as defined in the RFP for self and agent for and on behalf of [●] (the names of all the other Members of the Consortium to be filled in here).
2. The Lead Member is hereby authorized by the Members of Consortium and Parties to the Consortium Agreement to bind all the Members of the Consortium and receive instructions for and on behalf of all Members. [●], [●] is designated as the Technical Member, whose credentials have been used for the Consortium to meet the Technical Criteria.
3. The Lead Member shall be liable and responsible for ensuring the individual and collective commitment of each of the Members of the Consortium in discharging all their respective obligations. Each Member further undertakes to be individually liable for the performance of its part of the obligations without in any way limiting the scope of collective liability envisaged in this Agreement.
4. Except as specified in the Agreement, it is agreed that sharing of responsibilities as aforesaid shall not in any way be a limitation of responsibility of the Lead Member under these presents.
5. It is further specifically agreed that the financial liability for equity contribution of the Lead Member shall, not be limited in any way so as to restrict or limit its liabilities. The Lead Member shall be liable irrespective of their scope of work or financial commitments.
6. This Consortium Agreement shall be construed and interpreted in accordance with the Laws of India and courts at [●] alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
7. It is hereby agreed that the Lead Member shall furnish the Bid Security, as stipulated in the RFP, on behalf of the Consortium.
8. It is hereby agreed that in case of selection of the Consortium as the Selected Bidder, the Parties to this Consortium Agreement do hereby agree that they shall furnish the Implementation Phase Performance Guarantee on behalf of the Operator in favor of DMD, as stipulated in the RFP and the Service Agreement. The Lead Member shall be responsible



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

for ensuring the submission of the Implementation Phase Performance Guarantee / Project Performance Guarantee on behalf of all the Members.

9. It is further expressly agreed that the Consortium Agreement shall be irrevocable and, for the Selected Bidder, shall remain valid over the term of the Service Agreement, unless expressly agreed to the contrary by DMD.
10. The Lead Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Members respectively from time to time in response to the RFP for the purposes of the Bid.
11. It is expressly understood and agreed between the Members that the responsibilities and obligations of each of the Members shall be as delineated as annexed hereto as **Annexure 1** forming integral part of this Consortium Agreement. It is further agreed by the Members that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities and liabilities of the Members, with regards to all matters relating to the Project, as envisaged in the Bidding Documents.
12. It is clearly agreed that the Lead Member shall ensure performance under the agreements and if one or more Members fail to perform its /their respective obligations under the agreement(s), the same shall be deemed to be a default by all the Members.
13. It is hereby expressly agreed between the Parties to this Consortium Agreement that neither Party shall assign or delegate its rights, duties or obligations under this Agreement except with prior written consent of DMD.
14. This Consortium Agreement:
 - (a) has been duly executed and delivered on behalf of each Party hereto and constitutes the legal, valid, binding and enforceable obligation of each such Party,
 - (b) sets forth the entire understanding of the Parties hereto with respect to the subject matter hereof; and
 - (c) shall not be amended or modified except in writing signed by each of the Parties and with prior written consent of DMD.

IN WITNESS WHEREOF, the Parties to the Consortium Agreement have, through their Authorised Representatives, executed these presents and affixed common seals of their respective companies on the Day, Month and Year first mentioned above.

Common Seal of	For	and	on	behalf	of
has been affixed in my/our presence pursuant to the Board of Director's resolution dated	Consortium Member (party 1)				
	M/s.....				



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

(Signature) (Signature of authorized representative)
Name: Designation:.....
Name: Designation:

Place: Date:

Witness:

- 1 (Signature) Name Designation.....
2 (Signature) Name Designation.....

Common Seal of For and on behalf of has been affixed in my/our Consortium Member (Party n) presence pursuant to the M/s..... Board of Director's resolution dated

(Signature) (Signature of authorized representative)
Name: Name:
Designation: Designation:

Note: Separate witness for each Consortium Member should fill in the details.

Place: Date:

Witness

- 1 (Signature) Name Designation.....
2 (Signature) Name Designation.....

Attested:

(Signature) (Notary Public)
Place:
Date:



**Annexure 1 to the Consortium Agreement
Role and Responsibility of each Member of the Consortium:**

1. Role and Responsibility of Lead Member
2. Role and Responsibility of Technical Member
3. Role and Responsibility of [•] Member



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Appendix E – Commercial Bid Letter

ON THE LETTERHEAD OF THE BIDDER

To,
The Principal Secretary
Disaster Management Department
Government of Bihar
Old (Main) Secretariat
Patna- 800015,
Bihar State

Subject: Appointment of BOOT (Build, Own, Operate, Transfer) Operator for setting up and operationalisation of Emergency Operations Centre Infrastructure (EOCI) for Disaster Management Department, Bihar State

Reference: RFP No: <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

Dear Sir,

I/We, [●] (Bidder's name) herewith enclose the Commercial Bid as laid down under Annex I of Appendix E for selection of my/our firm as Operator for above.

I/We agree that this offer shall remain valid for a period of 180 (one hundred and eighty) days from the Bid Due Date or such further period as may be mutually agreed upon.

Yours faithfully,

(Signature, name and designation of the authorised signatory)

Note: The Financial Proposal is to be submitted strictly as per forms given in the RFP.



RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State

Annex I – Commercial Bid Form

ITEM	Figure in INR	Figure in words
QGR for EOICI except back-up SEOC		
QGR for back- up SEOC		



PART- B:
SCOPE OF WORK, TECHNICAL
REQUIREMENTS, SYSTEM SPECIFICATIONS,
DELIVERABLES; ACCEPTANCE TEST
PROCEDURES & PAYMENT TERMS



SECTION 1 – SCOPE OF WORK

1.1 General Requirements

The scope of work includes system design, supply of sub-systems and equipment, installation, integration, testing and commissioning of Emergency Operations Centre Infrastructure (EOCI) to be set-up by the Operator and overall operation, maintenance and management for a period of five (5) years after successful completion of Acceptance Tests and fault rectifications if any. Operator is expected to set-up a state of the art disaster response facility for quick and efficient response in cases of disaster situations. The communication infrastructure should be based on multiple communication technology and tools necessary for a highly reliable network. An integrated Network Monitoring and Control System (“NMS”) with a user friendly Graphical User Interface (“GUI”) based operation shall be provided to monitor and manage various nodes / elements / components integrated into the EOC network.

A detailed acceptance testing as per approved acceptance testing plan (“ATP”) will be carried out before commissioning of the ICTS infrastructure before start of operational phase of the project.

The design of EOC Infrastructure capabilities would be characteristically “fail safe (reliable)”, scalable and should be 24*7*365 operational under all Disaster Conditions. EOCI will facilitate coordination between all stakeholders with proposed Information Management Portal System (IMPS) and Incident Management System (IMS) managed under EOC infrastructure operation and management services.

The nature of information exchanged between EOCI system and external agencies will be in the form of electronic data (both audio and video in analog or digital), facsimile or print data. Likely Information sources are:

- a) Agencies responsible for inputs on disasters including IMD, ISR, GSI, NRSA, CWC, INCOIS, GIDM and international agencies such as NOAA, USGS, as well as persons operating at disaster sites . The information will be accessed via dedicated communication links such as NICNET, Satellite based Disaster Management Support (DMS) network setup by Department of Space.
- b) Central Government Agencies responsible for DM activities such as Ministry of Home Affairs (MHA), National Disaster Management Authority (NDMA)
- c) Via web sites of international organizations
- d) Via E-mails , FAX and SMS received from these organizations
- e) Inputs received at call centre from public, NGOs, corporate or other resources
- f) Video footage, photographs received from disaster sites
- g) Video footage from TV news channels

External agencies (in addition to all government / quasigovernment agencies that are connected via EOCI), that will access the information will be:



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- a. NGOs,
- b. Corporate bodies and
- c. General public
- d. Broad cast channels (TV, cable, satellite)

SEOC would play a key role in monitoring, alerting, managing, and responding to major incidents anywhere in the State through each of the EOCs. SEOC will be equipped with:

- State-of-the-art IT infrastructure,
- Communications equipments,
- Alert and Dispatch facilities,
- Multimedia management system for handling live video feeds coming from multiple sources like video-conferencing devices, surveillance and remote cameras or footage captured through video cameras on ERV transmitted via VSAT links. Operator should provide electronic data and video information storage facilities so that all disaster related data will be available for immediate access till 4 weeks. Subsequently, the data can be stored in CD format for access/study/analysis
- Secure video conferencing,
- UPS of appropriate rating and power distribution facility for equipment offered by the operator
- Mapping and emergency planning tools allowing presenters to annotate over any computer or video signal in real-time and in Standard Definition (SD) or High Definition (HD) qualities, and
- Enable the EOC to view many sources of information, manage inputs and disseminate requisite information to various stake holders and agencies responsible for disaster response in an efficient manner
- The operator is expected to maintain and operate all hardware / software / applications / IT infrastructure including peripherals used in EOCI. Resource scalability and reliability would be inherent to the system conceived so as to meet any extempore increase in demand of communication and information linkages.

The principal objective of the EOCI is to enhance emergency response capabilities of the state, by creating reliable, scalable, and portable ICT infrastructures, for enhancing over all resilience.

The objective of EOCI are proposed as given below –

- A state-of-the-art, network of Emergency Operation Center will be established with State EOCs (1+1) at Patna, to interconnect all stakeholders in disaster management including Government offices at State Head Quarter (SHQ), District Head Quarter (DHQ), Divisional commissioner offices and EOCs at disaster sites using ERVs and portable VSATs.
- EOCI would act as the vehicle for effective information management system (both in public and private domain) for emergency and disaster management in the state;
- State Data Centre (SDC) shall be integrated with SEOC through OFC Ethernet.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- Bihar State Wide Area Network (an e-Governance infrastructure) should be linked to/ Integrated with EOCI through OFC Ethernet.
- EOCI network will be suitable for Information management and to carry data, video and voice traffic.
- EOCI will (subsequently) cover all parts of the State using multiple communication technologies (as a redundancy measure), in suitable topology, which will be based on open standards having scalability, flexibility and upgradability
- Provide access to the Information Management System Portal to authorized personnel at remote locations (including villages) for information exchange.
- It should provide necessary support to EOC personnel to quickly undertake “in-depth situational awareness and impact assessment” and to determine and coordinate assets utilizations (Portal base)
- It should provide organizational flexibilities to accommodate a variety of responding entities, which are driven by type of event
- The infrastructure should provide access to all supporting resources / resources owner listed by DMD
- It should be possible to reliably disseminate emergency information / alerts to vulnerable citizens

Schedule I A – Project Management

1.1 The Project Plan

The EOCI Operator should work out the design of the whole infrastructure and facilities after taking necessary steps that may include:

- Conduct detailed site survey.
- Prepare best practices approach document for the connectivity and optimized configuration for network devices.
- Finalize cabling lay-out for the set-up.
- Work out IP addressing scheme for the EOCI in consultation with EOCI management.
- Prepare detailed security architecture, deployment and policies document for security components being supplied for securing the IT infrastructure in the EOCI.

The Operator should also prepare:

- Project Organization and Management Plan
- Phase-wise (as applicable) Design , Integration & Implementation Plan
- Acceptance-Testing (ATP) and Commissioning Plan
- Post commissioning support including Helpdesk Management and Training of operational staff.

1.2 Project Implementation

The EOCI Operator shall:

- Manage, monitor and review progress of the Project and maintain schedules as specified in the contract document.
- Establish reporting mechanism (e.g. periodical progress reports) as required by DMD. Design and develop online tools for enabling DMD, to monitor the status of the Project.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- The EOCI Operator shall assume the overall responsibility of managing and monitoring every aspect of the Project including network, call centre, infrastructure and ERVs as per the time schedule referred to in the RFP.
- The Operator shall obtain all necessary approvals/ clearances from concerned authorities / departments, as applicable, including:
 - DoT/ TEC/ TRAI/ BSNL for network installation and operations.
 - From Wireless Planning Commission (WPC) wing and Standing Advisory Committee for Frequency Allocation (SACFA), as required, for use of Radio/ Microwave/ Wireless links and/or any related equipment.
 - From local authorities (like Municipalities, PWD, HPSEB etc.), as required, including laying their own cables, mast erection, etc.

1.3 Quality of supplied equipment and material:

- i. The Operator shall not offer/supply any equipment that is likely to be declared end of life/ end of sale. The EOCI Operator may be asked to submit an OEM undertaking to the DMD that equipment will not become outdated/ out of supply for at least next 7 years.
- ii. The EOCI Operator shall ensure that interoperability is maintained between various subsystems that are expected to operate in tandem or simultaneously.
- iii. Passive components such as patch cords shall be factory crimped and to ensure trouble free operations.
- iv. The EOCI Operator shall be responsible for end-to-end implementation and shall quote and provide/ supply any items not included in the bill of materials but required for commissioning of the network. DMD shall not pay for any such items, which have not been quoted by the EOCIO perator in the bid but are required for successful completion of the project.
- v. The EOCI Operator shall supply all the installation material/ accessories/ consumables (e.g. screws, clamps, fasteners, ties anchors, supports, wires, fiber connection kits etc.) necessary for the installation of the systems.

1.4 Installation

- i. It shall be the responsibility of the Operator to bring all the installation equipment and tools required for the installation of the entire system.
- ii. The Operator shall install the UPS systems of required capacity. The Operator shall be required to provide & test required electrical ground at each existing power point before connecting networking devices/systems.
- iii. Civil works, for installation of Mast for antennas for wireless connectivity and passive-cabling systems will be the responsibility of the EOCI Operator.
- iv. The Operator shall be responsible for storage and security of material on receipt at the site.
- v. The Operator shall not cause any damage to Government buildings /other premises and property and shall be liable for their restoration in case of any damage. Trenches, path-cutting etc. will be back-filled and restored to the original condition immediately after laying of the conduit/ cable. The Operator shall plug conduits and entrance holes where the cabling has been installed with suitable sealing material



1.5 Testing

The Operator shall prepare a detailed ATP and get it approved from TPA appointed by DMD. ATP should include detailed testing for checking specifications of facilities e.g. SEOC, and other EOCs, ERV and Network elements and services such as IP Telephony, Video Conferencing Systems (VCS), Security components & cabling systems, Servers, Applications, Alert & Warning system, Mass messaging system, EMS, Call center/Helpdesk, Anti Virus, DNS, Proxy, Directory, Messaging, desktops etc. All test results should be documented for future guidance.

1.6 Integration and Commissioning

The EOCI Operator shall configure the Network, services and applications as per RFP including:

- i. IP Telephony, VCs, Security components & cabling systems, and all IT infrastructures etc. for end-to-end user access to applications/ services. This includes installation and commissioning of all hardware and installation and making the relevant software operational.
- ii. The Operator shall integrate EOCI with BSWAN as well as other existing / operational LAN and WAN links included in the RFP to establish network and services proposed in the RFP. The EOCI Operator shall configure quality of service parameters on network switching and routing devices for end-to-end QoS for voice, video and other critical traffic over the network. The operator shall also interconnect the SDC with SEOC. Overall network connectivity, end to end data or information flow between SDC and any departments/ Offices/ Citizen shall be ensured.

1.7 Documentation

Documents as detailed below are to be submitted to DMD within 30days of commissioning of the systems and facilities:

- i. Location wise details of all the equipments and systems installed and the testing and commissioning procedures for the same.
- ii. EOCI Security Policy and architecture.
- iii. All reports on Manpower Deployment schedules.
- iv. Hardware / Software Delivery Report.
- v. Version control reports and any other reports mutually agreed between the Operator and DMD.
- vi. The Operator shall submit a complete cabling and electrical system layout (as Installed), including cable routing, telecommunication closets and telecommunication outlet/ connector designations. The layout shall detail locations of all equipment and indicate all wiring pathways. This shall be submitted to the DMD within 10 days of completion of cabling system.
- vii. Manufacturer's technical documentation on all devices used in the system including user manuals for configuring of switches, routers, etc and their 'As installed' configuration shall be provided by the EOCI Operator (Hard and Soft Copy both).



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

1.8 Training

Training Programs will be one of the key parts of the EOCI Project. Training programs shall be organized by the EOCI Operator for use of Incident Management Application (IMA), and other network services.

The EOCI Operator will design and provide necessary soft and hard copies of course material for training officials on user perspective of EOCI facilities and services. Operator will also support the table top and filed exercises including mock drills during which the officials will make use of ERV deployment, IMA and other facilities created in EOCI. The decision regarding schedule of mock drill will be taken by DMD and will depend upon situation at a particulate time frame. However bidder may assume that there will not be more than 30 mock drills over 5 year BOOT period.

DMD shall review the quality and the output of the training sessions conducted by the EOCI Operator. In case the imparted training is not up-to the mark, the training will be reorganized by the EOCI Operator. EOCI Operator needs to take feedback at the end of each training session. EOCI Operator will also be required to provide training at his own cost for the equipments, Hardware, Software etc. procured and implemented for EOCI.

The tentative training details (not limited to) are proposed in the table below –

Sr. No.	Subject / Area	District emergency officers, fire officers, Police officers and officials from ESF agencies, Support staff deployed by ESF agencies and other departments	Senior Officials / Decision makers
1	Introduction to EOCI	✓	✓
2	Usage of (VSAT, HF, VHF, sat Phone) Communication facilities EOCI	✓	✓
3	Mass Messaging server	✓	✓
4	Using IP telephony, VC systems and internet	✓	✓
5	Use of Alert and warning system	✓	✓
6	call center / dispatch services at SEOC	✓	✓



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

7	Incident Management Application software	✓	✓
8	Use of IMA during drills and exercising	✓	✓
9	Using Mail and Internet	✓	✓
10	Call center/ dispatch desk management	✓	✓
11	Incident Management Application software at SEOC	X	✓

Total persons to be trained will be around 500. However training is to be provided every six months and number of participants in each program will be around 50. The training will be held at SEOC and SEOC facilities will be used for training purpose.

EOCI Operator shall also be responsible for re-training the DMD/GoB officials whenever changes are made in the software, hardware or up gradation to new technologies. It is the responsibility of the EOCI Operator to ensure that the persons working on the system are familiar with the new versions of EOCI solution software and its allied services.

EOCI Operator will impart training at his cost to officers nominated by DMD/GoB for Core and End-user trainings. The Operator can plan the training schedule prior to commissioning of entire EOC Infrastructure. The schedule needs to be planned in accordance with prior approval from the DMD.

1.9 Roles and responsibilities

The key stakeholders in this project would be:

- **Implementation and project Management Agency** – DMD.
- **EOCI Operator** – Successful Bidder to whom the Project is awarded
- **End Users/ Customers** – Bihar Government Departments/ Boards/ Corporations/ Institutions, Citizens, Business Houses
- **Bandwidth Provider** – BSWAN, BSNL or other licensed telecom service provider, satellite Service providers and others
- **NIC (National Informatics Centre)** – for connectivity with national resources
- **TPA** (Third Party Agency that would be appointed by DMD)

A brief on the roles and responsibilities of the various stakeholders is as follows:

a) DMD: Core Activities

DMD's key roles and responsibilities would be as follows:

- Overall project conceptualization, project implementation and project management.
- Conduct project implementation meetings.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- Coordinate among all stakeholders.
- Provide guidance to all stakeholders.
- Verify & approve payments for Operator and other Consultants.
- Finalize and approve network, system architecture after reviewing latest competing technologies.
- Finalize and approve Bill of Material, technical specifications, budgetary estimates, project proposal.
- List out all the nodal officers for co-ordination required for implementation and operational phases.
- Approve and implement training plan for EOCI users.
- Provide administrative support, to the Operator and consultants.
- Review and approve deliverables of consultants.
- Review project implementation and progress.
- Change management initiatives and training programs.
- Ensure availability of funds and timely payment to Operator, bandwidth provider, and consultants.
- DMD may appoint, at its discretion, project management cell / project manager or nominate experts for discharging assigned role / activities in section above.

b) DMD – Other Activities

- Project monitoring and implementation till commissioning stage.
- Ensure delivery of the requisite equipment at various locations in accordance with the terms of the RFP.
- Ensure coordination between the various agencies (Bandwidth provider, Bidder Vendor, NIC and different State departments etc).
- Coordinate and supervise monitor configuration and installation of the equipment at the locations ensuring connectivity of the local level offices through expert committee or internal technical consultants.
- Analyze, supervise and ensure compatibility of networks at the remote locations & the horizontal offices and their interoperability / connectivity with EOCI in collaboration with expert committee / and / or technical consultant of DMD.
- Supervise, monitor and ensure the implementation of security features as decided in the Project Report / Scope of work of the Operator in collaboration with expert committee / and / or technical consultant of DMD.
- Coordinate the connectivity tests conducted between the segments in collaboration with expert committee / and / or technical consultant of DMD.
- Provide for a mechanism to ensure assured availability of the bandwidth from Bandwidth Providers and interconnectivity / backup among them through expert committee / and / or technical consultant of DMD.
- Generate site commissioning reports through expert committee / third party agent / technical consultant of DMD.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- Ensure preparation of EOC network system manual by the Operator of the network in a format to be designed by the consultant as per international standards through expert committee / and / or technical consultant of DMD.
- Carry out Acceptance & Testing on the equipment provided by the Operator before commissioning the network for actual use through expert committee / and / or technical consultant of DMD.

c) Operator

Operator's key roles and responsibilities would include EOCI facility, operation and management including ICT Operations and Management. The Operator is expected to maintain all hardware / software / applications / peripherals used in EOCI Resource.

DMD operations and management are divided into two functions viz:

- (i) EOC Operations and
- (ii) ICT Operations and Management

DMD will provide resources for operating the DMD applications at the Command Center for disaster operations. The Operator is expected to provide ICT Operations and Management Services including design, development, operation and management of total EOCI system including applications, emergency response vehicles, EOCI facility, Networking, and trainings.

The following are the key requirements in establishing, operating and managing the ICTS infrastructure (fixed and mobile) and supporting DMD's Applications:

- Design & implement EOCI Project.
- Provisioning hardware and services required for EOCI.
- Management of inventory of hardware and other resources at each location.
- Establish, operate, monitor and maintain EOCI Project for a period of five (5) years.
- Exercise effective and efficient deployment of portable communication terminals and other applications on regular basis as per schedule provided by the DMD.
- Establish emergency communication system, as advised by DMD, during such situations.
- Integrate/establish monitor & maintain horizontal / vertical connectivity.
- Establish Network monitoring and management application software and generate required reports for service level assessment and management.
- Remote Monitoring and Management of the ICTS infrastructure from the Network Management System set up by the operator at SEOC.
- Flexible Call center / Helpdesk at SEOC
- IT monitoring and management requirements, viz-a-viz:
 - Network monitoring and management;
 - Security monitoring and management;
 - Communications network management;
 - Servers/OS Management;
 - Patch Management;
 - Database Management;
 - Storage Management;



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- Backup and restore management;
- DR Recovery and replication management; and
- Applications support

d) Operator's Service Window

EOCI Network has to be made available round the clock, 24 x 7 x 365. The service window for EOCI Network Links and other services attached to it shall be as per the Service window defined below:

- Operations Window
 - 24 x7 at SEOC
 - 9 AM to 6 PM at DEOC and Divisional Commissioner offices
 - 24X7 at selected DEOCs as per disaster situations
- Support Window
 - 24 x 7 at SEOC
 - 9 AM to 6 PM at DEOC (on-call 24 X7)
- Emergency Response Vehicle (ERV):
 - 24 x7 at SEOC
 - 9 AM to 6 PM at ERC (ERV staff to remain available on-call 24x7)
 - 24 x 7 at selected locations (based on incident and its spread)
 - For the ERV operations, Operator is required to provide one driver & one Level -1 (L-1) engineer trained in installing, commissioning, operating and managing all equipments and services integrated into ERV.
- Helpdesk Team:
 - 9 AM to 6 PM and on call basis 24 hours during normal days
 - 24 x 7 during emergency operations

e) Bandwidth Provider

The Bandwidth Provider's key roles and responsibilities would be as follows:

- Provide Bandwidth for EOCI through Operator.
- Ensure Committed Information Rate (CIR) / bandwidth.
- Ensure uptime for Network connectivity as per the Service Agreement.

f) NIC (National Informatics Center, GOI)

National Informatics Centre's (NIC's) key roles and responsibilities would be as follows:

- Facilitate / coordinate SEOC connectivity with National Emergency Operation Center (NEOC) and other inter-state and national emergency resources.
- Facilitate connectivity of Bihar State IMPS with the national portal of emergency resources.

1.10 Operating Expenses (OPEX) of EOCI Operator

Following are the expenses to be borne by EOCI Operator:



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

(i) Facility Management:

- a) Arrange Audio Video systems, Printers, and Plotters as compatible with reporting format & workload at all the manned locations and as specified elsewhere in this RFP.
- b) Arrange Workstations/Peripherals for Network Monitoring at SEOC, as per Technical specification for Workstation.
- c) Expenses for consumables (eg: paper, ink cartridges, fuel etc), generator fuel /lubricant, electricity consumed at the POP (incl. AC).

(ii) Manpower Charges

This includes salary, travel, stay, communication and other out of pocket expenses, for manpower deployed at various locations including ERVs.

1.11 Implementation Time Schedule for EOCI

The EOCI project will have to be implemented within 6 months from the date of signing the Service Agreement. However VSAT hub may be installed within 6months from getting VSAT service license from Department of Telecommunications (DoT). Operator should arrange VSAT service through a shared Hub operator for intervening period.



SECTION 2: TECHNICAL REQUIREMENTS

2.1 Concept of EOC:

EOC can be described as an offsite facility which will be functioning from the State / District headquarters and which is actually an augmented control room having communication facilities and space to accommodate and facilitate activities of personnel from various line departments of Government and other agencies whose services are generally required during incident response and are categorized as Emergency Support Functions (ESF). EOC is a critical link in the emergency response chain, enabling incident commanders to focus on the needs of the incident, serving as a conduit of information between the incident command and higher levels of multi-agency coordination system entities, and promoting problem solving at the lowest practical level.

EOCs planned under this project are expected to be state of the art and shall perform at the minimum, rolls defined in the Guideline documents issued by National Disaster Management Authority (NDMA), New Delhi, on Incident Response System (IRS) issued in July, 2010 and National DM Guidelines on “National Disaster Management Information and Communication System, of February, 2012 (these document are available on NDMA website www.ndma.gov.in for detailed information).

Roll of EOCs can be briefly described (but not limited to) as:

The basic functions of EOC, derived on the basis of functional framework of disaster management would be to:

1. Receive, monitor, and assess disaster information.
2. Keep track of available resources.
3. Monitor, assess, and track response units and resource requests.
4. Manage resource deployment for optimal usage.
5. Make policy decisions and proclaim local emergencies as needed.
6. Provide direction and management for EOC operations through Standard Operations Procedures (SOP), set priorities and establish strategies.
7. Coordinate operations of all responding units, including law enforcement, fire, medical, logistics etc.
8. Augment comprehensive emergency communication from EOC to any field operation when needed or appropriate.
9. Maintain EOC security and access control.
10. Provide recovery assistance in response to the situations and available resources
11. Keep senior, subordinate and tenant officials informed.
12. Keep local jurisdictions (Village/town/City, district and State) informed.
13. Operate a message center to log and post all key disaster information.
14. Develop and disseminate public information warnings and instructions.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

15. Provide information to the news media.
16. Manage donation / aids.

The State EOC will operate under three primary conditions: normalcy (steady state), when no emergency incident exist sufficient to warrant full activation of the EOC; emergency without warning, when an incident occurs requiring full activation of the EOC in response to the incident; and emergency with warning, when the EOC is brought into full or partial activation to preemptively reduce the impact of impending incidents, and respond to the impact of the incident when it transpires. The activation of EOC will be regulated under the assigned authority to designated officials under State's EOP and SOP for state emergency operation center.

Under the Emergency Management with Preparedness, Response and Rehabilitation strategy, DMD has conceived, planned and designed the networks of the EOCs (Emergency Operation Centers) and Mobile / portable EOCs for coordination and optimal management of Emergency Response Resources.

The key factors for success of a coordinated emergency response depends on –

- 1 Redundancy, Scalability and interoperability of Information and Communication Technology (ICT) systems.
- 2 In-depth situational awareness
- 3 Comprehensive ability to quickly undertake “impact assessment”.
- 4 Ability to quickly determine and coordinate asset utilizations.
- 5 Organizational flexibilities to accommodate a variety of responding entities,
- 6 Access to all supporting resources to formulate alternative response scenarios.

It is emphasized that the need for a robust and reliable Information and Communication Technology (ICT) infrastructure is crucial for supporting the activities under each of the six key factors, stated above, in a coordinated emergency response. The ICT infrastructure should survive worst disaster situations as public telecom infrastructure as well power supplies are likely to be damaged / affected due to disasters. DMD's Disaster Management System is planned on ICT based Decision Support System (DSS) as its driver.

2.2 Concept of EOCI

Proposed EOCI will support disaster management activities related to preparedness, mitigation, rescue, relief and rehabilitation. The crucial requirement for success of all activities is reliable communication linkages between all Stakeholders including government authorities. EOCI will establish dedicated communication links between responsible authorities and will also use public internet or shared public telecom network resources for communication and



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

information as well as alert dissemination to the responsible government organisations. The proposed communication network for emergency operations will also include unified communication system.

The Operator is expected to maintain all hardware / software / applications / peripherals used in EOCI. The EOCI will have resource scalability and high level of reliability so as to meet any extempore increase in demand of communication and information linkages.

DMD expects that EOC Infrastructure (EOCI) will provide following facilities and capabilities:

- Information Management System (IMS) for Dissemination of information and alert messages to the government stake holders,
- Monitoring (audio, video, and telemetry),
- Data acquisition and analysis (DA&A),
- Coordination and priority setting,
- Resource Management and Communications Facilitation

Interaction within all stakeholders will be via voice, data and videoconferencing and the proposed EOCI will be useful for these activities. The IMS will also have a portal (IMSP) to provide access to NGOs and general public on updated disaster situation awareness reports. This facility will also be useful to receive feedback from Stakeholders.

It is proposed that appropriate communication and information systems shall be used so as to allow all emergency management and response partners to establish and maintain a common operating picture of the incident, based on Decision Support System (“DSS”).

2.2.1 State EOC (SEOC)

SEOC operations (control) room will be the central location where:

- All information pertaining to the prediction as well as occurrence of incident is received and analyzed
- Priorities are determined, strategies are developed and critical resources are assigned to tactical operations.
- Data on disaster parameters, information received from organisations responsible for disaster predictions such as Meteorological Department, Central Water Commission, State Irrigation departments, International weather and earthquake information portals as well as organisations responsible for Tsunami prediction etc. in addition to visual data from disaster sites, will be processed, analyzed and archived.
- Data will be transmitted, from various locations using EOCI or public telecom infrastructure including Internet to ensure that decision makers and people engaged in disaster response have common information base to operate upon. The DSS should provide dynamic information on status of disaster resources, tracking of personnel, equipment and systems necessary for post disaster response.

Planned unified communication system will support the key concepts of interoperability, reliability, scalability and portability to ensure that personnel from different disciplines,



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

jurisdictions, organizations and agencies are able to communicate with each other instantly. For example, communication between first responders such as police, disaster rescue forces, fire brigades that use wireless communication systems mostly equipment operating in Very High Frequency (“VHF”) band and administrators on terrestrial or satellite based Very Small Aperture Terminals (“VSAT”), should be possible with Voice over Internet Protocol (“VoIP”) based unified communication system.

The call centre at SEOC is proposed to provide communication links amongst all Stakeholders including general public. The people can access the call centre to provide inputs on disaster situations as well as get up-dates on post disaster events. The call centre will also be responsible for issue of emergency alerts to stakeholders.

The large display systems, voice, data communication links and video-audio conferencing facilities at SEOC are for simultaneous use of the concerned officers from DMD and officers of departments (together up-to 20 persons) responsible for emergency support functions (“ESF”). Facilities and systems at SEOC should be designed for near 100% reliability.

Careful management of resources is essential before, during and after incidents. The standardized resource management practices such as identifying, inventorying, and organizing and tracking is being set-up as State Disaster Resource Network (“SDRN”) by DMD. The SDRN provides online resource data base of various parameters such as demographics, existing infrastructure for disaster preparedness such as shelters etc. All Stakeholders will access SDRN to draw plans for disaster response as well as to add new infrastructure facilities. This data base makes it possible for effective sharing and integration of critical resources across jurisdictions. Information management system and portal is expected to supplement SDRN system. Dynamic data base management in DSS should help identifying available resources for effective response.

2.3 Structure of EOCI:

EOCI will mainly consist of:

- a. Failsafe communication network based on multiple technologies and redundant network resources, Universal Communications interface and back-up power systems
- b. Facilities at State and District EOCs including Audio and videoconferencing capabilities and Video display systems
- c. Conference / briefing facility to senior government functionaries and Press at SEOC, Patna.
- d. Information Management Portal System and call centre for interaction with stakeholders
- e. Decision Support System software

2.3.1 Planned Network Infrastructure



RFP for setting-up and Operationalization of EOICI on BOOT basis in Bihar State

Public telecom networks such as landline telephones, cell phone networks, and microwave towers are affected / incapacitated during severe natural disasters. Hence the planned Bihar state EOC Infrastructure (EOICI) will have a reliable Emergency Communications Network (ECN) backbone that will be operational on 24*7 basis and will achieve reliability (better than or equal to) $\geq 99.5\%$ using multiple network resources, interoperability between networks and technology diversification.

The proposed communication network is expected to facilitate effective disaster response by maintaining continuous communication between the Emergency Operations Centers (“EOC”) at state, district, Mobile and portable Systems operating at disaster sites using specially designed mobile vehicle mounted systems or portable emergency communication systems. The network will be used for information management (data, video and voice communications) and to support incident and information management systems during all stages of disaster management.

State Emergency Operations Centre (“SEOC”) and District level EOCs (“DEOC”) and EOCs at Divisional Commissioner offices will be major nodes of the proposed network. Mobile and portable systems will be added to this network during disaster rescue operations.

2.3.2 The Emergency Communication Network:

The ECN Connectivity Matrix will be:

Sr. No.	Connectivity type	Communication facility	Connected Nodes	Services and redundancies	Minimum Network resources
1	Public telephones and Cell phones	Mainly Voice , fax and Text messages (SMS)	Between all fixed EOCs and all government departments responsible for Emergency Support Functions (ESF)	Primary communication links for Voice, fax and Text messaging	Telephone lines on as required basis
2	BSWAN	Voice, data and videoconferencing	Between all fixed EOCs and all government departments responsible for ESF	First back-up for voice and as primary links for data communications and videoconferencing	Data connectivity rate: Between district and state EOCs @ 2.0 Mbps and 64 Kbps with ESF departments



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

3	MPLS Virtual Private Network (VPN) in case BSWAN is not available	Voice, data and videoconferencing	Between fixed EOCs and all government departments responsible for ESF	To bridge the gaps in BSWAN if any	Data connectivity rate: Between district and state EOCs @ 2.0 Mbps and 64 Kbps with ESF departments
4	VSAT network	Voice, data and videoconferencing	Between all fixed transportable EOCs	<ul style="list-style-type: none"> • Second back-up for voice • First back-up for data communications and Videoconferencing 	Satellite spectrum for 10.0 Mbps <ul style="list-style-type: none"> • One outbound link @ 4 Mbps • Ten Inbound links @ 512 Kbps
5	Broadband Internet	VoIP phones and data transmission	Between all fixed EOCs	Third back-up for data communications and voice communications	<ul style="list-style-type: none"> • 2X2 Mbps link @ SEOC • 512.0 Kbps broadband links @ DEOC
6	Wireless network	Voice	Between transportable EOCs and Disaster Response (DR) forces	Primary for interagency communications amongst disaster response forces	As required

Table 2.1: Connectivity matrix between various nodes of ECN

2.3.2.1 Resources for setting-up of ECN:

Network resources for ECN will be public telephone (landline and cell phone) network, State Wide Area Network, VSAT network, broadband public Internet network and government wireless networks.

a. Public telephone networks:

Landline telephone network of Bharat Sanchar Nigam Limited (BSNL) and cellular networks operated by BSNL, Airtel and other service providers are available all over the state.

b. Bihar State Wide Area Network (BSWAN):

Bihar SWAN is set-up Bihar Electronic Corporation Ltd. (BELTRON) and is in operation for some time. The SWAN interconnects state headquarters with various government departments at state, divisional and sub-divisional levels using terrestrial network resources consisting of optical fiber, copper cables and wireless links and is backed-up by VSAT links.

c. Multi Protocol Label Switching (MPLS) Virtual private Network (VPN)

MPLS VPN at 2.0 Mbps rate between EOCs and at least 64.0 Kbps rates between EOCs and offices of ESF organisations is to be leased from licensed telecom service providers to bridge the gaps in BSWAN. This resource can also be used where BSWAN reliability is not up to the required standards.

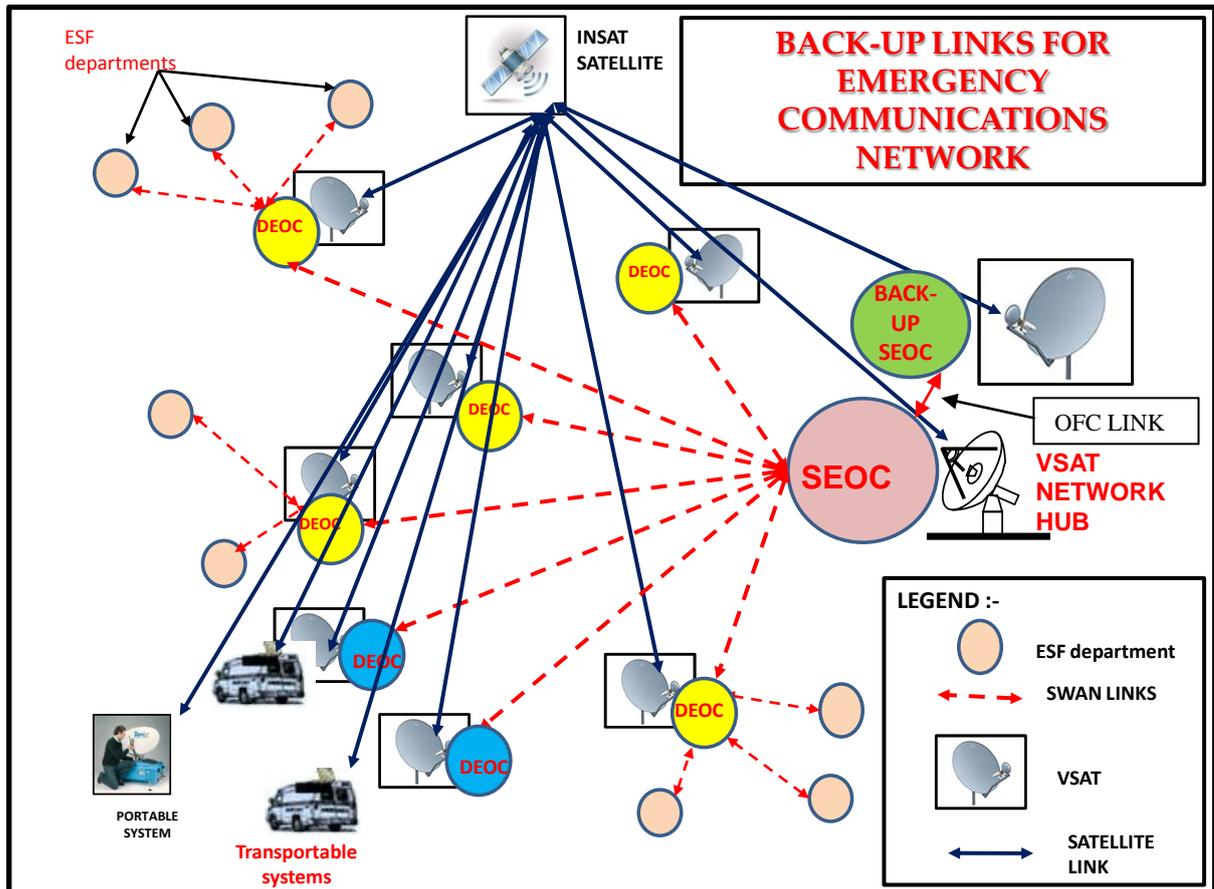


Figure 2-1: Schematic of VSAT and SWAN networks

d. VSAT network:

The VSAT network will be set-up to interconnect State, Division and sub-division level EOCs. VSAT network will be part of the total project to set-up ECN and EOCs at State (2), Divisions (9), Districts (38), MEOC (10) and portable (7). Schematic of integrated back-up network (VSATS and SWAN) is shown above (figure 2-1).

The VSAT network will be a captive network of Bihar State. However it will operate on shared Hub (part of VSAT service provider's network) at a suitable place in India till necessary licenses and regulatory conditions are fulfilled and captive Hub is established at SEOC and it is operational.

VSAT nodes will provide necessary communication facilities for voice, data and video communications. The satellite bandwidth necessary for operation of VSAT network (as already

mentioned above to support up to 10.00 Mbps data links) will be available from Antrix, commercial arm of Indian Space Research Organization (ISRO). Same can also be leased from licensed service providers in case option of shared Hub is chosen.

- **Fixed VSATs:**

Schematic of a typical VSAT node is shown in Figure 2.2 below.

These VSAT nodes will provide communication facilities for voice connectivity, transfer of data and video- files as well as videoconferencing. VSAT links will act as back-up for BSWAN links and facility for automatic connectivity in case of failure of BSWAN link should be included.

Minimum equipment at each of fixed VSAT nodes at District headquarters and offices of Divisional Commissioners will consist of:

- VSAT equipment
- Router for switch over between VSAT and SWAN
- Ethernet switch
- VoIP phones or analogue phones with adaptors
- Video phone / standalone Videoconferencing system or / software based Desktop VC
- Data linkage using desktop PC

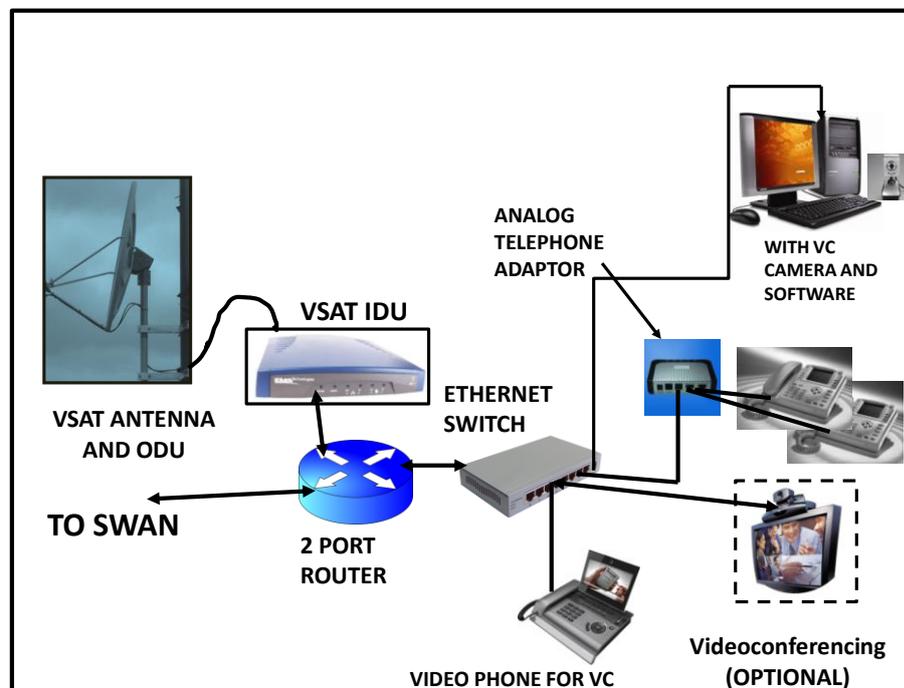


Figure 2.2: Schematic of equipment set-up at each VSAT node

- **Transportable VSAT systems**

Transportable systems will consist of all-terrain vehicle mounted communication and command centre consisting of:

- a. All terrain 4 wheel drive vehicle with necessary furnishings
- b. Roof mounted antenna with capability to automatically locking and tracking of desired satellite



Figure 2.3: Typical vehicle mounted VSAT and EOC (excluding VHF mast)

- c. VSAT equipment (excluding antenna)
 - d. Access equipment for voice, data and videoconferencing
 - e. Laptop computers for 3 operators
 - f. Furniture for control room
 - g. Universal access interface unit
 - h. Extendable VHF antenna, VHF wireless radio base station and hand held sets (10 per vehicle) and a micro BTS for limited area cell phone network with backhaul via VSAT for long distance communications
 - i. External video camera for collection of video information on disaster situation
 - j. Air-conditioned equipment room
 - k. Back-up power consisting of UPS and diesel generator
 - l. Command and control system with necessary software and GIS resource data base
- **Portable VSATs**

Portable VSAT communication systems will consist of segmented antenna that can be assembled at disaster sites and other equipment.



Figure 2.4: Typical Portable VSAT system

The portable VSAT equipment will consist of:

- a. Antenna with automatic tracking of satellite equipment
- b. VSAT equipment (excluding antenna) with inbuilt modem
- c. VoIP phones
- d. Integrated extendable wireless radio antenna and a Micro Base Transceiver station (BTS) to provide limited coverage cell phone service at disaster site
- e. 500 VA capacity portable generator set and battery set

The system can provide voice and data communication link using laptop.

To sum-up VSAT network resources to be established are included in the table below:

e. Universal communications interface system:

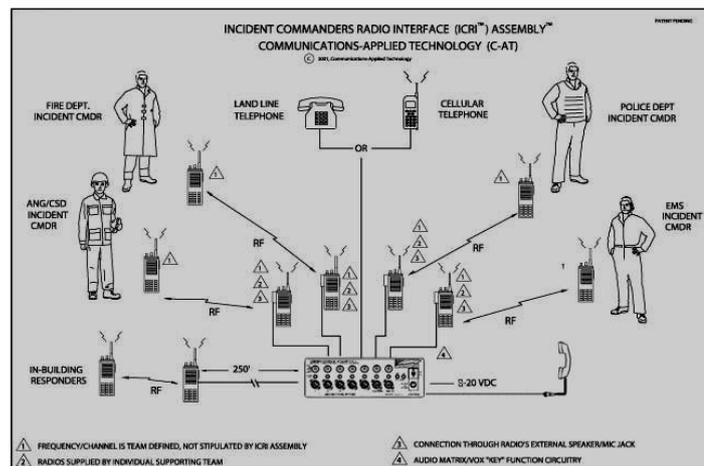


Figure 2.5: Schematic of universal communication interface unit

The Universal communication interface facilitates interconnectivity between various wireless and wire line communication systems. This facility is essential to ensure communication links between organisations responsible for DR activities such as Police, Fire brigade etc. who use



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Wireless radio equipment for intercommunications using VoIP phones available with state and district administration responsible to guide DM efforts.

The proposed system will convert wireless communication to Internet Protocol (IP) format and interconnect with dedicated networks that form part of ECN such as VSAT or SWAN.

Schematic diagram of a typical universal interface unit that forms part of incident command facilities is shown above (figure 2.5). Universal communication interface systems are proposed to be installed at State EOC and in each of Mobile EOCs.

2.3.3 Facilities at SEOC:

State Emergency Operations Centre (SEOC) will be the nerve centre and will act as a state's central command and control facility responsible for carrying out the principles of emergency preparedness and disaster management functions so as to restore normalcy in the affected areas and population within shortest possible time. The Government has already constructed a building to house State EOC in secretariat complex at Patna. The SEOC will have a control room, conference room and staff facility room (rest room) in addition to power supply (including back-up power supply) systems. Second SEOC will be set-up after building at Police Headquarters is completed.

Basic functions of SEOC will be to:

- Receive, monitor, and assess disaster information
- Keep track of available resources
- Monitor, assess, and track response units and resource requests
- Manage resource deployment for optimal usage
- Make policy decisions and proclaim local emergencies as needed
- Provide direction and management for EOC operations through Standard Operations Procedure (SOP), set priorities and establish strategies
- Coordinate operations of all responding units, including law enforcement, fire, medical, logistics etc.
- Augment comprehensive emergency communication from EOC to any field operation when needed or appropriate
- Provide recovery assistance in response to the situations and available resources
- Keep senior and subordinate officials informed on situation up dates
- Operate a message center to log and post all key disaster information
- Develop a system for disseminate public information warnings and instructions
- Provide information to the news media (press briefing)
- Manage donation / aids from national as well international sources

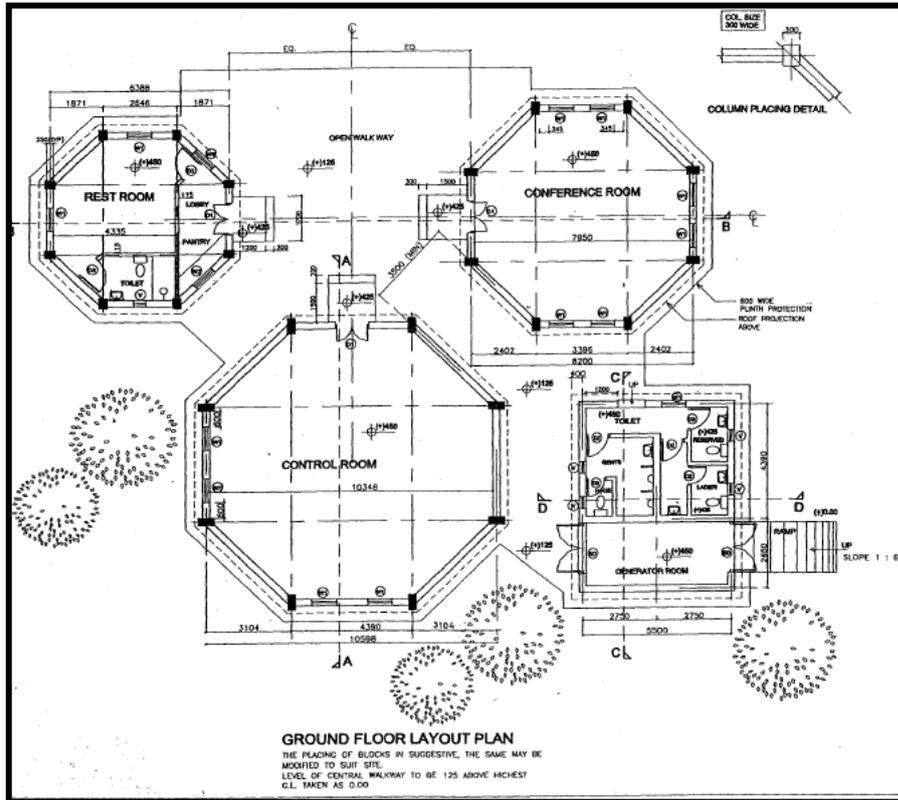
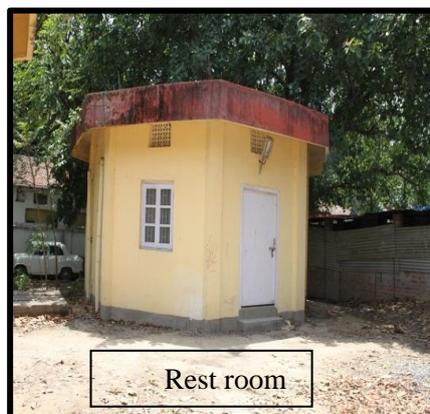
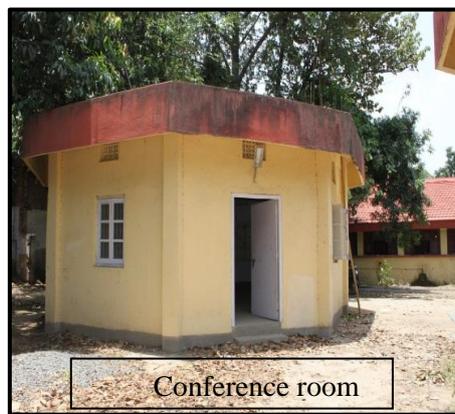


Figure 2.6: Indicative layout plan of existing SEOC building at Old secretariat, Patna



Photograph 2.1: SEOC buildings at Old secretariat, Patna

2.3.3.1 Control room:

The control room is the hub of activities during disaster response and is expected to support all activities mentioned above. SEOC control room will be manned round the clock. Suitable lighting and air conditioning for ensuring efficiency of staff during long working hours would be installed in control rooms. The Control Room will have 30 number of Telephone lines (preferably ISDN PRI) The control room will be equipped with adequate PCs, network printers and fax machines. A scanner and a Xerox machine will enhance the efficiency to the working staff. A PC (or server) along with GSM modem(s) dedicated for sending SMS alerts will be installed to keep senior officers informed about up-dates on disaster events.

The emergency communication network would be utilized for:

- Voice communication and audio conferencing between various responsible organisations and officials
- Data transfer for monitoring of scope of disasters and official communications (such as e-mails) for information collection as well as for issuing orders / directions etc.

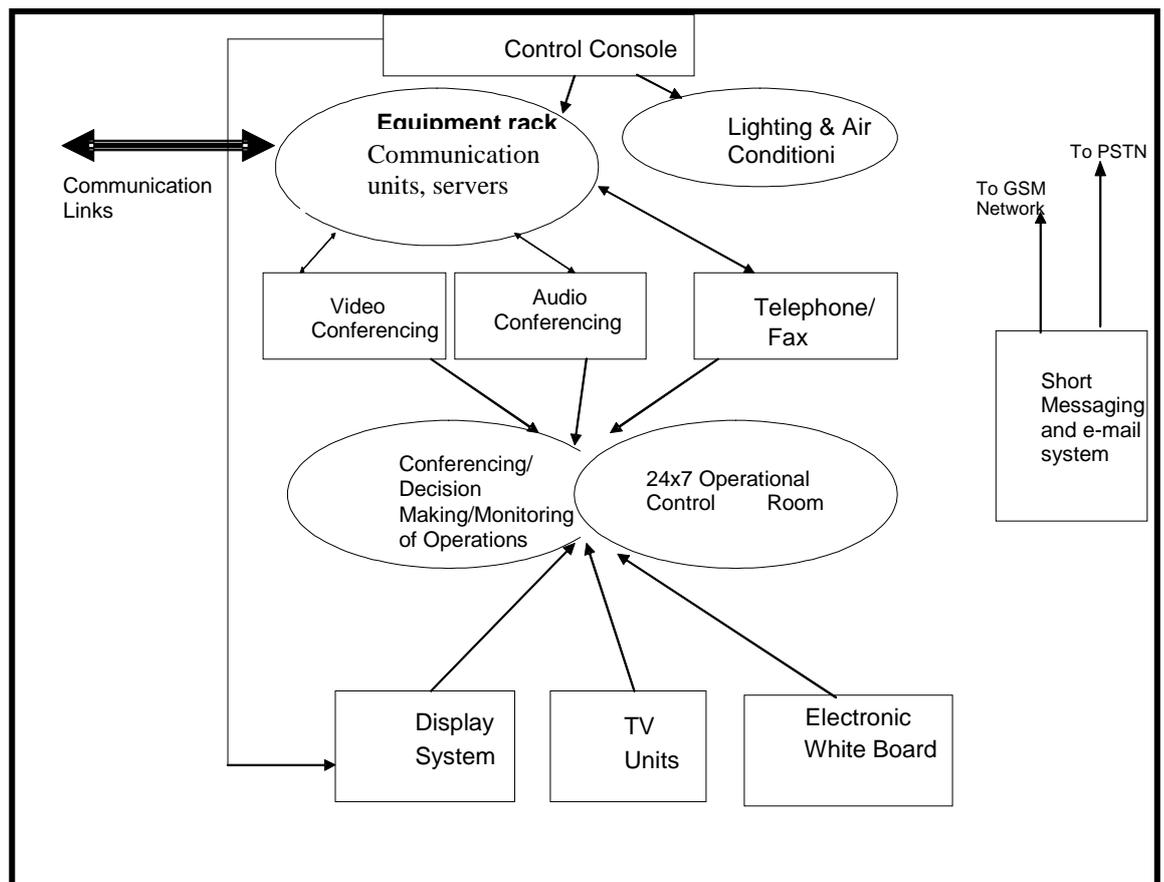


Figure 2.7: Functioning and interconnection between various operational systems at SEOC

- Video file transfers and Videoconferencing between various agencies to get pictorial information regarding disasters and face to face meetings for deciding on course of response to Disasters.
- To act as network hub for Emergency Communication Network (ECN) and control centre for issuing Emergency warning messages to senior government officials and ESF organisations
- Information dissemination to Public, International Aid agencies, NGOs etc. using Internet based portals

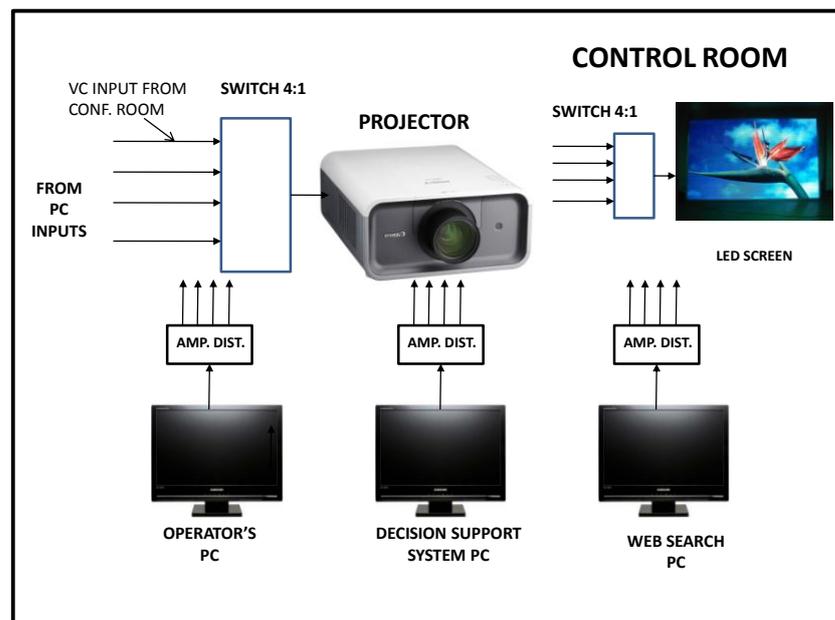


Figure 2.8: Display Equipment set-up in Control room

2.3.3.2 Conference room:

The conference or briefing room will have essential display systems (LED Screens / Projector with screen) and suitable conference tables and chairs.

The conference room will be used to:

- a. Brief senior functionaries of the government on disaster situation, actions taken and to facilitate the government to decide on the course of action to effectively respond to disasters
- b. Arrange interaction between government functionaries and first responders operating at disaster sites for real time information on disasters
- c. Conduct press briefings

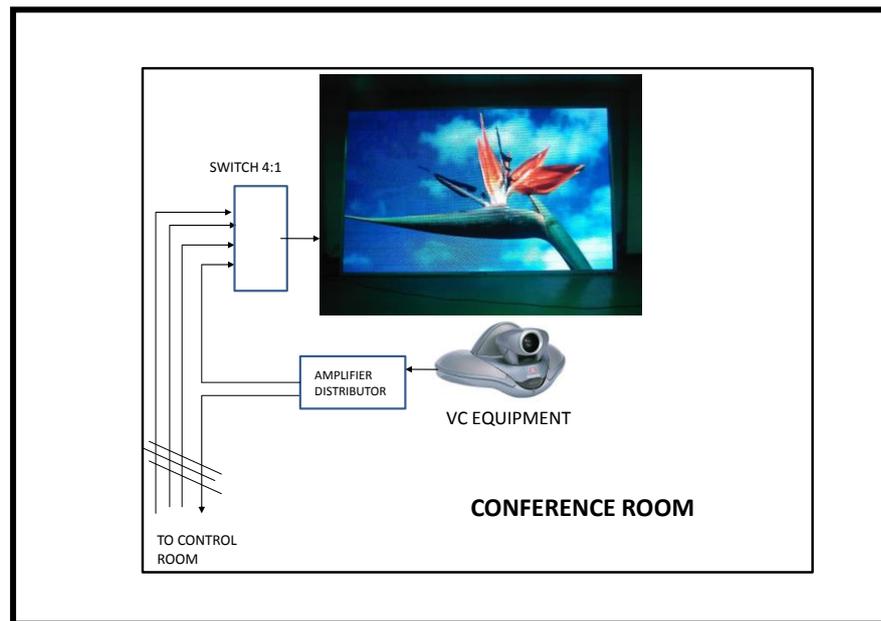


Figure 2.9: Schematic of display equipment Set-up in conference room

2.3.3.3 Equipment and network resources at SEOC:

The SEOC will be equipped with suitable systems for:

- a. Multiparty Audio and video conferencing
- b. News gathering (TV news channels, public access telephone numbers etc.)
- c. Large Video display systems for geographical maps / Weather maps / satellite imagery (such as maps obtained by remote sensing satellites)
- d. Terrestrial (land line and Cellular) Telephone and data links
- e. Infrastructure for a 24X7 call centre
- f. Voice recording with time stamp to record all incoming and outgoing calls from / to public
- g. Short Messaging System to send disaster alerts to responsible officers
- h. Very High Frequency (VHF) radio base station / handsets (walkie - talkie)
- i. Equipment for Satellite communication links such as VSATs, Satellite phones etc.
- j. Universal interface for interconnectivity between different communication links (wireless radio, VoIP phones etc.)
- k. Decision support system and software
- l. Computers, servers for text messaging, voice broadcasting and State Disaster Data Network (SDRN), LANs
- l. Printers, fax and Xerox machines
- m. Air-conditioning
- n. Furniture for staff and in conference rooms
- o. Physical map display system

- p. Access control systems for security of data bases
- q. Emergency power back-up consisting of UPS and Diesel Generator set with adequate diesel storage capacity

2.3.4 Systems and facilities at DEOC:

District level EOCs will act as eyes and hands of SEOC in all disaster response activities. These remote EOCs may act as back-up control rooms in case SEOC is unable to directly communicate with remote locations.

The Deputy Commissioner, (DC) who is head of the district administration, will be the local leader and responsible officer; who will be assisted by his deputies at district HQ and concerned Block level officers. The DC will be supported by other departments that carry out emergency support functions such as police, fire brigade, health, transportation, irrigation, food and civil supplies etc. All these organisations will have communication links based on Public telephone and SWAN infrastructure. Minimal Wireless radios are included in the proposal as back-up in case public telecom infrastructure has failed or is not up to the required reliability standards. DEOC will have a back-up system for issuing warning messages to ESF organisations and other government officials. This will be ensured by installing necessary software in the Desktop PC that is part of ECN.

Layout plan and photograph of typical DEOC are given below

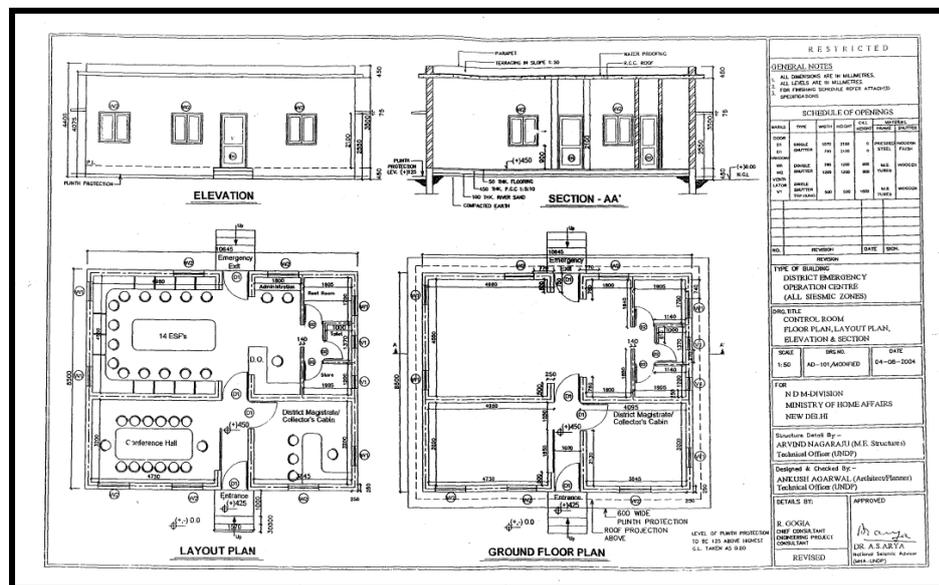


Figure 2.10: Layout plan of typical DEOC

The state government has already constructed large number of dedicated buildings for District EOCs and (some are under construction) may earmark spaces at existing buildings / construct dedicated buildings at most vulnerable sub-divisions. DEOCs wherever set-up will have:

- a. Tabletop video phone based Video Conferencing (VC) desktop based VC
- b. News gathering (TV news channels, public access telephone numbers etc.)

- c. Video display system for geographical maps / Weather maps / satellite imagery (such as maps obtained by remote sensing satellites)



Photograph 2.2: DEOC building at Supaul district

- d. Terrestrial (land line and Cellular) Telephone and software for voice broadcasting
e. Very High Frequency (VHF) radio base stations / hand sets
f. Equipment for Satellite communication links such as VSATs, Satellite phones (when permitted by regulatory authorities) etc.
g. Computers, LAN, Scan /print / Fax composite machine
h. Air-conditioning (at least for electronic equipment)
i. Furniture for staff
j. Physical map display system
k. Emergency power back-up UPS and Diesel Generator set with adequate diesel storage

2.4: The Disaster Information Management System

The state control room will be operational round the clock and will coordinate with district EOCs / flood control rooms that function during disaster season (June and October in case of floods). Flood and rain monitoring system Flood Monitoring and Information System (FMIS) is operational for last few years. FMIS provides information on floods and to some extent helps in prediction of severity of floods. Alert and warning messages are sent to divisional and sub-divisional offices via telephone calls, fax messages or SMS.

2.4.1 Call centers for access to public and issuing alert messages to government officials:

A call centre that is operational round the clock (24X7) will be set-up to provide access to public via toll free telephone number "1070" which is specifically allotted for such purposes for State level EOCs. Similarly call centers operational during day time with access number 1077 will be

set-up at each District level EOC). Both access numbers are allotted by Department of Telecommunications (DoT) and Ministry of Home Affairs (MHA), Government of India for this purpose.

Proposed facility will provide:

- Access to public to convey information to the State EOC regarding disaster events as well as get updates on disasters from the EOC
- On-line call recording mechanism to ensure that information received as well as disseminated from SDR&IC is recorded for subsequent analysis and effecting corrective actions if necessary
- to receive information on disaster situations from state, central agencies responsible to provide such inputs, collate and generate alert messages for senior officers for deciding on course of action if necessary
- Collate and format the information received from public as well as central and state government agencies regarding disasters or impending disasters to facilitate generation of text message to be sent via SMS (Short Messaging Service) to a large number of responsible senior officers from various organisations responsible for disaster response
- Collection of information from hospitals etc. for conveying up-dated information to responsible officers or general public (if permitted by authorities to do so)

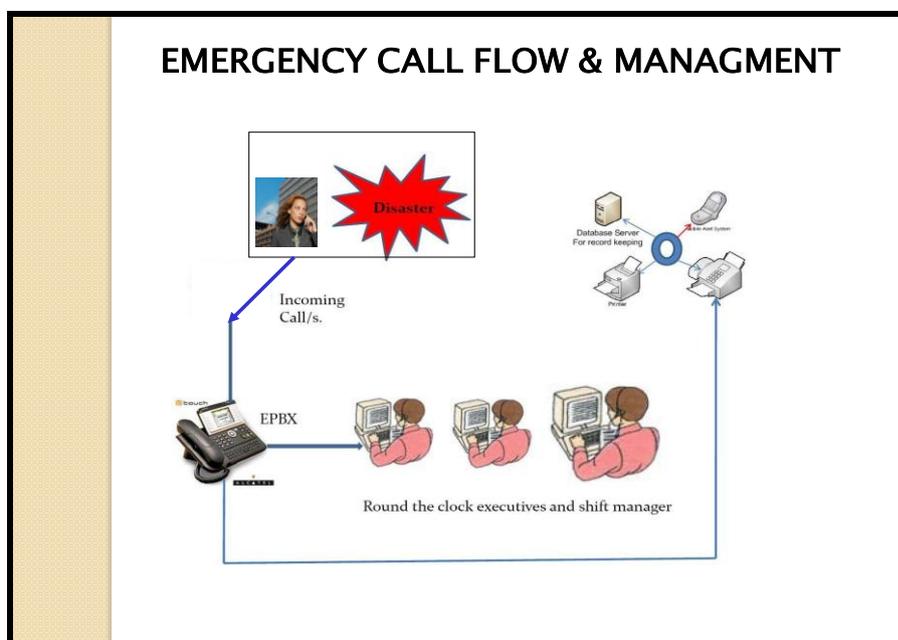


Figure 2.11: Concept of SDR&IC with facility for SMS and audio conferencing

- Integration with Emergency Medical Services (EMS) network control room that has “108” as access number so that EOC can initiate necessary response in case of major disaster which in normal case also needs EMS support.

Call centers that are operational during day time only at DEOCs can be upgraded to 24X7 operations with additional staff to cater for increased communication requirements during disaster situations in vulnerable district HQ during flood / high wind season / incidence of a major disaster. This call centre will provide access to public and other stake holders.

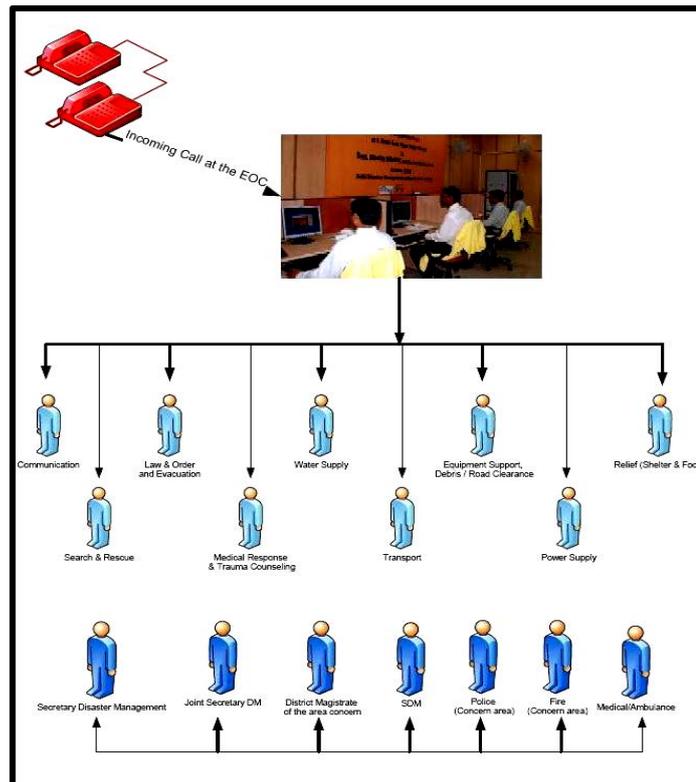


Figure 2.12: Concept diagram showing dissemination of alerts to various organisations

2.4.2 Information Management System Portal (IMSP):

The IMSP will be web based information access system set-up for the benefit of Government officials as well as general public. The schematic of the system is shown in the figure 4.3 below.

The operational staff at SEOC will be responsible to collect information on impending disasters from:

- Various government agencies responsible for issuing advance warnings
- TV and radio news channels
- Public

Collate the information received from various sources and prepare a status report after validation from available sources. The validated information will be uploaded on the portal after obtaining permission from designated authorities.

The portal will be hosted at the data centre in use for other portals of Bihar state government.

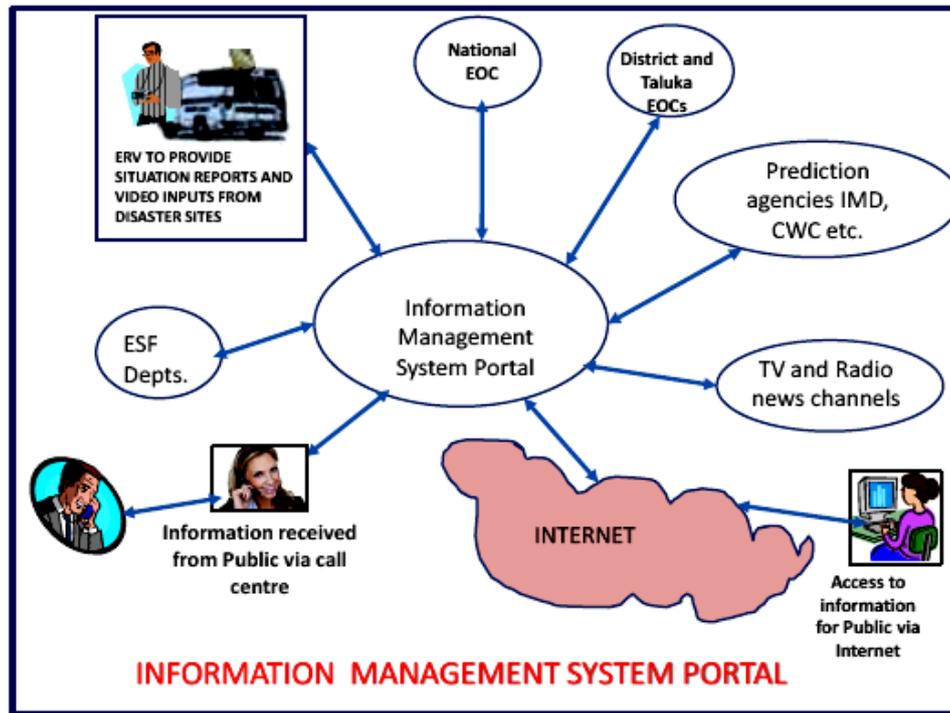


Figure 2.13: Information Management System Portal

2.5 Incident Management System (IMS)

The IMS will be a robust WEB based solution for public safety and emergency management that provides four core capabilities:

- a. Dynamic Team Management (Collaboration, Communication and Control)
- b. Disaster Planning (Before)
- c. Emergency Operations (During)
- d. Disaster Recovery (After)

Dynamic Team Management should address inter-agency collaboration, communication and control requirements because, as a disaster progresses, it is necessary to communicate, to discuss and to direct activities with different individuals & groups.

The proposed IMS software shall be easy to use and assimilate. The amount of time required for training application Administrators and time to train an average user should be as low as

possible. Using any browser-based tool, an average EOC manager should be able easily create and modify role-based web dashboards containing situation maps, event log, and resource status boards, without reliance on a vendor to make these changes. The application must be able to manage more than one incident concurrently.

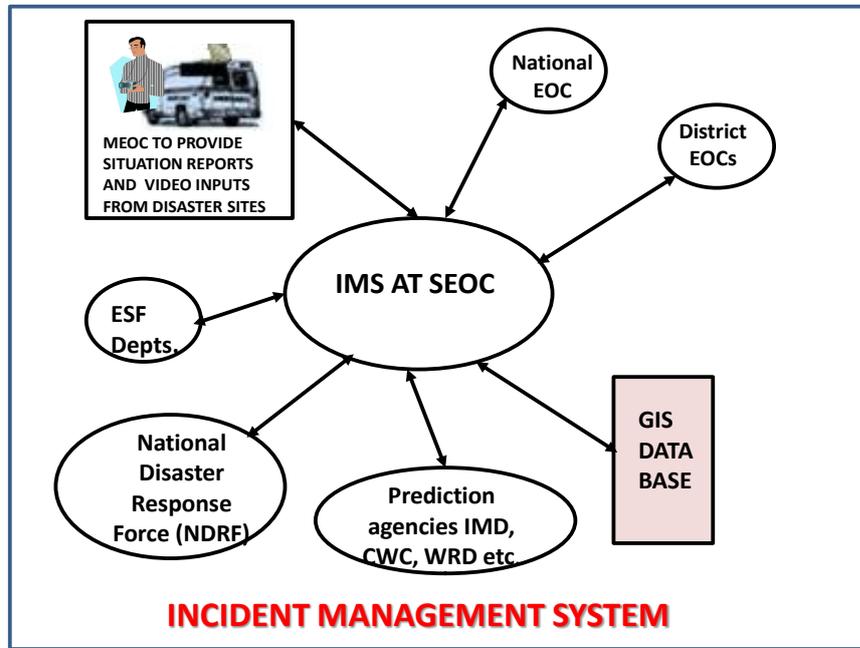


Figure 2.14: Schematic for IMS

The proposed software must support automated mass messaging / email notifications based on user-configurable thresholds, including incident type, severity and proximity to any map layer (e.g. critical infrastructure). Disaster Planning should encompass all actions taken prior to the occurrence of a disaster in order to mitigate risk and impact. (Preparedness, Correlate Plans and Content with Procedures, Implement Action Plans, Conduct Trainings & Exercises and measures put in place to mitigate long-term risks, such as early warning processes)

NOTE:

The web portal and application design-documents shall be prepared in consultation with DMD project team. Both system level and user level documents should be made available to DMD



SECTION 3: MINIMUM TECHNICAL SPECIFICATIONS OF SUB-SYSTEMS

3.1 Information Management Portal System (IMPS)

Sr. No.	Specifications
1.1	Information Management Portal is to cater for information dissemination amongst all stake holders. The system should support up to 3000 certified users. Part of the portal has to be accessible by general public and total number of users can be quite large for this section. Concurrent users can be in the range of 1,000.
1.2	The system should support menus driven by statically defined role-based access control for various stake holders as per requirements to access information regarding status of disaster (s)
1.3	The system should support: <ul style="list-style-type: none">• Syndicated content from news feeds (RSS)• External web-based applications with options to launch in popup window, display in iFrame and content syndication via web clipping• For JDBC/ODBC• For web services (SOAP, WSDL and UDDI)• for Web Services for Interactive Applications (WSIA)• free text searches• structured searches driven by metadata• management of content from multiple repositories• In-place editing of content• Content conversion (e.g. Word to HTML)• Widely used operating systems and web browsers• Industry standard database management systems and• Widely used directory servers
1.4	The systems should support various JAVA based applications
1.5	The system should provide mechanisms for provisioning user identities and relationships among multiple directories
1.6	The systems should Provide Secure Socket Layer support for HTTPS (web-based front-end) & directory server
1.7	The systems should Provide clear separation of the user registry (authentication and group membership) from the user repository (user attributes); although they may be configured to the same persistent store
1.8	The systems should Provide a mechanism for balancing the user and/or request load across several logical and/or physical servers
1.9	The systems should Provide a web-based administration tools
1.10	The systems should Provide for non-intrusive monitoring of key activities and resources, such as sessions, threads, database connections, caches, memory , etc
1.11	The systems should Support role-based access to system functions provided by the portal so that end-users are provided with the appropriate set of application functions relevant to their role within the state disaster management operations and their organizational affiliation.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

1.12	The systems should Facilitate the creation of multiple portal sites on one instance with each site having its own URL, look and feel, pages, users and groups, and search index. Application should support Integration services to allow access to disparate data, applications, news feeds and Web services.
1.13	The systems should allow The administrator to configure user interface to deliver a standard taxonomy and terminology. Site management must enable department level customization of specific elements
1.14	The systems should Provide integrated views across diverse and distributed information sources, including query optimization and integrated caching
1.15	The systems should Provide federated search capabilities to enable property-based and full-text queries against multiple repositories, returning an aggregated result set.
	Following specifications are not mandatory. However systems with these facilities will be preferred over others
1.16	Provide the capability to Invite - Using information provided during the location of those individuals or roles, invite them to collaborate and to share valuable information.
1.17	Instant messaging. Provide ability to converse virtually through the exchange of text, audio, and/or video based information in real time with one or more individuals within the disaster management community.
1.18	Presence awareness. Provide the ability to see, in advance, whether a person(s) or application(s) is available to collaborate, share information and/or take an action.
1.19	Web conferencing. Provide features like: white board, chat, screen sharing, polling, audio, video, application sharing. The system should provide an ability to selectively turn on or off these features as required.

3.2 Technical Specifications for Incident Management Application Operational Requirements for Incident Management System (IMS)

Sr. No.	Specifications
1.1	The IMS should facilitate sharing of visual and textual information on various aspects of a disaster to decision makers working at State, District and disaster sites. The system should support up to 100 concurrent users and 700 total users.
1.2	It should provide all necessary components for a comprehensive disaster & emergency management solution including: <ul style="list-style-type: none"> • Alert and warning Notification, • Crisis Information Management, • Calls and message Dispatch System, • GIS, Map Data, Collaboration Framework, • Unified Communication for Planning, Dynamic Incident & Asset Management and Recovery Services.



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

1.3	<p>The system should support shared information on:</p> <ul style="list-style-type: none"> • How and where the disaster event has taken place or is taking place, • Relevant geospatial data using GIS layers to indicate location of the event, with historical context (whether similar event has occurred in the past at the place or nearby areas) • People likely to be affected by the event and possible extent of damage to houses etc. • Location of resources necessary to ensure effective response • Standard Operating Procedures (SOP) as per Government of Bihar's Disaster Management Policy <p style="padding-left: 20px;">Advice from experts on similar incidences in the past</p>
1.4	The information should be accessible from fixed and mobile locations on EOCI
1.5	The system should include universal communication interface based on common (e.g. VoIP) switching for voice call connectivity across various technology based equipments such as VHF radio, VSAT, VoIP calls on MPLS-VPN etc.
1.6	The system should interface with alert and warning facility to issue SMS / Voice mail / E-mail based warning messages inside the EOCI as well as to outside agencies such as social media, broadcast media using CAP compliant messaging.
1.7	The system must display incident, event and response and recovery resource information in a geospatial context to facilitate computer-aided management of response and recovery operations by allowing for real-time tracking and situational reporting in an affected area.
1.8	The geospatial display must show the area affected (indicating the specific and surrounding affected areas and links to all the spatial and other relevant data associated with the area). The system should have capability to superimpose dynamic status information received from sources at disaster sites or other agencies to have clear picture of available resources including state of roads for travel etc. The type of event (classification by type, magnitude and severity), Status of critical infrastructure catalogued in the system
1.9	The system should have ability to handle all types of files (documents, presentations, spreadsheets, images, multimedia and others) either by uploading and storing; or by linking to them.
1.10	It should be possible to index unstructured content, such as radio, telephony, images, video, documents, using relevant metadata, including geospatial attributes
1.11	The system should also support creation of links between different files, so as to link several files to a particular incident report
1.12	It should provide search capability for searching data records within the system, including geospatial attributes
1.13	The system should preferably have ability to generate alert(s) from data received on disaster related parameters, based on defined pre-conditions.
1.13	<p>The system should allow users to:</p> <ul style="list-style-type: none"> • Open and enter data in a form directly from the map & display these records as icons on the map. • Display documents & files on the map



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

	<ul style="list-style-type: none"> Define map symbols as well as use existing map symbol libraries Draw lines and polygons on map to store and share with other authorities responsible for disaster response.
1.14	The system should provide scalability features and support load balancing, high availability & disaster recovery. It should allow up-to 100 concurrent users performing queries and 50 concurrent updaters.
1.15	<p>The system should facilitate:</p> <ul style="list-style-type: none"> Upload / download any type of files Access to end-user device with standard operating systems such as Windows XP, Vista, Windows 7 etc Use of popular browser-based clients – Firefox, Internet Explorer, Mozilla, Google Chrome etc.
1.16	The system should have capabilities of creating the alert content for disseminating to end users. It should also generate CAP compliant warning messages for external broadcasting organizations like Radio, TV etc.
1.17	<p>The system should support:</p> <ul style="list-style-type: none"> Integration with ESRI ARCGIS server 9.3 to store, manage and analyse spatial data, including interoperability with the ARCGIS Server Web Application Development Framework (ADF). Advanced spatial data types representing geometries such as points, lines, and polygons and many functions and features that interoperate with these data types. All Vendors should ensure that proposed GIS platform (s) comply to OGC standards such as WMS, WPS, WFS, WCS etc.
1.17	The system should support Web-based administration tools to enable remote system management at any time or place
1.18	The system should ensure comprehensive protection of web content and applications on back-end application servers, by performing authentication, credential creation and authorization.
1.19	The system should have a comprehensive policy-based security administration to provide all users specific access based on user's responsibilities and should ensure maintenance of authorization policy in a central repository for administration purposes.
	Following specifications are not mandatory but system meeting them will be preferred over others
1.20	<p>The system providing following facilities will be preferred:</p> <ul style="list-style-type: none"> Instant messaging (chat) to converse virtually through the exchange text-, audio- and/or video-based information in real time, Screen sharing, Shared electronic whiteboard, Online meeting management services to schedule, attend or view information about scheduled and finished meetings, Web conferencing with “click-to-call” on instant messaging contacts, instantly placing a telephone call or starting a conference call from the instant messaging client, Integration of teleconferences and meeting rooms enabling participants to mute participants, raise and lower volume, or have the conference call them directly



RFP for setting-up and Operationalization of EOICI on BOOT basis in Bihar State

1.21	Ability to integrate with modern as well as legacy systems, Provide ability to link to 3rd party databases and applications will be preferred.
1.22	The system with ability to be receive, compile, store and analyse data on rainfall, flood, water level, wind speed and direction, earth shake, temperature, cyclone progression provided by various Government / Non-Government agencies will be preferred.
1.23	The system with ability to automate publishing of drawings/plotted data to functional groups & agencies as well as for non geospatial data such as documents, emergency plans, risk assessments etc. will be preferred

3.3 Technical Specifications for VSAT System

3.3.1 General Specifications

Sr.No.	Specifications
A	VSAT Network
A.1	DVB-S2 / FTDMA VSAT network Operating in Ku band (Rx 10.95 to 12.75 GHz and Tx 13.75 to 14.5 GHz) on INSAT satellite with a Hub at SEOC Patna and remotes at: <ul style="list-style-type: none"> • Back-up SEOC at Patna----- (1) (The VSAT will operate in SCPC Mode) • DEOC ----- 38 • EOCs at Commissioner offices -----9 • ERV----- 10 and • Portable systems-----7
1.0	Equipment and facilities at Hub
1.1	Nominal 9.0 Meter Ku band dual reflector Hub Antenna with 4 port linear polarization feed, motorized polarization rotation drive, automatic satellite tracking capabilities
1.2	Low Noise (Temperature) Amplifier / Block Down Converter and should operate in Ku band frequency band of 10.95 to 12.75 GHz should be in redundant auto-changeover configuration. Noise temperature of the LNA / LNBC should be less than 75 Degrees K @ 25 Degrees Celsius
1.3	Up-link transmitter should be a 200 Watts SSPA (1+1 configuration with auto changeover) or Block Up-Converter (BUC) working in and should operate in the KU Band frequency 13.75 -14.5 GHz
1.4	Inter-facility Links up-to 50 meters length between Antenna and Hub equipment building including line amplifiers to compensate losses if necessary
1.5	Base band equipment at the Hub to cater for required number of inbound data links and one outbound carrier, should be in redundant configuration including redundant power supplies. The system should be of modular architecture for easy up-gradation of network capacity. All the critical and traffic handling components of the hub should meet availability requirement (up time) of at least 99.95%
1.6	Network Management System (NMS) to monitor and manage configuration of all remote VSAT units should have:



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

	<ul style="list-style-type: none"> • Graphical GUI Interface using High resolution color display monitoring screens • Fully redundant system configuration, including redundant power supplies • SNMP based monitoring of remotes for fault detection and tracking (e.g. HP Open view) • Facility to remotely monitor the system via Internet.
1.7	The Hub should be configurable for Geo-redundancy (for future requirements) with redundant hub automatically taking over network control in case of failure of main hub
1.8	The hub should have the capability to operate over multiple transponders
1.9	The VSAT network system should operate in Star Mode
1.10	<p>Fully redundant Outbound carrier system should have:</p> <ul style="list-style-type: none"> • Capability to expand Data rate up-to 45 Mbps and preferably use DVB-S2 standard. • Automatic up-link Power Control (AUPC) and facility to compensate rain attenuation with automatic coding changes as additional protection. • Multiple modulation capabilities such as QPSK, 8PSK, 16 APSK
1.11	The inbound access scheme should have options of MF-TDMA or similar mode to minimise blocking of uplink traffic.
2.	Remote terminals
2.1	<p>Nominal size of VSAT terminal Antennas should be:</p> <ul style="list-style-type: none"> • 2.4 Meter antenna for VSAT at back-up SEOC • 1.8 Meters for fixed terminals at DEOC and Divisional commissioner offices • 1.2 Meters for auto deployable antennas on ERVs • 1.0 Meter for portable VSAT systems
2.2	The VSAT antenna mount for fixed locations should be suitable for mounting on ground or rooftop. It should be possible to point antennas to any geostationary INSAT satellite (at least over 55 degrees East to 115 degrees East longitude arc)
2.3	The antenna reflectors for fixed and ERV mounted systems can be made from precision aluminum or polyester glass fiber. Reflector material for portable VSATs shall be carbon fiber with suitable strengthening to survive in wind speeds up-to 80 Kilometers / hour.
2.4	Antennas mounted on ERVs and for portable VSATs should have an integrated auto-locate controller to acquire and track the satellite with manual override & should also include mechanical drives for operation in case of electrical drive failure.
2.5	<p>Antenna system for ERVs should :</p> <ul style="list-style-type: none"> • Have low Profile and Space-Optimizing Stowed Configuration with Stow Height ≤18 inches • Not weight more than 80 Kilograms including Ku Feed Controller
2.6	<p>The Block Up Converter (BUC) should operate in 13.75 to 14.5 GHZ band and its output power should be:</p> <ul style="list-style-type: none"> • ≥ 4 Watts in case of fixed and ERV VSAT systems and • ≥ 25 Watts in case of portable VSAT systems



RFP for setting-up and Operationalization of EOICI on BOOT basis in Bihar State

2.7	The VSAT modem should be able to transmit data link up to 2 Mbps
2.8	The VSAT modem should have an IP interfaces using 100BaseT connection with built in routing functionality and should support basic networking features such as NAT, DHCP etc.
2.9	The modem should have Automatic (up-link) Power Control capability to compensate for rain attenuation
2.10	The system should support Remote software Update via satellite

3.3.2 Detailed Specifications

3.3.2.1 Hub Antenna (9 Meter nominal diameter):

Antenna Specification	Receive	Transmit
Feed Type	Ku-band 4-Port	
Pole Type	Linear Polarisation Feed	
Optics Type	Dual-Reflector, Cassagrain or Gregorian system	
Reflector Material	Precision Formed Aluminum	
Frequency (GHz)	10.95 - 12.750	13.750-14.50
Antenna Gain at Midband, dBi	59.0 min.	60.0 min.
Antenna Noise Temperature (Clear Sky Conditions at 20°C (68°F)		
10° Elevation	70 K	
30° Elevation	56 K	
50° Elevation	53 K	
VSWR Performance	1.3:1	1.3:1
Port-to-Port Isolation		
Tx/Rx	75 dB	
Tx/Tx	40 dB	
Tx Power handling Capacity	Total 2.0 KW for antenna (including both TX ports) or 1.5 KW per TX port	
Maximum Pressurization	0.50 psi	
Side lobe pattern to meet relevant Regulations	FCC regulation 25-209, Eutelsat standards and ITU-R, S.580-5 and S.465-5 It should comply latest TEC guidelines in all cases of specifications stated in this document.	
Antenna Pointing Range Course/(Continuous)		
Elevation	0° (90°)	
Azimuth	180° (minimum 120° continuous)	
Polarization	360° (180°)	



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

<u>Environmental Specifications</u>	
Operational Temperature	-45.5°C to 52°C (-40°F to 125°F)
Operational within tracking accuracy for Wind speeds	45 mph (72 km/h) Gusts to 65 mph (105 km/h)
Survival Winds	200 km/h
Seismic (Earthquakes) survival	1 G Vertical and Horizontal Acceleration(8.3 Richter Magnitude and 11 Modified Mercalli Scale)
Relative Humidity	0 to 100 %
Rain	Up to 102 mm (4 in per hour)
Solar Radiation	1135 Watts/m ² (360 BTU/h/ft ²)

3.3.2.2 BUC (200 Watts rating) and LNB for HUB:

Specifications - 200 W BUC	
Output Frequency	Ku-Band
	13.75 to 14.5 GHz
<u>Available Power</u>	
Output P (Sat)	200
Output Connector	WR75G Waveguide
Mute	-60 dBc
Impedance	50 ohm
VSWR	1.25:1 Maximum
<u>Gain Linear</u>	
KU Band	65 dB min., 70 dB typical
Adjust	20 dB in 0, 25 dB steps
Full Band	± 1.0 Db
Per 40 MHz	± 0.25 Db
-40 to +55°C	± 1.0 Db
<u>Input</u>	
Frequency	L band
Impedance	50 ohm
Noise Figure	8 dB typical, 10 dB maximum @ maximum gain (15 dB for HPOD Ku-Band)
VSWR	1.25:1 Maximum
Connector	Type N
Group Delay (Per 40 MHz)	
Linear	± 0.03 ns/MHz
Parabolic	± 0.003 ns/MHz
Ripple	± 1.0 ns peak to peak
AM To PM Conversion	2° typical, 3.5° maximum at rated output



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

<u>Sample Ports</u>	
Output Sample	Type N, 50 ohm, -40 dBc nominal
Input Sample	Type N, 50 ohm, -20 dBc nominal
<u>Remote Control</u>	
Com Port	RS-485 or RS-232
<u>Environmental, Power and Physical</u>	
Operating Temp.	-40° to +55°C (-40° to 131°F) in case of outdoor unit.
	0 to 50° C Note: In case of indoor unit interconnecting link between BUC output and antenna feed has to be waveguide
Non-Operating Temp.	-50° to +75°C (-58° to 167°F)
Operating Humidity	0 to 100% condensing for outdoor unit 5 to 95% non condensing for indoor unit
Altitude	10,000 feet above sea level (derated 2°C/ 1000 ft AMSL)
Ku-Band	180 to 264 VAC, 47 to 63 Hz
<u>Specifications PLL LNB:</u>	
RF input Frequency Range	10.95 to 12.75 GHz
Noise temperature	75 deg K or better
Noise Figure	1.0 dB or better
Gain	60 dB or better
RF Input Interface	WR-75G
Output Interface	N-Type or F-Type or F-type

3.3.2.3 VSAT Hub Specifications:

(a) Network Type	<ul style="list-style-type: none"> • Two-Way or One-Way, • Interactive, , • Multi transponder, • Geographical redundant Hub (Future requirement)
(b) Topology support	Star
(c) Access method	MF-TDMA
(d) Modulation	QPSK, 8PSK, 16APSK
(e) Data rate support	Outroute – Up to 45Mbps Inroute – Up to 2 Mbps
(f) Transmitted Signal	Preferably DVB –S2 ACM Standard
(g) Monitor & Control Protocol	SNMP-based via LAN Interface
(h) Protocols support	TCP, UDP, ICMP, NAT, DHCP, DNS Caching, IGMP,



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

	Static Routes
(j) Operating Temperature	0° to +45°C

3.3.2.4 Fixed TX/RX Remote Antenna Specifications:

1.8 Meter nominal Diameter

Specifications	Receive	Transmit
Antenna Size	1.8M	
Operating Frequency	10.95 -12.75 GHz	13.75-14.5GHz
Mid band Gain (+-2dB)	45.0dBi	46.5dBi
Antenna Noise Temperature		
⊙ 10 ⁰ elevation	44K	
⊙ 20 ⁰ elevation	38K	
⊙ 30 ⁰ elevation	35K	
⊙ 40 ⁰ elevation	33K	
Side lobe Envelope, Co-Pol	To meet relevant ITU and TEC standards	
Cross-Polarization (Linear)	>30 dB on axis	
Polarization	Linear	Linear (orthogonal to Rx port)
VSWR	1.3: 1.0	1.3: 1.0
Feed Interface Rx / Tx	WR-75 G	WR-75 G
Environmental Performance	Operation	Survival
Wind Loading	45mph(72Km/h) operational	125mph(201Km/h) survival
Temperature	-40 to 140 F(-40 to 60 C)	-50 to 160 F (-46 to 71C)
Rain	100.0 mm / Hr	100.0 mm/Hr

TX/RX Remote Antenna 2.4 Meter nominal Diameter

Specifications	Receive	Transmit
Antenna Size	2.4 M	
Operating Frequency	10.95 -12.75 GHz	13.75-14.5GHz
Mid band Gain (+-2dB)	47.5 dBi	49.0 dBi
Antenna Noise Temperature		
⊙ 10 ⁰ elevation	44K	
⊙ 20 ⁰ elevation	38K	



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

⊙ 30° elevation	35K	
⊙ 40° elevation	33K	
Side lobe Envelope, Co-Pol	To meet relevant ITU and TEC standards	
Cross-Polarization (Linear)	>30 dB on axis	
Polarization	Linear	Linear (orthogonal to Rx port)
VSWR	1.3: 1.0	1.3: 1.0
Feed Interface Rx / Tx	WR-75 G	WR-75 G
Environmental Performance	Operation	Survival
Wind Loading	45mph(72Km/h) operational	125mph(201Km/h) survival
Temperature	-40 to 140 F(-40 to 60 C)	-50 to 160 F (-46 to 71C)
Rain	100.0 mm / Hr	100.0 mm/Hr

3.3.2.5 BUC (4 Watts) and LNB for Fixed Remotes:

Specifications for 4W BUC:	
Frequency Range	13.750 - 14.50 GHz
Input Frequency	950 to 1450 MHz
Output P (Sat)	36 dBm
Gain (nominal)	60 dB
Power Consumption (typical)	45W
Input Power @P1dB Output	-25 dBm (typ)
Gain Flatness over Full Bandwidth	±2.0 dB Max
Gain Stability over Temp	±2.0 dB Max
Phase Noise	
@100Hz offset	-63 dBc/Hz
@1kHz offset	-73 dBc/Hz
@10 kHz offset	-83 dBc/Hz
@ 100 kHz offset	-93 dBc /Hz
Intermodulation Product (with 2 carriers, 1MHz apart, at 6dB back off from Output @P1dB)	-27 dBc max
Frequency Inversion	Non inverting
Input VSWR	1.5:1
Input Interface	75 ohm F-Type female
Output Interface	WR75G / standard
Environmental	



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Operating Temperature	-40°C to +60°C
Relative Humidity	up to 100%
	Weather Protection sealed to IP65
External Reference	
Frequency	10 MHz
Phase Noise	External Reference Dependent
Power	-5 to +5 dBm @ 50 Ohm
Specifications LNB:	
RF input Frequency Range	10.95 to 12.75 Ghz
Noise temperature	80 deg K or better
Gain	60 dB or better
RF Input Interface	WR-75G
Output Interface	N-Type or F-Type to suit IDU requirements

3.3.2.6 Auto acquire and track (1.2 Meter nominal diameter) antenna for ERV

Specifications	Receive	Transmit
Antenna Size	1.2M	
Operating Frequency	10.95 -12.75 GHz	13.75-14.5GHz
Mid band Gain (+-2dB)	41.50dBi	43.0dBi
Antenna Noise Temperature		
⊙ 10° elevation	44K	
⊙ 20° elevation	38K	
⊙ 30° elevation	35K	
⊙ 40° elevation	33K	
Sidelobe Envelope,Co-Pol	To meet relevant ITU and TEC standards	
Cross-Polarization (Linear)	>30 dB on axis	
Polarization	Linear	Linear (orthogonal to Rx port)
VSWR	1.3: 1.0	1.3: 1.0
Feed Interface Rx / Tx	WR-75 G	WR-75 G
Auto Acquiring and tracking		
Satellite ARC	55 degrees East to 120 degrees East Longitude	
Tracking capability	<ul style="list-style-type: none"> Antenna should automatically track and lock on the pre-assigned satellite from any position with built in GPS and any other required hardware and software. 	



RFP for setting-up and Operationalization of EOICI on BOOT basis in Bihar State

	<ul style="list-style-type: none"> • Polarization should be automatically aligned for maximum antenna gain and cross polarization isolation • Pointing gain loss <0.3 dB in 30 Kilometers per hour wind speed 	
Environmental Performance	Operation	Survival
Wind Loading	45mph(72Km/h) operational	80 mph (129 Km/h) survival
Temperature	-40 to 140 F(-40 to 60 C)	-50 to 160 F (-46 to 71C)
Rain	100.0 mm / Hr	100.0 mm/Hr

3.3.2.7 Portable VSAT (1.0 Meter nominal diameter)

Characteristics	Recommended Specifications
Antenna size and reflector	≥ 1.0 Meter equivalent diameter Durable as well as light weight and made from Carbon fiber with suitable strengthening to withstand 80 KMPH wind Speed
Operational frequency band	Rx: 10.70 to 12.75 GHz and Tx: 13.75 to 14.5 GHz
Antenna gain at mid band and RX noise Temp. at 30 degrees elevation	Rx: 37.8 dB and Tx: 39.3 dB <30 Degrees Kelvin
Polarization	Linear orthogonal ,On axis Cross pole isolation >30 dB
Power handling capability	500 watts / antenna feed port
Axis adjustment range <ul style="list-style-type: none"> • Elevation • Azimuth 	10-90 Degrees >180 Degrees
Auto-locking and tracking capability	<ul style="list-style-type: none"> • Antenna should automatically track and lock on the pre-assigned satellite from any position with built in GPS and any other required hardware and software. • Polarization should be automatically aligned for maximum antenna gain and cross polarization isolation • Pointing gain loss <0.3 dB in 30 Kilometers per hour wind speed
Set-up time from equipment installation on the ground up-to establishment of communication link	Around 20 Minutes
Climatic conditions for operation within specifications	<ul style="list-style-type: none"> • Ambient Temp -20 to +50 Degrees Celsius • Wind speed less than 30 KMPH (supplier may



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

	<p>provide anchoring for working at higher wind speeds)</p> <ul style="list-style-type: none"> • Rain up-to 100 MM per hour
Operating voltage range and Power Supply	<ul style="list-style-type: none"> • AC supply: 90 to 250 Volts • DC supply: 10 to 48 Volts • A portable generator set of 500 VA rating and battery (SMF) and battery charger of appropriate voltage should be provided along with each portable VSAT system
Carrying weight in packed conditions	≤ 30 Kilograms per package

3.3.2.8 BUC (25 Watts) and LNB for portable VSATs:

Characteristics	Specifications
Frequency Range	13.750 - 14.50 GHz
Input Frequency	950 to 1450 MHz
Output P (Sat)	44 dBm
Gain (nominal)	70 dB
Power Consumption (typical)	250 W
Input Power @P1dB Output	-15 dBm (typ)
Gain Flatness over Full Bandwidth	±2.0 dB Max
Gain Stability over Temp	±2.0 dB Max
Phase Noise	
@100Hz offset	-63 dBc/Hz
@1kHz offset	-73 dBc/Hz
@10 kHz offset	-83 dBc/Hz
@ 100 kHz offset	-93 dBc /Hz
Intermodulation Product (with 2 carriers, 1MHz apart, at 6dB back off from Output @P1dB)	-27 dBc max
Frequency Inversion	Non inverting
Input VSWR	1.5:1
Input Interface	75 ohm F-Type female
Output Interface	WR75G / standard
Environmental	
Operating Temperature	-40°C to +60°C
Relative Humidity	up to 100%
	Weather Protection sealed to IP65
External Reference	
Frequency	10 MHz
Phase Noise	External Reference Dependent
Power	-5 to +5 dBm @ 50 Ohm



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Specifications of LNB:	
RF input Frequency Range	10.95 to 12.75 Ghz
Noise temperature	80 deg K or better
Gain	60 dB or better
RF Input Interface	WR-75G
Output Interface	N-Type or F-Type to suit IDU requirements

3.4 Components and capability requirements for ERV

Sr.No.	Characteristics / system or equipment	Specifications
1	Chassis	To provide minimum operational area 5 meters long and 2.4 Meter wide , diesel vehicle chassis, or custom trailer
2	Vehicle	Ruggedized, Single body
3	Drive	4*4
4	Body	Should have been engineered to provide the maximum in structural rigidity while maintaining proper weight ratios -for assuring maximum grip gear payload capacity
5	Dimensions (within +/- 10%)	Overall dimensions 7500mm X 2500 mm or more
6	Command Center operations area	5000 X 2400 X 1800 mm
7	Minimum Ground clearance	350 mm
8	Operator work stations with table chairs	2 units
9	Conference table/ Chairs	For five persons
10	Tables and chair fixtures	Removable and stow able to allow flexibility
11	Storage bins for spare equipment and essentials	The vehicle should have (lighted) two Storage bins
12	VSAT	Auto deploy and auto tracking antenna, RF system and modem capable of data rates > 2 Mbps
13	Interior	Working furniture and air-conditioning, Suitable for long hours of operation as a command centre at disaster sites. The lighting should be sufficient for working long hours without fatigue (500 Lux), with additional lighting for studying of maps etc. in the range of 1,000 Lux. Suitable lighting is to be provided for good quality



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

Sr.No.	Characteristics / system or equipment	Specifications
		<p>videoconferencing.</p> <p>The equipment mounting should take care of shocks experienced while travelling over rough roads likely to be encountered in natural disasters. Design of equipment installation and mounting is left to bidder. This may be done as per availability of space , to ensure safety of equipment and to suit operational requirements for better efficiency</p>
14	Power supply	<p>5 KVA, single phase 230 V AC rated UPS with two hours back-up batteries (SMF batteries meeting relevant environmental specifications for operating in air-conditioned areas) and 10 KVA diesel generator as main power source. Long cable (up-to 50 meters to be provided for tapping mains power for operations in case it is available at site or for checking-up of operations regularly while parked at ERC location.</p> <p>Power cable to extend power for testing at ERC locations</p>
15	Computers (Work stations)	<p>2 high end workstations with preloaded standard operating system (Windows 7 or better), in private meeting area for Command personnel.</p>
16	Radio Frequency Transceiver base station 136-174 MHz (VHF) frequency band	<p>Base station with 25 Watts power rating with digital keypad, DTMF signaling and FSK low speed data transmission capability for local Wireless communication with rescue forces working at disaster sites. The radio can be analog or digital, digital keypad is necessary even in case of analog radios for selective calling using DTMF signaling.</p>
17	VHF Radio Frequency Handheld sets operating in 136-174 MHz frequency band	<p>With 5 Watts power rating, digital key pad and DTMF signaling for local Wireless communication amongst rescue forces working at disaster sites.</p> <p>VHF needs to support only voice and should be battery operated. Minimum range for handsets should be 5 kms withstanding temperatures between 0-50 degree Celsius and 100 mm per hour rain.</p> <p>Each ERV should have 10 VHF handsets</p>
18	High Frequency Transceiver	<p>With 100 Watts power rating and voice encoding capability for single channel voice communications</p>



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Sr.No.	Characteristics / system or equipment	Specifications
19	Auto deployable mast for wireless antennas	The mast should be telescopic with maximum height equal to vehicle when stowed and more than 40 feet when deployed using electrical drive motors or any other power drive. The mast height is an indication. The mast height is to be measured from the rest position (fully retracted state). The mast should be operational up-to 100 KMPH wind and survive 150 KMPH wind
20	High Speed Internet Access	High bandwidth capabilities via satellite such as INMARSAT BGAN and VSAT
21	Video Teleconferencing with any node on network	Via VSAT or wideband satellite system (Inmarsat BGAN) using hardware based VC system
22	High Speed Fax (G3 Fax)	Faxing through VSAT or Inmarsat system. The fax will be sent on end to end IP network as such ITU recommendations T.38 may also have to be considered.
23	Voice Communications with Multiple redundancy	The system calls for connectivity across different technologies used at the disaster site and/ or at EOC. These include: <ul style="list-style-type: none"> • VoIP telephony over VSAT • VoIP MPLS-VPN network with VoIP gateway at SEOC • VHF Radio Additional redundancy will be via Satellite phones and cell phones (if available at disaster site)
24	On-Scene Video Monitoring	Through camera/video system
25	Computer-Assisted Dispatch	Fax, Email, file transfer etc.
26	Computer/Server Capabilities	Hardwired and wireless LAN. Workstations should have Ethernet connection and 220 VAC protected receptacle. All computer based software packages pre-installed. The equipment will be used for EOC operation hence any and all software necessary for web browsing, VoIP, FTP and to work on IMSP , IMS and GIS based applications should be provided
27	Personnel (Functions)	IT Support, Driver/Operator, and Communications Support (seating capacity of up to 5 persons)



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

Sr.No.	Characteristics / system or equipment	Specifications
28	Deployment Capabilities	ERV should be capable of <ul style="list-style-type: none">• Travelling at average speed of 50 Kilometers on good moterable roads and it should be possible to be ready for communications within 2 hours after reaching the destination• Operating in environment with little to no basic services, including no electrical service, no phone lines, and no cell towers• Providing own power generation and fuel supply to operate a minimum of 3 days without refueling• Sustaining long term deployment as well as short-term responses• Facilitating communications between multiple agencies (central, State, county, and municipal agencies)• Leveling on uneven grounds and stabilizers for operation during high wind conditions using Hydraulic Jacks.



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

3.5 NOMINAL SPECIFICATIONS OF PERIPHERAL SUB-SYSTEMS

Sr. No.	System / Sub-system	Name of the component / facility	Specifications	Remarks
A	Video equipment			
1	Video Conference End-points			
		Camera	HD 1080p, 12x zoom or higher,	
		Remote control	PTZ	
		Integrated codec	HD 720p @30fps or better	
		Bandwidth requirement	Maximum 512 Kbps	
		Video inputs	2 sources	
		Output ports	HDMI and or DVI to suit interface requirements of display unit	
		Accessories	Remote control, cables and power supply	
2	LED Display - Display device for Video conference end-point			
		Diagonal Dimensions	Minimum 40" diagonal size	
		Full HD 1080p	(Pixels 1920 x 1080)	
		Dynamic Contrast Ratio	At least 200,000:1	
		Response time	2 ms or better	
		viewing angle	178 degree	
		Video inputs	HDMI	Other Interfaces as required for the SEOC solution
3	IP- HD - D/N - PTZ Camera			
		Operation	Outdoor day/night 24x 7 basis	



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

		Enclosure	Vandal resistant	
		Rotation	360° continuous	
		Drive	PTZ movement	
		Video standard	MJPEG, ISO/IEC 14496-10 AVC (H.264);	
		Compression	Dual Compression	
		Network standards	a. IEEE 802.3af(Power over Ethernet) b. IEEE 802.1X (Authentication) c. IPv4 (RFC 791)	
		Sealing standards	IP67	
		Sensor	High quality IR-sensitive 1/4" progressive scan sensor	
		Lens	Zoom lens remote zoom and focus 26X or more functionality	
		Sensitivity	<ul style="list-style-type: none"> • Up-to .3 Lux in day mode (with IR filter in Use) • Up-to 0.05 Lux while in night mode (with IR-filter removed) 	
		IR filter	Equipped with a removable IR-cut filter	
		Power	Power over Ethernet preferred according to IEEE 802.3af - Class 3 8	
		Supply voltage and power consumption	a. 24 VDC b. Typical 6.4 W	
		IPv4 / IPv6	Fixed and dynamically assigned IP address, IP address filter	
4	Video Wall- at SEOC			
		LED	High Definition	
		Matrix	3*2 or as appropriate	
		Overall size	2X 40 " Diagonal size or	



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

			above to make a video wall,	
		Resolution	1366*768	
		Brightness	700 Lumen(or better),	
		Contrast	3000:1 or better	
		Video Input	Analog D-SUB, DVI-D, AV Port, 2 HDMI	To meet interface requirements of switching matrix
		Audio input	Stereo mini Jack, RCA (L/R),	To meet interface requirements of switching matrix
		Control	RS232C MDC or similar	
		Response time	≤ 8 ms(or better)	
		Picture to picture distance between 2 LED Cube	< 8 mm (or better),	
		Operating Temperature	10-40 degrees C	
		Control manager	Lamp Error Detection	
			Brightness Sensor	
			Smart Scheduling and display management	
		Adjustments	Colour, brightness and contrast	
		Fan Control	Built-In	
		MTBF	30,000 Hrs. or better	
5	Work Station Specification			
		Processor	Intel processor Corei5 or better	
		RAM	2 GB DDR3 SDRAM 1066MHz	
		Hard Disk	500 GB HDD	
		Video	DVD Read / write	
		Monitor	17" wide view flat monitor	
		Ports	1 Serial More than 4 USB 2.0(min. 2 at front),	
		Video	VGA	
		Audio	Microphone, Headphone, 2	



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

		Mouse	PS2	
		Network ports	1 RJ-45, 10/100/1000 Gigabit onboard Ethernet	
		Operating system	Pre loaded Microsoft Windows 7 with latest updates	
		Restore / recovery	Software CD	
6	Emergency Response vehicle (ERV) Design			
		Vehicle	Ruggedized, Single body	Trailer will not be accepted. Relevant changes in RFP specifications are issued separately
		Drive	4*4	
		Body	Should have been engineered to provide the maximum in structural rigidity while maintaining proper weight ratios -for assuring maximum grip gear payload capacity	
		Dimensions (within +/- 10%)	Overall dimensions 7500mm X 2500 mm or more	
		Command Center operations area	5000 X 2400 X 1800 mm	
		Minimum Ground clearance	350 mm	
		Operator work stations with table chairs	2 units	
		Conference table/ Chairs	For five persons	
		Tables and chair fixtures	Removable and stow able to allow flexibility	The conference area should also



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

				include a folding work surface
		Mains power connectivity	Power cable to extend power for testing at ERC locations	
		Storage bins for spare equipment and essentials	The vehicle should have (lighted)two Storage bins	One on chassis and another in driver's cabin - with continuous rubber seal for weather tight integrity
7	Mini plotter at EOC			
		Technology	Standard thermal colour inkjet plotter	
		Memory	64 MB or better	
		Input Ports	USB 1.1 (USB 2.0 compliant),	Suitable for workstations, server outputs
			Centronics parallel IEEE-1284 (ECP compliant),	
			1 EIO slot	
		Operating system	Compatible with operating system supplied by the vendor e.g. Microsoft® Windows 7, Vista®; Windows® Server 2003; Windows® XP etc.	
		Media size	A3 to A0 up to 1 meter rolls	
8	Fax at SEOC			
		Memory and dialing	Maximum 1,000-Station ,Auto-Dialer	
		Auto document Feeder	Up-to 100-pages	
		Scanning	0.8-sec. Quick Scan, Duplex scanning	
		Sending options	Send-to-Email/Scan-to-PC/Internet Fax Capability,	



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

		Standard	Super G3 Fax with 33.6 kbps Modem	
10	Heavy Duty Scanner at SEOC	Scanning speed	a. Up to 35 ppm/70 ipm (B&W, 200 dpi); b. Up to 20 ppm/40 ipm (color, 150 dpi); c. up to 19 ppm/38 ipm (grayscale, 300 dpi);	
		Scan size	216*356 mm,	
		Duty cycle-	1500 pages;	
		File format -	MP, JPG, TIFF, TIFF (compressed), Multi-page TIFF, PNG, PDF (normal, normal with images, searchable image-only, MRC), PDF/A, RTF, TXT, UNICODE, HTM, DOC, WPD, XML, XLS, OPF, XPS	
		Connectivity	USB	
11	Heavy duty Plotter at SEOC	Paper feed	Manual single-sheet feed, manual roll feed, automatic cutter - supporting various -	
		Media of size	A3 to A0 up to 106.7 cm rolls	
		Compatible with	Windows 7, windows Vista® (32/64-bit), Microsoft® Windows® Server 2008 (32/64-bit), XP Home and Professional (32/64-bit), Server 2003 (32/64 bit),	
				With all standard features required to support SEOC operation.
12	Heavy duty Printer at SEOC			
		Type	Laser	
		Functionality	Print, copy, scan, black/white fax with AIO	



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

			multitasking supported	
		Media	Paper (bond, brochure, colour, glossy, letterhead, photo, plain, preprinted, pre-punched, recycled, rough), transparencies, labels, envelopes, cardstock	



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

SECTION 4: DELIVERABLES

Consolidated List of Equipment and Services required to be delivered by the Operator:

Sr. No.	Scope of work / Equipment / System / Services	Quantity / service requirements
1	Scope of work	The EOCI Project will be undertaken on a BOOT (Build, Operate, Own and Transfer) basis and the Operator will be responsible for design, development, supply, install, test, commission, operate, maintain and manage operate and manage supplies / systems and services under the scope defined in this RFP for a period of five (5) years from the date of completion of the Implementation Phase as per the terms and conditions of the Agreement.
2	Project implementation schedule	Implementation phase will be considered as completed, when the facility is ready for acceptance testing by DMD
a	SEOC	Quantity (2) Main SEOC at old secretariat to be completed within 6 calendar months from the date of start of implementation phase (signing of contract and submission of implementation phase bank guarantee by the operator) Back-up EOC at Police HQ to be completed within 6 months from the date of handing over the site to the operator
b	DEOC	Quantity (38) Within 6 calendar months from the date of start of implementation phase (signing of contract and submission of implementation phase bank guarantee by the operator)
c	EOC at Commissioner offices	Quantity (9) Within 6 calendar months from the date of start of implementation phase (signing of contract and submission of implementation phase bank guarantee by the operator)
d	MEOC	Quantity (10) Within 9 calendar months from the date of start of implementation phase (signing of contract and submission of implementation phase bank guarantee by the operator)
e	Portable communication systems	Quantity (7) Within 6 calendar months from the date of start of implementation phase (signing of contract and submission of implementation phase bank guarantee by the operator)
3	Project Management and operator's responsibilities	The responsibility of the Operator includes design, development supply, installation, testing & commissioning, operation and management including staff for the operate and upkeep of EOCI consisting of EOCs including SEOC facilities at Patna, all remote EOCS, MEOCs (10) and portable systems (7). The operator has also



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

		to provide, operate and maintain Application services for Information Management Portal and Decision Support System
4	SEOC	Total quantity 2 (Two). Note: Building for main facility is ready. Second building to install redundant SEOC will be available shortly
a	Communication system	The SEOC should be equipped with highly reliable and redundant emergency communication systems using dedicated VSAT (initially on shared hub network) and public network facilities for voice, data and videoconferencing. Redundant network resources will be: 1) BSWAN (provided by DMD) 2) MPLS-VPN capacity 3) VSAT network with Hub at primary SEOC with back SEOC having SCPC link and District Hqrs (38) and Divisional Commissioner offices (9) 4) Public Telephone links (30 land Lines) and cell phone links (5) The Operator should ensure interconnectivity at all times (including disaster situations) between <ul style="list-style-type: none"> • SEOC (2) interconnected with PFC link of appropriate data capacity backed up by SCPC VSAT link of 2.0 Mbps data rate • DEOCs (38) and EOCs at Commissioner offices (9); • MEOC (10); • Portable VSAT systems (7); MPLS-VPN is to be provided for connectivity with ESF departments where BSWAN connectivity doesn't exist. Such connectivity is required @64 KBPS
b	Broadband Internet	2X2 Mbps links
c	ICT Network	a. Systems for interconnection with BSWAN, MPLS-VPN, VSAT network and broadband Internet b. Integrated Information Management Portal System (IMPS), c. Incident Management System (IMS) / Decision Support System (DSS) d. Unified Communication system and radio gateway e. VoIP gateway for up to 500 users and VoIP phones (8). This gateway will be accessed via BSWAN, MPLS-VPN and VSAT network
d	Call centre	a. Call centre with infrastructure (workstations, phones, furniture etc.) for 10 agents and 30 ISDN telephone lines from Telecom service providers with suitable EPABX for call handling / distribution etc. b. Interactive Voice Response system c. SMS origination facility



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

e	Data management and archiving (video, audio and data etc).	The information should be stored for short term usage (up to 4 weeks) in databases and subsequently can be archived. An on line storage. Minimum online capacity of 2X5 TB should be provided. Any additional data can be archived
f	Hardware, servers , peripherals etc	Hardware and peripherals: <ul style="list-style-type: none"> ⊙ Routers, firewalls for interconnection with BSWAN and MPLS VPN ⊙ Servers as required for application system design of the operator, ⊙ Work stations for operators in Control room and for senior officers in conference room (10) ⊙ Peripherals <ul style="list-style-type: none"> a. Network printers (2) c. Composite scan, print , fax machines (2) d. Stand alone Fax machines (1) e. A3 Scanners (1)
g	Audio/ Video and multimedia management system	Suitable capacity MCU for Video and audio conferencing with all government stake holders <ul style="list-style-type: none"> ⊙ Software based VC facility using work stations for control room staff (2) ⊙ Large Video display systems in Operations (control) room and large screen display systems (≥ 50 inches) in Conference room in SEOC for monitoring news channels, Videoconferencing, geospatial information and visual information related to Incident Management System. ⊙ 2 large screen display systems along with cameras and videoconferencing systems should be provided. One will be for Conference room and a spare kept in control room ⊙ Capacity to display of any video inputs from any source on any one of the display systems in operations and Conference room. Facility to display multiple video inputs on a single screen should be provided. For e.g.: TV news channel and video conferencing should be simultaneously displayed by screen splitting on a single screen. ⊙ Seating capacity for 15 persons to be provided along with a standard U shaped table in VC room ⊙ Content feeds using a junction box for upto 10 ports for outside of SEOC for press correspondents ⊙ Each seat to have audio receptacle coming from podium for recording purpose (up to 15 seats) for press correspondents ⊙ Video conferencing facility with any EOC including MEOCs at disaster sites (1). ⊙ Public address system in each room of SEOC
5	VSAT Network	A captive Hub system network operating in STAR mode with an SCPC link with back-up SEOC site.



**RFP for setting-up and Operationalization of EOCl on BOOT basis
in Bihar State**

6	Furniture / fixtures and facility management	Furniture and fixtures including carpeting in Control / Operations room and Conference room
7	Access control	Access control in Operations room, VC room, alert and warning room and operator's staff room
8	Power supply	<ul style="list-style-type: none"> ⊙ UPS based backup power of sufficient rating to support full equipment load for 1 hour (around 10 KVA). UPS in 1+1 configuration with each system catering for full load should be provided at SEOC. ⊙ Diesel generator set of at least 50.0 KVA capacity to cater for full load along with diesel storage capacity of 1,000 (one thousand) liters. ⊙ Power distribution for equipment and emergency lighting for equipment supplied by the operator ⊙ Up keep of power supply system including generator, UPS etc.
9	Operating costs	Staff costs and Electricity, diesel, paper and other consumables
10	DEOC and EOCs at Commissioner offices	Total number 47 (38 +9)
a	Equipment and systems at each DEOC location	Router, firewall to interconnect with BSWAN Node <ul style="list-style-type: none"> ⊙ MPLSVPN node of 2.0 Mbps capacity ⊙ Fixed VSAT node (1) ⊙ VoIP phones (2) using ATA (1) registered with VoIP gateway at SEOC ⊙ Workstation with software based VC facility (1) ⊙ Wired or wireless LAN ⊙ Limited call / dispatch management and alert warning facility during emergency situation for effective management ⊙ Broadband Internet on shared Internet connectivity @ 1.0 Mbps (on DSL or ADSL) ⊙ Laser Printers (2) ⊙ All in one Scanner, printer and fax (1) ⊙ UPS for 1 hour Backup for all equipment provided by operator
11	MEOC or ERV	Total number 10
a	Equipment and systems at each ERV	All terrain sturdy 4X4 drive vehicle <ul style="list-style-type: none"> ⊙ Auto deploy VSAT node (1) ⊙ Hardware based VC system (1) ⊙ LED display (1) ⊙ All weather CC TV camera for day and night operations with PTZ operation capability (1) ⊙ Laptop computers (3) ⊙ VoIP phones (2) using ATA (1) registered with VoIP gateway at SEOC



**RFP for setting-up and Operationalization of EOICI on BOOT basis
in Bihar State**

		<ul style="list-style-type: none"> ⊙ Universal communication interface (using soft clients and VoIP switching matrix) to bridge VHF networks of: Police, Fire brigade, National Disaster Rescue Force (NDRF) and Revenue department operating in 136 to 174 MHz frequency band. Provision is to be made for 2 (two) R F channels per network and 2 VoIP channels on MPLS-VPN and VSAT (total 12 ports) ⊙ VHF base station for local network with one base station and 10 handheld sets ⊙ Remote operated telescopic mast (40Feet when extended fully) (1) ⊙ HF wireless transceiver (1) ⊙ Furniture and fixtures for working persons (3) ⊙ Diesel engine generator (1) for equipment, air conditioner and lighting ⊙ Fuel supply for travel to disaster site and running the facility for up to 72 hours ⊙ UPS of required rating to power up electronic equipment and emergency lighting (back-up 2 hours), ⊙ Air conditioning of the equipment room ⊙ Wireless LAN ⊙ Laser Printer and Mini Plotters (1 unit). ⊙ All in one-Printers/ scanner/ fax (1 unit.)
12	Portable VSATs	<p>Total quantity 7 Each system should consist of</p> <ul style="list-style-type: none"> ⊙ Carbon fiber sturdy 1 meter nominal diameter manual deploy antenna system (1) ⊙ VSAT RF system (1) ⊙ Integrated VSAT Modem or with rain proof shelter system (1) ⊙ Integrated GSM micro base station (Transceiver) for limited coverage cell phone operation and long distance linkage via VSAT ⊙ Sturdy carrying cases (not more than 3) to ensure that single package weight \leq 30 KG ⊙ SMF Batteries (as required) and 500 VA portable Petrol / Kerosene driven engine generator and battery charger for powering the system (1 each)
13	Manpower	To work at SEOC, DEOCs and EOCs at Commissioner offices , ERVs and at disaster sites with portable systems
a	Details of manpower requirements	Manpower is to be provided at various EOCs as mentioned below. Infrastructure for helpdesk and technical operational staff of the operator (for manning VSAT hub, operating Video conferencing systems, video switching etc.) will be part of operators deliverables
b	SEOC	<p>Management, help desk and call centre staff:</p> <p>a. Staff to be available 0900 to 1800 hours and 24 hours on call basis:</p> <ul style="list-style-type: none"> ⊙ Operations manager



**RFP for setting-up and Operationalization of EOCl on BOOT basis
in Bihar State**

		<ul style="list-style-type: none"> ⊙ VSAT / ICT network incharge ⊙ Call centre system manager ⊙ Facility engineers (as necessary) <p>b. Staff to be available for more than one shift or on 24X7 basis</p> <ul style="list-style-type: none"> ⊙ Operating staff for various network systems <ul style="list-style-type: none"> ➤ 3 (three) per shift in main SEOC) and ➤ 1 (one) per shift at back-up SEOC <p><i>Staff from main SEOC can be relocated to back-up SEOC within 1.0 Hour in case of failure of main SEOC</i></p> <ul style="list-style-type: none"> ⊙ Help Desk engineers (as necessary) ⊙ Call centre agents during normal time (3 per shift on 24X7 basis) ⊙ Call centre operators during emergency 10 pershift for 2 shifts (0600 to 2200 hours)
c	DEOC / EOCS at Commissioner offices	Staff to be available 0900 to 0600 hours and 24 hours on call basis: Call centre / Help desk staff : 1 per EOC site
d	MEOC (ERV)	Staff to be available 0900 to 0600 hours and 24 hours on call basis: Driver (1) and Engineer Level-1 (1) per ERV. The (L-1) engineer should be trained in installing, commissioning, operating and managing all equipments and services integrated into ERV. This staff will have to move to disaster site and remain there till operations are concluded.
e	Staff capabilities and SOP	All operational staff to be properly trained and should have at least 1 year working experience of the systems <ul style="list-style-type: none"> ⊙ Operator should be in a position to rampup staff strength at a short notice to meet emergency requirements ⊙ SOP should be clearly worded to help operating staff as well as government functionaries to operate systems efficiently and without causing any harm to systems
14	Training for DMD / GoB operating personnel	Total 500 persons of DMD / GoB are to be trained. Training is to be provided at SEOC (using facilities set-up at SEOC) at the interval of every six months and for up to 50 participants in each program.
15	Uptime requirements	Communication Network infrastructure ≥ 99.5% Application software ≥98%
16	Quality of Service	<p>Voice</p> <ul style="list-style-type: none"> ⊙ Bit Error Rate (BER): Better than 10 ⊙ End to end delay: ≤ 700 milliseconds ⊙ Grade of service: ≤3% <p>Video-Conferencing</p> <ul style="list-style-type: none"> ⊙ Bit Error Rate (BER): Better than 10 ⊙ Videoerror concealment for smooth video in high packet loss conditions ⊙ Dynamic bandwidth allocation and priority of service



RFP for setting-up and Operationalization of EOICI on BOOT basis in Bihar State

		Data ⊙ Bit Error Rate (BER): Better than 10
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Note:

a. The operator has to take care of expenses towards:

(i) Facility Management:

- d) Arrange AV, Printers, and Plotters as compatible with reporting format & workload at all the manned locations and as specified elsewhere in this RFP.
- e) Arrange Workstations/Peripherals for Network Monitoring at SEOC, as per Technical specification for Workstation.
- f) Expenses for consumables, generator fuel /lubricant, electricity consumed for equipment and. Air-conditioning

(ii) Manpower Charges

This includes salary, travel, stay, communication and other out of pocket expenses, for manpower deployed at various locations including ERVs.

b. Resources to be provided by DMD are:

- a. SEOC buildings at Patna
- b. Buildings for DEOC and space for installation of operator's equipment including working space for operator's staff
- c. Space for location of MEOC vehicles and portable VSAT systems at SEOC and Divisional Hqrs
- d. Primary backbone network for emergency communication on BSWAN
- e. GIS data base with different layers of information regarding available infrastructure
- f. State Disaster Resource Network that provides online inventory of resources including trained manpower available for disaster management. It also provides information on demographics, livelihood activities, shelters etc. that is useful for, preparedness, mitigation, relief and rehabilitation activities.
- g. State Data Centre for locating application servers
- h. Connectivity with Important Government offices (Including 14 ESF) at SHQ and ESF departments at District HQ, on BSWAN
- i. Telephone lines at DEOC



SECTION 5: ACCEPTANCE TESTS AND PROCEDURE

5.1 Introduction

- a. DMD will appoint a qualified and experienced Third Party Agency (TPA) to supervise acceptance testing of EOCI
- b. Acceptance Tests will be carried out on all subsystems of EOCI to check whether supplied / installed systems meet specifications indicated in RFP document as well as system performance specified by the manufacturer / bidder in the bid document.
- b. Additional tests will include checking of interfaces with other subsystems which work in tandem.
- c. Finally overall system performance will be checked as a whole to ensure that there are no glitches in the design / implementation.
- d. Suggested tests and procedures are included in this section as indicative in nature and no inference should be drawn that these are exhaustive. Final list of tests as well as Acceptance Test Procedure (ATP) will be worked out in coordination with Operator.
- e. DMD may opt for Factory Acceptance Tests (FAT) in case certain important tests can't be conducted in the field.
- f. The Operator may also work out a test plan to demonstrate that offered systems meet requirements of the RFP as well as there is sufficient margin to take care of deterioration of the system over its working life (end of life performance).

5.2 Systems and Subsystems to be tested

Following systems and sub-systems shall be tested:

- i. MPLS-VPN set-up by the Operator as back-up to BSWAN
- ii. VSAT network
- iii. Network Monitoring System (NMS) at VSAT Hub set-up at SEOC in case captive VSAT network is provided (optional test)
- iv. Systems installed in MEOC (Emergency Response Vehicle) and portable equipment
- v. Equipment installed at DEOC in standalone modes and in network mode
- vi. Audio / video and Multimedia management systems at SEOC
- vii. Call centre operations and Alert and warning system
- viii. Information Management System



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

ix. Decision Support System

xi. Power supply systems and its back-up capacity in the case of mains supply failure

5.3 Details of proposed tests

Sr. No.	Name of the system / sub-system	Parameter to be tested	Purpose / procedure
1	MPLS-VPN (MPLS-VPN is required where BSWAN connectivity doesn't exist between EOCs or EOC and ESF offices.)	Bandwidth	Committed Information Rate (CIR) or link bandwidth between SEOC and DEOC will be at least 2.0 Mbps with capacity up-gradation if necessary CIR between SEOC / DEOC and offices of ESF organisations will be 64 Kbps with capacity up-gradation up to 128 Kbps on demand
		Network interfaces	All interfaces of MPLS nodes match the equipment supplied by the Operator
		Network switch over operations	VSAT and MPLS network wherever exist at same locations will take over the transmission in case of failure of other system
		Security	The system security doesn't permit intrusion by unauthorized sources / users
		Setting-up priority of services	To check that it is possible to set-up priority of messages (voice over data or video over voice etc.) over the network
		The system BER	BER for data transmission is (either equal to or less than) $\leq 10^{-7}$
2	VSAT network	Operating mode	STAR network operating in DVBS / FTDMA mode
		Frequency of operation	C band or Ku band as offered by the bidder
		Link capacity	SEOC to DEOC up to 10.0 Mbps DEOC to SEOC up to 512 Kbps
		Communication facilities	Voice, Data and Videoconferencing in IP mode
		System BER	BER for data transmission is (either equal to or less than) $\leq 10^{-6}$
3	Back-up power	UPS Capacity	Rating of UPS is sufficient to support equipment at each node for at least 1 hour in case of mains failure



RFP for setting-up and Operationalization of EOICI on BOOT basis in Bihar State

		Diesel Generator	Power rating is sufficient to support all equipment including air-conditioning systems
		Fuel storage capacity	To support operation of Diesel generator for a minimum period of 48 Hours

A BRIEF NOTE ON

No Cost No Commitment (NCNC) Demonstration

Introduction

The tenderer has asked for NCNC demo as part of technical evaluation process in those cases where the bidder has to offer specific solutions or equipment which is not available off the shelf. RFP for EOICI specifies following systems (applications) that may have to be specifically developed for the project.

These are:

- Information Management Portal System (IMPS)
- Incident Management System (IMS) and
- Universal communication interface based on common (e.g. VoIP) switching for voice call connectivity across various technology based equipments such as VHF radio, VSAT, VoIP calls on MPLS-VPN etc.

Each qualified bidder has to demonstrate system capabilities to satisfy requirements of above mentioned three applications

Specific performances which will be checked during NCNC Demonstrations:

a) Incident Management System (IMS)

A robust portal based solution for public safety and emergency management that should have four core capabilities:

- a) Dynamic Team Management (Collaboration, Communication and Control)
- b) Disaster Planning (Before)
- c) Emergency Operations (During)
- d) Disaster Recovery (After)

The NCNC Demo should include demonstration of following capabilities:

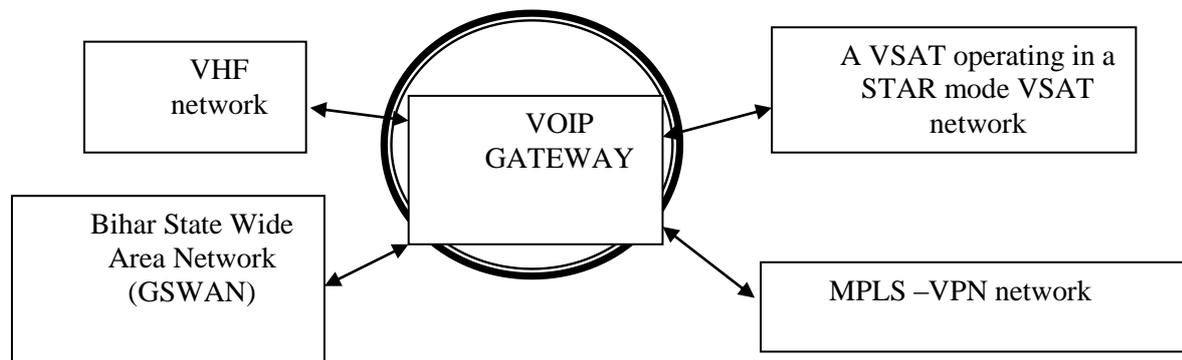
- Using any browser-based tool, it should be possible create and modify web dashboards containing situation maps, event log, and resource status boards, the application should demonstrate ability to manage more than one incident concurrently.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- Automated mass messaging / email notifications based on user-configurable thresholds, including incident type, severity and proximity to any map layer (e.g. critical infrastructure).
- Sharing of visual and textual information on various aspects of a disaster for the benefit of decision makers working at State, District and disaster sites
- Alert and warning Notification, Calls and message Dispatch System
- Integration of GIS based static (legacy data) with dynamic information / data transmitted from disaster sites
- Geospatial data using GIS layers to indicate location of the event, with historical context (whether similar event has occurred in the past at the place or starting a conference call from the instant messaging client)
- Receive, compile, store data on rainfall, flood, water level, wind speed and direction, earth shake, temperature, cyclone progression
- Automated publishing of drawings/plotted data to functional groups & agencies as well as non geospatial data such as documents, emergency plans, risk assessments etc.

b) Universal communication interface



The system should provide facility to interface communication technologies mentioned above for mainly voice intercommunication. The bidder's system should include:

- Interface conversion cards / software systems to bring 4 different systems on a single VoIP platform
- VoIP gateway

These together should demonstrate that internetwork calls can be set-up as required by the disaster management authority.

DMD will arrange VHF radio and access to a shared Hub VSAT network, BSWAN and MPLS-VPN at to facilitate the demonstration.



c) Information Management Portal System:

The web based system should have capabilities to:

- Menus driven by statically defined role-based access control for various stake holders as per requirements to access information regarding status of disaster(s)

To support:

1. Syndicated content from news feeds (RSS)
 2. External web-based applications with options to launch in popup window, display in iFrame and content syndication via web clipping
 3. Free text searches and structured searches driven by metadata
 4. Management of content from multiple repositories
 5. Content conversion (e.g. Word to HTML), Editing of content
 6. Provide mechanisms for user identities and relationships among multiple directory services
 7. Provide clear separation of the user registry (authentication and group membership) from the user repository (user attributes);
 8. Creation of multiple portal sites on one disaster instance with each site having its own URL, pages, users and groups, and search index
 9. Integration services to allow access to disparate data, applications, news feeds and Web services as well as legacy systems/ databases/ applications in EOCI (those that are indicated in the RFP)
- Provide information about key notifications and status disaster management activities (test data will be provided by DMD for uploading on the web portal)
 - Bi-lingual (English and Hindi) format.
 - Process the content to support the personalization / customization as per requirements and facility to search for information (including images, audio and video) and applications specific to preference and authorization level of the user

Optional functionalities:

1. Web conferencing between various organisations responsible for DM activities based on their presence on web portal
2. Instant messaging, to converse virtually through the exchange of text based information in real time with one or more individuals within the disaster management community
3. Web conferencing and features like white board, and screen sharing, polling, audio, video, application sharing.

Additional capabilities:



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

The bidder is welcome to arrange demonstration of any other systems which will add to understanding of the overall solution architecture and system capabilities proposed by the bidder.



SECTION 6: PAYMENT SCHEDULES AND PENALTIES
(During Implementation and Operations Stages)

6.1 Terms of payment

RFP has specified that payment for BOOT operations will be made in 20 (twenty) equal quarterly instalments and the bidder's quote should specify rate at which quarterly payment should be made by DMD. This quarterly entitlement of the selected bidder (Operator) is termed as **"Quarterly Guaranteed Revenue "(QGR).**

The payment to the BOOT Operator for Services rendered to DMD under this Agreement shall be made after deduction of penalty charges calculated on the basis of:

- Any delay in implementation of the project or
- Less than specified up time of networks and facilities as described in section 6.5 below

The net entitlement after deduction of penalty charges will be hereinafter referred to as **"Actual Quarterly Revenue" ("AQR").**

For the purpose of calculation entitlement to Operator will be worked out on a monthly basis. **Maximum Monthly Entitlement (MME)** of the operator will be worked out by dividing QGR by 3 (three). **"Actual Monthly Entitlement"** hereinafter referred to as (**"AME"**) would be calculated by deducting applicable penalties from MME. Penalties are calculated as per table 6.1 below and the uptime achieved by the Operator during each month of the quarter for the EOCI services including network links during the month and the penalties incurred under other areas of service such as quality and availability of Voice, video and data links, interiors and audio / video facilities at EOCs as well as uptime of application services such as DSS and IMSP.

Steps in calculations will be:

1. Maximum Monthly Entitlement (MME) = $QGR / 3$
2. Actual Monthly Entitlement (AME) = MME – the penalties levied by DMD under the Agreement
3. Total AQR payable = Sum of the AME payable for each of the 3 months in the relevant quarter.

It is clarified that the Operator would be paid at least 70% of the QGR for every quarter during the term of the Agreement, as mentioned herein. Further, while entitlements are calculated on a monthly basis, payment of AQR to the Operator would be made only on quarterly basis.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Upon expiry of the Agreement, DMD shall purchase all the equipment owned, installed and used by the Operator at zero residual value or INR 1.0 (One) only and the Operator shall forthwith transfer all the rights, title and interest in the equipment to DMD on payment of the aforementioned amount by DMD.

In the event of termination of this Agreement, DMD shall purchase all the equipment owned, installed and used by the Operator for the purposes of providing Services under this Agreement, at the value mentioned in concession Agreement.

DMD would be required to pay the Operator, for the Proprietary Software, (Incident management Software, NMS, Anti-virus) in accordance with the provisions of concession Agreement

Payment schedules during various stages of the BOOT project will be:

6.2: Implementation Phase:

DMD will not make any payment to the operator during implementation phase. Operator's performance to meet agreed time lines is the essence of this project. Any delays in completion of the project by delivery of facilities or services will attract penalties as described in this section.

First payment to the Operator will be made after completion of first quarter of operations phase.

6.3 Operations Phase:

The Operator will submit quarterly invoice as per accepted QGR quoted in the Bid document. Third Party Agency (TPA) appointed by DMD will check and certify Quality of service and Up-Time of various services and calculate applicable penalties if any. Applicable payment will be effected within 15 days of submission of invoice if it is otherwise correct in all respects.

6.4 Penalty for delay in completion of SEOC facilities Implementation Phase (Completion Date/Go-Live)

SEOC facility is most critical in EOCI as it is the centre of all activities related to disaster management in the state. Hence completion of facility in Old Secretariat within specified time schedule is of primary importance. Penalty for delay in completion of SEOC is also higher than that for facilities at DEOC.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

For every week or part thereof of delay until actual completion of Implementation Phase, the penalty imposed on the Operator, without prejudice to DMD's other remedies under the Agreement, shall be 10% of the QGR.

If the delay continues beyond 10 weeks, DMD shall have the right to terminate the Agreement.

6.5 Penalty for delay in completion and commissioning of sites other than SEOC,

For every three months or part thereof of delay until actual completion and commissioning of all the sites that have been handed over to the Operator, the penalty imposed on the Operator, without prejudice to DMD's other remedies under the Agreement, shall be 10% of QGR.

6.6 Penalties for below par Quality of Service (QoS) of EOCI during the Operation and Maintenance Phase

EOCI network has to be made available round the clock and throughout the term of the Agreement. The following table provides the calculation of penalty and entitlement of AME based on the different components of EOCI Project. The Uptime and penalty relationship is shown in the table 6.1 below

Sr. No.	Sub-system / facility description	Penalty in case of Uptime $\geq 99.5\%$	Penalty in case of Uptime ≥ 98.0	Penalty in case of Uptime ≥ 97	Penalty in case of Uptime ≥ 95.0	Penalty in case of Uptime < 95.0
1	ICTS Network (Including connectivity between SEOC, DEOC, MEOC and portable VSATs)	MME	1.0 penalty for every 1% reduction in Uptime or part thereof	1% penalty for every 1% reduction in Uptime or part thereof	2% penalty for every 1% reduction in Uptime or part thereof	Flat 30% of
2	Applications Software (AS) including Decision Support System and Information Management	MME	MME	1.0% penalty for 1% reduction in Uptime or part thereof	1% penalty for every 1% reduction in Uptime or part thereof	



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

	Portal					MME in case Uptime is less than 95% for one or more subsystems / facility.
3	SEOC – Interiors and Audio Visual (AV) system	MME	MME	1.0 % additional penalty for 1% reduction in Uptime or part thereof	1% penalty for every 1% reduction in Uptime or part thereof	
4	MEOC or ERV – Interior, LAN and AV system	MME	1.0% penalty for every 1% reduction in Uptime or part thereof	1% penalty for every 1% reduction in Uptime or part thereof	2% penalty for every 1% reduction in Uptime or part thereof	

Table 6.1: Rates of penalty for less than specified up time

Total Quarterly Payment will be:

$$= \text{MME} ((\text{AME-ICTS}) * (\text{AME-AS}) * (\text{AME-SEOC AV}) * (\text{AME- MEOC}))$$

Typical calculations for illustration:

Payment to be made to Operator in case Uptime in each system is 98.0% will be

$$= \text{MME} (0.98*1.00*1.0*0.98)$$

$$= \text{MME} (0.9604)$$

Similarly the payment to the Operator in case Uptime for every system is 97% or 96% or 95% will be:

➤ 97% will be= MME (0.8852)

➤ 96% will be = MME (0.7638)

➤ 95% will be = MME (0.7310)

Payment to the Operator in case Uptime of any system or all systems is below 95% will be

$$=\text{MME} (0.7)$$

6.7 Method for system uptime calculation



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

System Uptime calculation is most critical element in determining actual monthly and finally Quarterly Revenue entitlements of the Operator.

The Uptime will be calculated for individual node in the network and averaged out over total number of nodes as explained below.

Percentage Uptime for individual VSAT node which is down for 30 minutes in a month:

$$= \frac{(\text{Total number of Minutes in a month} - \text{Downtime in minutes for the VSAT})}{(\text{Total number of Minutes in a month})} \times 100$$

$$= ((60 \times 24 \times 30) - (30)) / (60 \times 24 \times 30) \times 100$$

$$= 99.93 \%$$

Percentage Uptime of VSAT system in case of 10 VSATs in a network with 2 VSATs having Uptime equal to 99.93%

$$= (\text{Sum of \% Uptime of each VSAT node}) / \text{Number of VSATs in the system}$$

$$= (99.93 + 99.93 + 100 + 100 + 100 + 100 + 100 + 100 + 100 + 100) / 10$$

$$= (999.86) / 10$$

$$= 99.986 \%$$

Percentage Uptime of VSAT network when the hub is down for 30 Minutes will be considered as Downtime for all VSATs and Uptime will be 99.93%

Percentage Uptime for other systems will be calculated in similar manner. Principles are:

- a. Uptime equals to Uptime of main equipment or system which results in non availability of total functionality (for example Hub in a VSAT network)
- b. Uptime of individual nodes will be added to up-times of similar nodes and total system Uptime will be average Uptime of all nodes



PART C: SERVICE LEVEL AGREEMENT



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

SERVICE LEVEL AGREEMENT

This Service Level Agreement (hereinafter referred to as the “**Agreement**”) is made on this [•] day of [•], by and between:

Disaster Management Department, Government of Bihar, represented by [•], having its head office at [•] (hereinafter referred to as “**DMD**” which expression shall, unless the context otherwise requires, include its permitted successors and assigns), party of the **First Part**;

And

(Where a Sole Bidder is the Selected Bidder or an SPV has been incorporated)

[•] [Name and address of the Operator], represented by [•], a company incorporated under the Companies Act, 1956 with company identification number as [•] and having its registered office at [•] (hereinafter referred to as “**Operator**”, which expression shall, unless the context otherwise requires, include its permitted successors and assigns), party of the **Other Part**.

(Where an SPV has not been incorporated in case of a Consortium)

[•] [Name and address of the Lead Member], represented by [•], a company incorporated under the Companies Act, 1956 with company identification number as [•] and having its registered office at [•] (hereinafter referred to as “**Lead Member**”, which expression shall, unless the context otherwise requires, include its permitted successors and assigns);

[•] [Name and address of the other Members], represented by [•], a company incorporated under the Companies Act, 1956 with company identification number as [•] and having its registered office at [•] (hereinafter referred to as “**Member 1**”, which expression shall, unless the context otherwise requires, include its permitted successors and assigns)

(Add as many parties as relevant, up to a maximum of 6 members)

The Lead Member together with the other Members, shall collectively referred to as the Operator and collectively Party of the **Other Part**.

DMD and the Operator shall individually be referred to as a “**Party**” and collectively be referred to as “**Parties**”.

WHEREAS



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- A. DMD intends to establish and operationalise **“Emergency Operations Centre Infrastructure”** (“EOCI”) that would serve as the 24*7*365 flexible (extendable to remote locations of incidents) network for information management (data, video and voice communications) and decision support during all stages of disaster management. The overall scope will be final design, procurement, supply, implementation (installation, testing and commissioning), operation & maintenance of EOCI Project, as per the Service Level mentioned herein.
- B. The EOCI Project will involve setting up of a reliable, resilient and a secure ICTS infrastructure at:
- SEOCs;
 - DEOCs;
 - EOCs at offices of Divisional Commissioners;
 - Offices of Emergency Support Function (ESF) departments at state and district levels
- And supply
- ERVs; and
 - Portable VSATs
- To support disaster management activities including prompt response, relief, rehabilitation and mitigation of damage / losses in emergency situations in the Bihar State (“State”).
- C. DMD has completed the Bidding Process, through competitive bidding, for selection of a suitable Operator to implement the EOCI Project, adopting a PPP model, and had issued a RFP dated [10th may 2013];
- D. The Selected Bidder has been chosen as the Operator to undertake the EOCI Project for providing the Services and the Deliverables during the Implementation Phase and the Operation and Maintenance Phase, as defined herein (please refer to indicative list of deliverables as Part B section 4).
- E. DMD intends to grant the Operator the right to undertake, implement, operate and maintain the EOCI Project on the terms and conditions set forth in the Project Documents, including without limitation, to:
- (a) Supply, install, test, commission, operate and maintain the EOCI Project infrastructure and services; and
 - (b) Transfer all the assets, at the end of the term of this Agreement, including, hardware and system software (excluding Proprietary Software) to DMD at the total cost of INR 1.0 (Re. One). For the avoidance of doubt, the aforementioned software shall be transferred to DMD upon the terms and conditions applicable to the respective



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

licenses of such software. Further, the Operator would also license the Proprietary Software in perpetuity to DMD at the time of transfer of the assets.

The EOCI Project implementation is envisioned as a Government of Bihar (“GoB”) initiative covering all the Stakeholders including – Government Departments, Municipalities & other Local Bodies within the geographic boundaries of the State.

- F. The Operator in pursuance of its Bid and the terms and conditions set forth in the Project Documents undertakes to implement the EOCI Project during the term of this Agreement and on the terms and conditions stated hereinafter.

NOW THEREFORE, IN CONSIDERATION OF MUTUAL PROMISES AND COVENANTS SET OUT HEREIN, THE PARTIES HAVE ENTERED INTO THIS AGREEMENT:

1. DEFINITIONS, ACRONYMS, INTERPRETATION AND CONDITIONS PRECEDENT

1.1 Definitions and Acronyms

- a) In this Agreement, unless the context requires otherwise, the following terms shall have the meaning ascribed to in this Article. If any term of the Agreement has not been defined herein, it shall have the same meaning as given to it in the RFP:

“Actual Quarterly Revenue (AQR)” means fees that the Operator is entitled to be paid by DMD, on a quarterly basis, for the Services rendered by the Operator for Operations and Maintenance of the EOC infrastructure. The AQR shall be arrived at after deducting the penalties, if any, for non-fulfillment of Up-time criterion, from **Quarterly Guaranteed Revenue (QGR)** and calculated in accordance with the provisions of Terms of Payment;

“Agreement” means this Service Agreement which describes the terms and conditions for implementation, operation and maintenance of EOCI Project in accordance with the terms described herein;

“Applicable Laws” means any statute, law, ordinance, notification, rule, regulation, judgment, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision of, or determination by, or any interpretation or administration of the Government of India, Government of BIHAR or any Government Instrumentality or instrumentality thereof, as may be in effect on the date of the execution of this Agreement and during the subsistence thereof and applicable to the EOCI Project;



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

“Approval” shall have the meaning ascribed to it in Article 2.4;

“Assets” shall have the meaning ascribed to it in Article 2.5.1 (a);

“Associate” means in relation to the Parties, a person who controls, is controlled by, or is under the common control with such Parties. As used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person;

“Bespoke Software” means the software designed, developed, tested and deployed by the Operator, pursuant to this Agreement, which does not include the Proprietary Software, for the purposes of rendering the Services under the EOCI Project and includes the source code along with associated documentation, which is the work product of the development efforts, but does not include the third party software products (except for the customization components on such products), proprietary software components and tools deployed by the Operator. It is hereby clarified that the Bespoke Software shall not include the Proprietary Software, system software, components and any customizations, enhancements, upgrades, updates, fixes, patches, etc. to this Proprietary Software, implemented by the Operator under this Agreement;

“Bundled Software” shall have the meaning ascribed to it under Schedule VIII;

“Deliverables” shall have the meaning ascribed to it in Article 5.2 (ii);

“Change of Control” means a transfer of the direct and/or indirect legal or beneficial ownership of any shares, or securities convertible into shares, in the Operator company that causes the shareholding of the Selected Bidder, together with its Associates, in the total equity to decline below 51% (fifty one per cent) thereof, during the term of the Agreement; provided that any material variation (as compared to the representations made by the Selected Bidder during the bidding process for the purposes of meeting the minimum conditions of eligibility or for evaluation of its application or bid, as the case may be,) in the proportion of the equity holding of Operator to the total Equity, shall constitute Change of Control;

Or

In case of Consortium:



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

“Change of Control” means a transfer of the direct and/or indirect legal or beneficial ownership of any shares, or securities convertible into shares, in the Operator company that causes the shareholding of the Lead Member, together with its Associates, in the total equity to decline below 51% (fifty one per cent) thereof, and the individual shareholding of the Member(s), together with its Associates, in the total equity to decline below 10% (ten per cent) thereof, during the term of the Agreement; provided that any material variation (as compared to the representations made by the Selected Bidder during the bidding process for the purposes of meeting the minimum conditions of eligibility or for evaluation of its application or bid, as the case may be,) in the proportion of the equity holding of Operator to the total Equity, shall constitute Change of Control;

“Claimant” shall have the meaning ascribed to it under Schedule IV;

“Confidential Information” means all information declared as Confidential Information by DMD including EOCI Project data (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, customers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how and personnel of each Party and its affiliates which is disclosed to or otherwise learned by the other Party (Operator) in the course of or in connection with this Agreement (including without limitation such information received during negotiations, location visits and meetings in connection with this Agreement);

“Deliverables” means the products, network, infrastructure and Services agreed to be delivered by the Operator, in pursuance of this Agreement, in relation to the implementation, operation and maintenance of EOCI Project and includes all documents related to the user manual, technical manual, design, process and operating manuals, service mechanisms, policies and guidelines specified in the Agreement. An indicative list of the Deliverables in the RFP;

“Downtime” shall mean an time period for which a particular device, equipment, system or software is not in a working condition or doesn't meet the required performance criteria as specified in the RFP or as specified by the Operator in the Bidding Documents (as defined in the RFP) in respect of the device, equipment, system or software;

“Effective Date” means the date on which this Agreement is executed;

“Emergency Operation Centers (EOC)” shall have the meaning as described in RFP Schedules;



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

“Evaluation Committee” shall have the meaning ascribed to it under Article 2.6.1 (f);

“Firmware” shall have the meaning ascribed to it under Schedule VIII;

“Force Majeure” shall have the meaning ascribed to it under Article 6.4 (a);

“Information and Communication Technology System (ICTS)” shall mean the infrastructure, facilities and services that would serve as the 24*7*365 flexible backbone (extendable to remote locations of incidents) network for information management (data, video and voice communications) and decision support during all stages of disaster management in the State of BIHAR. ICTS will facilitate coordination between all Stakeholders through IMS & IMPS which would be the Central Emergency & Disaster Management Application to be managed using ICTS. The ICTS will play a key role in monitoring, alerting, managing, and responding to major incidents anywhere in the State of BIHAR through each of the EOCs;

“EOCI Project” means the implementation, operation and maintenance of EOCI, on BOOT basis, across all the specified Government agencies, within the geographical boundaries in the State of BIHAR, for incident management and emergency communications using state-of-the-art technologies;

“EOCI Project Data” means all the proprietary data of EOCI Project, which is generated out of Project operations and transactions, documents and related information including but not restricted to user data which the Operator obtains, possesses or processes in the context of providing the Services to the users pursuant to this Agreement;

“Project Completion Date / Go-Live” shall mean the date on which the testing, commissioning and acceptance of the EOC Infrastructure and service platforms of the EOCI Project have been successfully completed in relation to SEOC, DEOCs, EOCs at Divisional Commissioners offices, ERVs and portable VSATs, as per the procedure laid down in the RFP and the letter in the form specified in the RFP has been procured, installed, tested and commissioned by the Operator and handed over to DMD, provided that the maximum time limit to commission the project is fixed at 180 days from the date of signing of the contract;

“Indemnified Party” shall have the meaning ascribed to it under Article 6.2 (a);

“Intellectual Property Rights” means and includes all rights in any patented hardware, processes, software and computer programmes including Bespoke Software, improvements, up-gradations enhancements, modified versions that may be



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

made from time to time, database generated, compilations made, source code and object code of such software, the said rights including designs, copyrights, trademarks, patents, trade secrets, moral and other rights therein;

“Lead Member” shall have the meaning ascribed to it under the RFP;

“Maintenance Requirements” shall have the meaning ascribed to it in Article 2.3;

“Operator” shall mean the Selected Bidder who executes this Service Agreement with DMD;

“Operation and Maintenance Phase” shall mean the phase of EOCI Project wherein the Operator has to provide the Services pertaining to operation and maintenance of equipments, systems and sub-systems, more-fully mentioned in the RFP, and shall commence from the date of ‘Go-Live’ and continue for a period of 5 years, unless terminated earlier;

“Operator Proprietary Information” shall mean the Proprietary Information of the Operator;

“Premises” shall mean the premises of SEOC, DEOC, including EOCs at offices of Divisional Commissioners

“Project Documents” means this Agreement, RFP and LoI, pertaining to EOCI Project, together with all the schedules and annexure thereto;

“Project Management Committee” shall have the meaning ascribed to it under Schedule IV;

“Project Manager” shall have the meaning ascribed to it under **Schedule IV**;

“Project Performance Guarantee” shall have the meaning ascribed to it in **Clause 2.2.5**;

“Proprietary Information” means processes, methodologies and technical and business information, including drawings, designs, formulae, flow charts, data and computer programs already owned by, or granted by third parties to either Party hereto during the term of the Agreement;

“Proprietary Software” means all computer and communication systems program software components, customizations, tools, including but not limited to any



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

enhancements, upgrades, updates patches or bug fixes created by the Operator or other software created by third parties and licensed to use of the Operator hereto, prior to its being made available to EOCI Project under this Agreement;

“Quarterly Guaranteed Revenue (QGR)” means the maximum quarterly fees, on an equated basis, that the Operator shall be paid by DMD during the Operation and Maintenance Phase, as specified in the Commercial Bid by the Operator. For the avoidance of doubt, the QGR shall commence from the Implementation Phase Completion Date;

“Receiving Party” shall have the meaning ascribed to it under **Article 3.6 (a)**;

“Recipient” shall have the meaning ascribed to it under **Article 8 (b)**;

“Replacement Operator” means any third party that DMD may appoint to replace the Operator upon expiry of the term or earlier termination of this Agreement, as mentioned hereunder, to undertake the Services or part thereof;

“Residuals” shall have the meaning ascribed to it under **Article 8 (i)**;

“Respondent” shall have the meaning ascribed to it under **Schedule IV**;

“RFP” or “Request for Proposal” means the documents containing the Technical, Functional, Commercial and Legal Specifications for the implementation of the EOCI Project, and includes the clarifications, explanations and amendments issued from time to time;

“Selected Bidder” shall have the meaning ascribed to it under the RFP;

“Service Level Agreement (SLA)” shall have the meaning ascribed to it under **Article 2.3**;

“Services” means the discharge of obligation by the Operator as per the scope of the Agreement described in **Article 2** of the Agreement read with the schedules attached to the RFP

“Software” shall have the meaning ascribed to it under **Schedule VIII**;

“Software License” shall have the meaning ascribed to it under **Schedule VIII**;

“Stakeholders” means the contractors, citizens, businesses, Government departments and other agencies of the Government of BIHAR and their employees;



RFP for setting-up and Operationalization of EOCl on BOOT basis in Bihar State

“**Testing Agent**” shall mean any qualified organisation of the Government including DMD or a neutral agent appointed for the purpose of carrying out Acceptance Testing;

“**Third Party Agency**” shall have the meaning ascribed to it under **Article 7.2;**

“**Total Average Percentage Uptime**” means average percentage Uptime in case of each of following systems:

- ICTS Network (Including connectivity between SEOC, DEOC, ERV, EOCs at Divisional Commissioners and portable systems operating in VSAT network)
- Incident Management Application and Information Management Portal
- Alert and warning system
- EOC – Interiors and Audio Video (AV) system
- ERV – Interior, Local Area Network (LAN) and AV system

The same shall be calculated as follows:

Total Average Percentage Uptime per month =

$$\left(\frac{(\text{Total minutes in a month}) - (\text{Total Downtime in minutes in same month})}{(\text{Total minutes in the month})} \right) \times 100$$

“**Transfer Regulation**” shall have the meaning ascribed to in under Schedule II;

“**Uptime**” shall mean an time period for which a particular device, equipment, system or software is in working conditions and meets the required performance criteria as specified in the RFP or as specified by the Operator in the Bidding Document (as defined in the RFP) in respect of the device, equipment, system or software; and

“**Use**” shall have the meaning ascribed to it under Schedule VIII.

b) In this Agreement, unless otherwise provided, the following acronyms shall stand for:

- | | | |
|-------|--------|--------------------------------|
| (i) | AME: | Actual Monthly Entitlement |
| (ii) | BSDR: | Bihar State Disaster Response |
| (iii) | BSWAN: | BIHAR State Wide Area Network |
| (iv) | CCN: | Change Control Notice |
| (v) | DA&A: | Data Acquisition and Analysis |
| (vi) | DMD: | Disaster Management Department |



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

(vii)	DEOC:	District Emergency Operation center(s) located at all districts of the State
(viii)	EOC:	Emergency Operation Centers
(ix)	EOCI:	Emergency Operations Centers Infrastructure
(x)	ERV:	Emergency Response Vehicle
(xi)	GoB:	Government of BIHAR
(xii)	GUI:	Graphical User Interface
(xiii)	HQ:	Headquarters
(xiv)	ICTS:	Information and Communication Technology System
(xv)	IMS:	Incident Management Systems
(xvi)	IMPS:	Information Management Portal System
(xvii)	MPLS:	Multi Protocol Label Switching
(xviii)	NMS:	Network Monitoring and control System
(xix)	PPP:	Public Private Partnership
(xx)	QGR:	Quarterly Guaranteed Revenue
(xxi)	RCA:	Root Cause Analysis
(xxii)	RFP:	Request for Proposal
(xxiii)	SEOC:	Main State Emergency Operation Center located at Old secretariat, Patna and back-up at Police HQ, Patna
(xxiv)	VPN:	Virtual Private Networks
(xxv)	VSAT:	Very Small Aperture Terminal

1.2 Interpretation

- a) The roles and responsibilities of the Parties shall be performed in accordance with the terms and conditions of the Project Documents. In the event and to the extent of any inconsistency between two or more documents which form part of the Project Documents, those documents will be interpreted in the following order of priority:
 - (i) Agreement;
 - (ii) Any attachments / schedules to the Agreement;
 - (ii) Letter of Intent (LoI);
 - (iii) RFP and
 - (iv) Any attachments / schedules to the RFP.

- b) References to any statute or statutory provision include a reference to that statute or statutory provision as from time to time be amended, extended, reenacted or consolidated and to all statutory instruments made pursuant to it.

- c) Words denoting the singular shall include the plural and vice versa and words denoting natural persons shall include firms, corporations, partnerships, companies, joint ventures, trusts, associations, organizations, executors, administrators, successors, agents, substitutes and any permitted assignees or other entities (whether or not having a separate legal



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

entity) and vice versa. A reference to a group of persons is a reference to all of them collectively, to any two or more of them collectively and to each of them individually. A word denoting a gender includes all genders.

- d) Unless otherwise expressly stated, the words “herein”, “hereof”, “hereunder” and similar words refer to this Agreement as a whole and not to any particular Article, Schedule. The term Articles, refers to Articles of this Agreement. The words “include” and “including” shall not be construed as terms of limitation. The words “day” and “month” mean “calendar day” and “calendar month” unless otherwise stated. Where, because of a difference in time zone, the calendar day or calendar month in one country differs from another country, then the calendar day or calendar month shall be deemed to be the calendar day or calendar month applicable to India. The words “writing” and “written” mean “in documented form”, whether electronic or hard copy, unless otherwise stated. Any reference to attorneys' fees shall include fees of the professional assistants of such attorneys.
- e) The headings and use of bold type in this Agreement are for convenience only and shall not affect the interpretation of any provision of this Agreement.
- f) References to “implementation” include investigation, design, engineering, procurement, delivery, installation, processing, testing, commissioning.
- g) Any reference at any time to any Agreement, deed, instrument, license or document of any description shall be construed as reference to that Agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or innovated at the time of such reference.
- h) Any Agreement, consent, approval, authorization, notice, communication, Information or report required under or pursuant to this Agreement from or by any Party or the independent engineer and/or a statutory auditor and/or any other authority shall be valid and effectual only if it is in writing under the hands of duly authorized representative of such Party or the independent engineer and/or statutory auditor or any other authority, as the case may be, in this behalf and not otherwise.
- i) Unless otherwise stated, any reference to any period commencing “from” a specified day or date and “till” or “until” a specified day or date shall include either such days or dates.
- j) A reference to an Article or Schedule is a reference to an Article or Schedule to this Agreement unless otherwise stated and references to this Agreement include any recital, schedule, annexure or appendix to this Agreement.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- k) In interpreting this Agreement no rule of construction applies to the disadvantage of a party because that party or its legal advisor was responsible for the preparation of this Agreement or any part of it.
- l) In case of ambiguities or discrepancies within this Agreement, the following shall apply:-
- i. Between two Articles of this Agreement, the provisions of specific Articles relevant to the issue under consideration shall prevail over those in other Articles;
 - ii. Between the dimension scaled from the design and drawings and its specific written dimension, the latter shall prevail; and
 - iii. Between any value written in numerals and that in words, the latter shall prevail.
- m) Notwithstanding any other provision contained herein or in any other document, it is clarified that the terms of this Agreement shall override the terms of any other agreement, document, memorandum, proposal etc. pertaining to any matter related to or connected with the implementation, operation and maintenance of EOCI Project and/or the obligations of the Operator under this Agreement, which are made or entered into after the Effective Date.

1.3 Structure

- a. This Agreement shall operate as a legally binding service agreement specifying the terms and conditions which apply to the Parties under this Agreement and the provisions of Services to be provided by the Operator for the EOCI Project.
- b. The Parties understand and agree that Change of Control during the term of the Agreement is prohibited unless the Operator obtains prior written approval of DMD. In the event of Change of Control, if permitted as above, if the net worth of the surviving entity is less than that of the Operator prior to the Change of Control, DMD may require the Operator to furnish an additional bank guarantee up to 50% (fifty percent) of the existing Project Performance Guarantee from a bank acceptable to DMD (the concerned bank shall not be Operator or any of its Associates). If the Operator fails to furnish the additional bank guarantee within 15 days of DMD requesting the additional bank guarantee, DMD may either refuse permission for Change of Control or exercise its right to terminate this Agreement, by written notice, to become effective as specified in such notice. Pursuant to such termination, the consequences of termination as set out in Article 7.4 will become effective.

1.4 Conditions Precedent



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Subject to express terms to the contrary, the rights and obligations under this Agreement shall be effective (at any point of time during the course of the Agreement) only upon fulfillment of all the Conditions Precedent set out in Articles 1.4.1. However, a Party, may at any time at its sole discretion waive fully or partially any of the Conditions Precedent to be fulfilled by the other Party.

1.4.1 Conditions Precedent for Parties

i. Conditions Precedent for Operator

The Operator shall, within 15 days from the date of execution of this Agreement, fulfill the conditions precedent, which are as follows:

- a) Provide Implementation Phase Performance Guarantee to DMD, as specified in this Agreement; and
- b) Provide DMD certified true copies of its constitutional documents and Board resolutions authorizing the execution, delivery and performance of this Agreement with DMD;

ii. Conditions Precedent for DMD

DMD shall, not later than 15 days from the date of fulfillment of Conditions Precedent by the Operator, provide access to space allocated for main and back-up SEOCs and other fixed EOCs for commencement of the Implementation Phase. It is clarified that although the payment of AQR to the Operator shall commence after the completion and commissioning of SEOC, ERVs and Portable VSATs and related infrastructure and facilities, however, the Operator shall be under an obligation to complete and commission DEOCs and EOCs at offices of Divisional Commissioners offices as provided in the Agreement, within 180 days from the date of handing over of each of the sites, as specified in RFP, by DMD. In the event the Operator fails to fulfill the said obligation, DMD may levy penalty as set out in Schedule IV.

1.4.2 Non-fulfillment of Conditions Precedent

- a. In the event that any of the Conditions Precedent required to be satisfied by the Operator has not been complied with, within the specified time, and the same has not been waived by DMD, fully or partially, DMD shall have the right to forthwith terminate this Agreement.
- b. Instead of terminating this Agreement as provided in paragraph 1.4.2 (a) above, DMD may, at its sole discretion, extend the time for fulfilling the Conditions Precedent and in such an event, the term of the Agreement shall stand extended.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- c. In the event DMD fails to fulfill its Condition Precedent within the specified time, the Operator shall have the right to terminate the Agreement by giving a written notice of 30 days.
- d. In the event that vacant possession of any of the EOCI Project sites, facilities and/or EOCI Project Data has been delivered to the Operator prior to the fulfillment, in full, of the Conditions Precedent, upon the termination of this Agreement, such possession shall immediately revert to DMD, free and clear from any encumbrances or claims.

2. ARTICLE II – PROJECT EXECUTION PHASE

2.1 Scope of Agreement

The Operator shall be responsible for the final design, procurement, supply, implementation (installation, testing and commissioning), training, operation & maintenance of EOCI, on a build, own, operate and transfer basis, as per the required level of technical design / specifications and performance, as set out in this RFP including Scope of Work, EOCI Technical Requirements, hardware and software requirements at Emergency Operation Centers Facilities, Emergency Communications Network, Incident Management and Information Management Systems, VSAT network, Mobile and portable communication systems , Project Management and operations and maintenance,

2.1.1 Implementation Phase Activities

- a. To set-up the network for Emergency Operation Centers (“EOC”) for effective and efficient response to emergency situations. EOC buildings have been constructed at state HQ, district HQ and commissioner offices.
- b. To inter-connect the EOCs with line departments / ministries (responsible to support emergency response services) and other service agencies at State and district level using BSWAN or MPLS-VPN wherever such connectivity doesn’t exist;
- c. To provide communication infrastructure based on multiple communication technology and tools necessary for a highly reliable network;
- d. To set-up a state of the art SEOC facility for quick and efficient response in cases of disaster situations;
- e. To set-up an integrated Network Monitoring and Control System (“NMS”) with a user friendly Graphical User Interface (“GUI”) based operation to monitor and manage various nodes / elements / components integrated into the EOCI network.



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

-
- f. Supply and integration of various systems / sub systems to be supplied by the Operator under the EOCI Project;
 - g. To design, develop and install Information Management System Portal;
 - h. To provide infrastructure services, such as, directory services, mailing services, proxy services, anti-virus and software updates as detailed in the RFP;
 - i. To provide incident management application; and
 - j. To equip SEOC with:
 - i. state-of-the-art computers;
 - ii. communications equipments;
 - iii. Alert and dispatch facilities;
 - iv. multimedia management system for handling live video feeds coming from multiple sources like TV news channels, video-conferencing devices, surveillance and remote cameras or footage captured through video cameras on ERV via network or VSAT;
 - v. secure video conferencing;
 - vi. mapping and emergency planning tools allowing presenters to annotate over any computer or video signal in real-time and in standard or high-resolution; and
 - vii. enable the EOC to view many sources of information, control the sources; disseminate more information to the various agencies faster and easier than ever before.
 - k. To equip and provide the ERVs and portable VSATs;
 - l. The Operator shall obtain all necessary approvals/ clearances from concerned authorities / departments, as applicable, including:
 - i. DoT/ TEC/ TRAI/ BSNL for network installation and operations.
 - ii. From Wireless Planning Commission (WPC) wing and Standing Advisory Committee for Frequency Allocation (SACFA), as required, for use of Radio/ Microwave/ Wireless links and/or any related equipment.
 - iii. From local authorities (like Municipalities, PWD, SEB etc.), as required, including laying their own cables, mast erection, etc.

Note:

DMD will obtain captive VSAT service provider's license from Department of Telecommunications (DoT) as well as lease satellite spectrum from Department of Space



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

(DoS). However the operator will provide necessary technical and manpower support to expedite grant of license and lease of spectrum from respective authorities.

It is further clarified that EOCI shall *inter alia*, comprise the following:

- Information Management Portal System (“IMPS”), for Dissemination of information to the Stakeholders,
- Incident Management System (“IMS”)
- Monitoring (audio, video, and telemetry),
- Data acquisition and analysis (“DA&A”),
- Issuing of Alerts & Warnings,
- Coordination and priority setting,
- Resource Management and
- Communications Facilitation

Further, EOCI shall have the inherent capacity for scalability and reliability so as to meet any sudden increase in demand of communication and information linkages throughout the VSAT based back-up network and on MPLS-VPN.

2.1.2 Operations and Maintenance Phase Activities

- a. To operate and maintain EOCI;
- b. To maintain all hardware / software / applications / peripherals used in EOCI Project, which shall be operated by the authorized GoB officials;
- c. To provide sufficient staff compliment to meet requirements of BSDR as directed by GoB from time to time;
- d. Manage, monitor and review the EOC Infrastructure facilities and suggest up-gradations / additions in capacities etc. if necessary to meet demands of effective disaster response;
- e. Establish reporting mechanism (e.g. periodical progress reports) as required by DMD. Design and develop online tools for enabling DMD, to monitor the status of the Project; and

2.2 Commencement and Duration of this Agreement

- 2.2.1 This Agreement shall come into effect on the Effective Date and cover the Implementation Phase and the Operation and Maintenance Phase. The Operation and Maintenance Phase



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

shall last for a period of 5 years from the date of Go-Live, subject to fulfillment of the rights and obligations of the Parties under the Agreement.

- 2.2.2** The Implementation Phase shall commence from the date on which the Condition Precedent by DMD is fulfilled and shall remain in force till the date of Acceptance Testing (“AT”). Provided that the maximum time limit for Implementation Phase has been fixed at 180 days from the Effective Date
- 2.2.3** In the event, the required inputs viz - sites and locations are not provided to the Operator by DMD / GoB on time, such delay shall be brought to the notice of the Project Management Committee. It is also clarified that any delay or defect not directly attributable to the Operator, shall not amount to breach of this Agreement by the Operator. DMD shall be entitled to, at its sole discretion, extend the time period for the Implementation Phase, for any delay or defects or non-performance not directly attributable to the Operator.
- 2.2.4** The Operation and Maintenance Phase shall commence from the date of Go-Live, unless this Agreement is terminated earlier in accordance with its terms. It shall end upon the expiry of five years from Go-Live or on the date of earlier termination of the Agreement.
- 2.2.5 Project Performance Guarantee**
- (i) The Operator shall, for securing the performance of its obligations hereunder during the Implementation phase as well as Operation and Maintenance Phase, provide to DMD, no later than 15 (fifteen) days from the date of LOA, an irrevocable and unconditional guarantee from a Nationalised/Scheduled Bank, in favour of DMD, for a sum equivalent to 4 (four) times of the QGR, i.e. Rs. ***** Crore (Rupees ***** Crore) in the form that will be supplied by DMD along with LOA (“the Project Performance Guarantee”). Until such time the Project Performance Guarantee is provided by the Operator pursuant hereto and the same comes into effect, the agreement between DMD and Operator doesn’t come into force. The Project performance guarantee shall remain in force till implementation and phase and BOOT period of 5 (five) years is over.
- (ii) Notwithstanding anything to the contrary contained in this Agreement, in the event Project Performance Guarantee is not provided by the Operator within a period of 60 (sixty) days from the Implementation Phase Completion Date, DMD may encash the Implementation Phase Bank Guarantee and appropriate the proceeds thereof as damages, and thereupon all rights, privileges, claims and entitlements of the Operator under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Operator, and this Agreement shall be deemed to have been terminated by mutual agreement of the Parties.



(iii) Appropriation of Project Performance Guarantee

Upon occurrence of an event of breach of this Agreement by the Operator, DMD shall, without prejudice to its other rights and remedies hereunder or in law, is entitled to encash and appropriate the relevant amounts from the Project Performance Guarantee as damages for such Operator breach. Upon such encashment and appropriation from the Project Performance Guarantee, the Operator shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Project Performance Guarantee, and in case of appropriation of the entire Project Performance Guarantee provide a fresh Project Performance Guarantee, as the case may be, and the Operator shall, within the time so granted, replenish or furnish fresh Project Performance Guarantee as aforesaid failing which DMD shall be entitled to terminate this Agreement in accordance with Article VII. Upon replenishment or furnishing of a fresh Project Performance Guarantee, as the case may be, as aforesaid, the Operator shall be entitled to an additional cure period of 90 (ninety) days for remedying the relevant event of breach of his Agreement by the Operator, and in the event of the Operator not curing its default within such cure period, DMD shall be entitled to encash and appropriate such Project Performance Guarantee as damages, and to terminate this Agreement in accordance with Article VII.

(iii) Release of Project Performance Guarantee

The Project Performance Guarantee shall remain in force and effect for a period of 30 (thirty) days from the expiry or earlier termination of this Agreement, provided the Operator is not in breach of this Agreement.

2.3 Level of Services

- a. The provision of Services to the Stakeholders with certainty and required speed is the essence of the Agreement between the Parties.
- b. The Operator represents that it is a competent provider of a variety of Information and Communication Technology Systems (“ICTS”), EOC, IMS services that are essential for efficient disaster response. The Operator will keep abreast of the relevant technical, managerial and operational requirements applicable to the provision of the Services and best practices in this area and will share its knowledge with DMD, regarding matters which would assist DMD, in its use of the Services, provided that Operator shall not be obligated to share information regarding other clients or any Confidential Information of Operator not relevant to this Agreement.
- c. The Services shall be performed and the Assets shall be maintained by the Operator in accordance with the provisions of the Project Documents.
- d. The Operator shall perform the Services and maintain the Assets,



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

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- (i) in a good professional manner commensurate with professional industry and technical standards which are generally in effect for international projects and innovations pursuant thereon similar to those contemplated by this Agreement; and
 - (ii) so as to comply with the applicable Service levels, if any, in accordance with the terms of the applicable Project Engagement Definition Document .
- e. DMD shall be entitled to conduct mock drills for testing and verifying the efficacy, efficiency and responsiveness of EOC Infrastructure, systems and facilities. The Operator undertakes to provide full support and co-operation to DMD and/or its representatives in conducting such mock drills. Based on the analysis of the results of such mock drills, DMD shall have the right to issue appropriate instructions to the Operator, through the Project Engagement Definition Document, which shall be complied forthwith by the Operator provided that these are within the scope of the Agreement.
- f. No Party to this Agreement will at any time perform, or omit to perform, any act which they are aware, at the time of performance, will place the other Party in default under any insurance policy, mortgage or lease, governing activities at any location provided by DMD.
- g. The Operator shall procure that at all times during the Operations and Maintenance Phase, the EOCI Project conforms to the maintenance requirements and levels of service set forth in the Project Documents (the “**Maintenance Requirements**”).

2.4 Approvals

- a. The Parties shall cooperate to procure, maintain and observe all relevant and customary regulatory and Governmental licenses, clearances and applicable approvals (hereinafter the “**Approval(s)**”) necessary for the Operator to provide the Services. The costs of such Approvals shall be borne by the Operator unless as specifically mentioned in this Agreement. Accordingly, the cost of licenses obtained from regulatory authority for use of frequencies, lease charges toward satellite bandwidth and other telecom services from the licensed service providers shall be borne by DMD and paid directly, on actual basis, to the concerned authority. However, it is clarified that, the cost of resources provided by licensed telecom Operators including internet bandwidth, or charges to be paid to the local authorities such as Municipality etc. shall form part of the QGR. It is further clarified that in case any telephone lines or other telecom services are requisitioned by DMD, then DMD shall make the payment for availing such services as may be mutually agreed by the Parties.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- b. Parties shall extend all co-operation and information to each other, which is reasonably required to meet their respective obligations under this Agreement.
- c. DMD shall use reasonable endeavors to assist the Operator in obtaining such Approvals. In the event that any Approval is not obtained, the Operator and DMD shall co-operate with each other in achieving a reasonable alternative arrangement as soon as reasonably practicable, for the Operator, to continue to process its work with as minimal interruption to its business operations as is commercially reasonable until such Approval is obtained, provided that the Operator shall not be relieved of its obligations to provide the Services and to achieve the Service levels until such Approvals are obtained, if and to the extent that the Operator's obligations are dependent upon such Approvals.

2.5 Use of Assets during the Operation and Maintenance Phase

2.5.1 Operation & Maintenance Phase

During the Operation and Maintenance Phase, the Operator shall:

- a. Take all reasonable and proper care of the entire hardware and Software, including Proprietary Software, network or any other audio, visual, information and communication technology infrastructure components used for the EOCI Project and other facilities leased / owned by the Operator exclusively for the purpose of delivery of Services (“**Assets**”), in accordance with this Agreement, in proportion to their use and control of such Assets, which shall include all upgrades/ enhancements and improvements to meet the current needs of the EOCI Project;
- b. Keep all the tangible Assets in as good and serviceable condition (reasonable wear and tear excepted) and/or the intangible Assets suitably upgraded, subject to the relevant standards as stated in the technical standards in the RFP, as on the date the Operator takes control of and/ or first uses the Assets and during the entire Term of the Agreement;
- c. Ensure that any instructions or manuals supplied to the Operator by the manufacturer of the Assets and/or DMD, and/or any other service provider, for use of the Assets, shall be followed by the Operator and any person who will be responsible for the use of the Assets;
- d. Take such steps as may be properly recommended by the manufacturer of the Assets and notified to the Operator or as may, in the reasonable opinion of the Operator, be necessary to use the Assets in a safe manner;



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- e. To the extent that the Assets are under the control of the Operator, keep the Assets suitably housed and in conformity with any statutory requirements from time to time applicable to them;
- f. Allow DMD and any persons duly authorized by them to enter any land or premises on which the Assets are for the time being sited so as to inspect the same, subject to any reasonable third party requirements;
- g. Not knowingly or negligently use or permit any of the Assets to be used in contravention of any statutory provisions or regulation or in any way contrary to law;
- h. Use the Assets exclusively for the purpose of providing the Services as detailed in the Project Documents or as directed by DMD / GoB and for any incidental purposes as appropriate;
- i. Not sell, offer for sale, assign, and mortgage, hypothecate, encumber, pledge, sub-let or lend out any of the Assets without the prior permission of DMD. For the avoidance of doubt, the Operator shall be entitled to create a charge on the QGR receivable by it under this Agreement, in favour of a Senior Lender without any approvals from the DMD;
- j. Use the Assets only in accordance with the terms hereof and those contained in the Agreement;
- k. Maintain standard forms of comprehensive insurance including liability insurance, system and facility insurance and any other insurance for the personnel, Assets, data, Software, etc.; and
- l. To ensure the integration of the Software with hardware to be installed and the current Assets, in order to ensure smooth operations of the entire solution architecture to provide efficient services to all the Stakeholders of EOCI Project in an efficient and speedy manner in terms of the Project Documents.

2.6 Acceptance of Implementation Phase

2.6.1 Acceptance (Acceptance Testing, Certification & Evaluation) of Network

EOCI comprises of equipment and facilities at State and other EOCs including but not limited to, the ICTS infrastructure, ERVs, fixed and portable VSAT communication network, Alert and Warning system infrastructure. EOCI would interconnect SEOC, DEOC, EOCs at offices of Divisional Commissioners, ERVs and portable VSATs , ESF offices at State HQ, ESF offices at District HQ using bandwidth on Bihar State Wide Area



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Network (“**BSWAN**”), MPLS-VPN, Broadband Internet and other existing / or added PSTN infrastructures. Commissioning of the above components and the connectivity to other nodes / offices shall be established in a single phase. AT shall commence at the completion of all segments of EOCI, in accordance with the guidelines provided in Acceptance Tests and Procedure.

It is clarified that with respect to the sites other than SEOC, which are not handed over to the Operator at the time of commencement of Implementation Phase, AT shall commence at the completion of implementation of services at the respective sites within the time period, as may be prescribed by DMD.

The completion of Implementation Phase and the usage of EOCI network shall be subject to the following conditions:

DMD shall undertake an exercise of testing, acceptance and certification of EOCI systems through the designated officers / third party agency (“**Testing Agent**”) through a process that is mutually agreeable to the Parties as soon as the Operator declares the Implementation Phase to be ready for Acceptance, but not later than 150 days of commencement of Implementation Phase. The Acceptance of all Services provided by the Operator during the Implementation Phase shall be conducted in the following manner:

The Operator shall coordinate with DMD and the nominated agency for performing the Acceptance Testing and Certification. The cost of the services provided by Testing Agent shall be borne by DMD. The following methodology shall be adopted for carrying out the Acceptance Testing in accordance with the Project Documents:

- a. DMD shall nominate a suitable neutral and technically competent Testing Agent / agency for conducting AT to test that equipments and systems meet specifications mentioned in the Project Documents. The Testing Agent shall be selected within 60 days of commencement of the Implementation Phase.
- b. The Testing Agent shall prepare the test plan following internationally accepted norms for the Acceptance Testing covering software, hardware and networking, including the processes relating to the design of the solution architecture, design of systems and sub-systems, coding, testing, business process description, documentation, version control, change management, security, service oriented architecture, performance in relation to compliance with the metrics, interoperability, scalability, availability and compliance with all the technical and functional requirements specified in the Project Documents. The test plan shall be finalized with the consent of Operator, however accepted industry standards shall prevail in case of any disputes. DMD shall ensure that the Testing Agent provides the guidelines and the testing procedure within 75 days of appointment of the Testing Agent.



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

- c. The Testing Agent shall establish appropriate processes for notifying the Operator of any deviations from the norms, standards or guidelines at the earliest instance after noticing the same, to enable the Operator to take corrective action.
- d. Such an involvement of and guidance by the Testing Agent shall not, however, absolve the Operator of the fundamental responsibility of designing, developing, installing, testing and commissioning the various components of the EOCI Project to deliver the Services in conformity with the Project Documents.
- e. In the event and for reasons attributable to the Testing Agent and/ or DMD, the AT is not completed by Testing Agent within a period of 4 (four) weeks from the date the Operator declares the Implementation Phase to be ready for AT, the AT shall be deemed to have been completed and accepted by DMD for the limited purpose of payment of QGR, provided that the Operator shall refund the QGR, as received from DMD, if DMD does not accept the Implementation Phase upon conclusion of the AT. Pursuant to acceptance of the Implementation Phase in accordance with this Section, the Operator shall provide Services under the Operation and Maintenance Phase and receive payment as specified in the appropriate Schedule VI.
- f. Pursuant to completion of AT by the Agent, the Testing Agent shall issue a certificate of acceptance on the compliance of the criteria for AT and submit a report detailing the AT and the findings thereof to a three member committee, which shall include, an Operator's representative, a DMD's representative and a neutral party with relevant qualifications and experience, (hereinafter referred to as "**Evaluation Committee**"). The Evaluation Committee shall evaluate the report submitted by Testing Agent/agency and give its recommendation to DMD, which shall be binding on both the Parties.
- g. In the event and for reasons directly attributable to the Operator, the Operator delays the declaration of the completion of Implementation Phase and the network to be ready for AT for a period beyond 10 weeks from the date as specified hereinabove or any such period that may be agreed to between the Parties, DMD shall have the right to terminate this Agreement and invoke the Implementation Phase Performance Guarantee.
- h. The Evaluation Committee is entitled to evaluate the report submitted by the Testing Agent after successful completion of AT. In the event the AT has not been concluded to the satisfaction of the Evaluation Committee in accordance with the requirements specified in the Project Documents, a notice shall be issued to the Operator within 15 Days of completion of AT to rectify all defects and remove deficiencies. The Operator shall repair all the defects and deficiencies within 15 (Fifteen) days of such notice being received by the



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Operator. In the event the Operator is unable to rectify the defects or deficiencies within the aforementioned period of 15 (Fifteen) days of such notice being issued by the Evaluation Committee of such defects and deficiencies, DMD shall have the right to reject the Services and terminate this Agreement and invoke the Implementation Phase Performance Guarantee furnished by the Operator under this Agreement. DMD reserves the right to grant an extension of time for rectification of defects/deficiencies by the Operator, subject to a maximum of 15 days.

- i. The Operator's performance of its obligation under this Agreement for the Implementation Phase shall be applicable to those sites which are handed over to the Operator as per Schedule XIV. In case of delay in handing over of any site /sites, due to reasons not attributable to the Operator, the timeline shall be revised appropriately by DMD in consultation with the Operator and the Operator's performance during the Implementation Phase shall then be evaluated as per the revised timeline. It is also clarified that any delay or defect not directly attributable to the Operator, shall not amount to breach or material breach of this Agreement by the Operator.

2.7 Access to EOCI Project Locations

2.7.1 Operation & Maintenance Phase

- (a) For so long as the Operator provides Services from any EOCI Project location on a non-permanent basis and to the extent necessary for the Operator to provide the Services and at no cost to the Operator, DMD shall subject to compliance by the Operator with any safety and security guidelines which may be provided by DMD and notified to the Operator in writing, provide the Operator with:
 - i. Reasonable access, in the same manner as granted to EOCI Project employees, to EOCI Project locations 24*7*365; and
 - ii. Access to office equipment as mutually agreed and other related support services in such location and at such other EOCI Project location, if any, as may be reasonably necessary for the Operator to perform its obligations hereunder.
- (b) Locations and items shall be made available to the Operator on an "as is, where is" basis by DMD. The Operator agrees to ensure that its employees, agents and contractors do not use the EOCI Project location, Services and items:
 - i. For the transmission of any material which is defamatory, offensive or abusive or of an obscene or menacing character; or



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- ii. In a manner which constitutes a violation or infringement of the rights of any person, firm or company (including but not limited to rights of copyright or confidentiality) or any statutory provisions.

3. ARTICLE III - MANAGEMENT AND GOVERNANCE

3.1 Governance

The review and management process of the Services under this Agreement shall be carried out in accordance with the Governance Schedule attached hereto as Schedule IV.

3.2 Services

3.2.1 Operations & Maintenance Phase

- (a) DMD or its nominated agencies shall utilize the Services to be provided by the Operator in accordance with this Agreement provided that any terms or procedures relating to the acceptance criteria shall be as set out in the Project Documents or as may be agreed by the Parties from time to time.
- (b) DMD or its nominated agencies shall be entitled to use the Deliverables resulting from the Services.
- (c) The Operator is expected to provide Services in such a manner so as to maintain the highest percentage of Uptime on the network. The Operator shall monitor and test the links continuously using the NMS application to ensure the availability of the Services as per the Service Levels. The network links between SEOC and remote locations (EOCs and ERV) shall be considered available when all the three services, viz., voice, video and data are available on them. BSWAN backbone is proposed to be used for linking SEOC with DEOC and EOC at Divisional commissioner offices. The Parties understand that sometimes links may not be available because of the non-availability of BSWAN bandwidth. The portion of network (connected on BSWAN) not available under such circumstances shall not be attributed to the Operator. However, ICTS shall always be connected with ERVs, DEOC and offices of Divisional Commissioners on VSAT link and /or alternate routes such as MPLS VPN. BSWAN bandwidth outages shall not be counted for the Uptime calculation of SEOC, ERVs and remote EOCs.

The following principles shall be followed for calculation of Service Level and penalties:-

1. The incidents where the Downtime is less than 5 minutes shall not be counted towards the total Downtime for a month.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

2. The Operator shall not be penalized for Downtime attributed to the bandwidth provider, including BSWAN backbone. However, it shall be the Operator's responsibility to log the call with the MPLS-VPN bandwidth service provider / administrator of BSWAN infrastructure when bandwidth is not available. It is emphasized that in all situations critical links between SEOC- remote EOCs and ERV shall always remain up either on BSWAN / MPLS-VPN or VSAT.
3. The Downtime for the SEOC shall be the average Downtime of all the services / links emanating from SEOC and penalties shall be applied accordingly. The Downtime of a VSAT shall be the sum of the Downtime of the link from each VSAT station. Whereas the Downtime of Hub (Hub service) shall be equal to the aggregate of all VSAT stations considered out of service. (Please refer to Schedule VI for method of Uptime calculations).

3.3 Penalties

For the purpose of calculation of penalties (% deductions from QGR) in financial terms, the Total Average Percentage Uptime of major systems of EOCI shall be calculated and the penalties for different Uptime performance shall be worked out as per table in Schedule IV.

3.4 Changes

Unless expressly dealt with elsewhere in this Agreement, any changes under or to this Agreement shall be dealt with in accordance with Schedule I annexed to this Agreement.

3.5 Security and Safety

- a. The Operator shall comply with the directions issued from time to time by DMD and the standards related to the security and safety as stated in the Project Documents, insofar as it applies to the provision of Services.
- b. The Operator shall also comply with EOCI Project's information technology security and standards policies in force from time to time at each location of which DMD makes the Operator aware in writing insofar as the same apply to the provision of Services.
- c. The Parties shall report forthwith in writing to each other all identified attempts (whether successful or not) by unauthorized persons (including unauthorized persons who are employees of any Party) either to gain access to or interfere with the EOCI Project's data, facilities or Confidential Information.
- d. The Operator shall upon request by DMD or its nominee(s) participate in regular meetings when safety and information technology security matters are reviewed.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- e. The Parties shall promptly report in writing to each other any act or omission which they are aware that could have an adverse effect on the proper conduct of safety and information technology security at the infrastructure and facilities of EOCI Project.

3.6 Co-operation

- a. Except as otherwise provided elsewhere in this Agreement, each Party (“**Providing Party**”) to this Agreement undertakes promptly to provide the other Party (“**Receiving Party**”) with all such information and co-operation which the Receiving Party reasonably requests, provided that such information and cooperation:
- i. Is reasonably required by the Receiving Party in order for it to comply with its obligations under this Agreement;
 - ii. Is not Confidential Information; and
 - iii. Is capable of being provided by the Providing Party.
- b. Each Party agrees to co-operate with the contractors and subcontractors of the other Party as reasonably requested in order to accomplish the purposes of this Agreement.
- c. Any expenses incurred for providing such co-operation shall borne by the Receiving Party.

4. ARTICLE IV – PAYMENT TERMS/ INVOICING/ TAX

4.1 Terms of Payment and Service Credits and Debits

4.1.1 Implementation Phase

The Operator is not entitled to be paid by DMD during this phase. Payment shall only be made after successful completion of AT i.e. once the Operation & Maintenance Phase is commenced.

4.1.2 Operation & Maintenance Phase

- a. In consideration of the Services and subject to the provisions of this Agreement, DMD shall pay the Operator for the Services rendered in pursuance of this Agreement, in accordance with Schedule VI. Amounts mentioned in the Schedule VI shall be firm and valid for the entire term of this Agreement.
- b. All payments are subject to the application of service credits and debits as provided in Schedule VI and may also be provided for in any applicable Project Engagement Definition Document. It is clarified here that DMD will pay for the service credits as



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

stated in accordance with Schedule VI and DMD would also calculate penalties as financial sum and debit the same against the terms of payment as defined in the Schedule IX as a result of the failure on the part of the Operator to meet the Service Level qualities.

- c. Except as otherwise provided herein or as agreed between the Parties in writing, DMD shall not be required to make any payments in respect of any other Services.

4.2 Invoicing and Settlement

The provisions of the Invoicing and Settlement Schedule, annexed hereto as Schedule V shall apply for the purpose of invoicing and settlement.

4.3 Tax

- a. DMD shall be entitled to deduct taxes from the amounts due and payable to the Operator wherever applicable. The QGR shall be inclusive of all applicable taxes, as on the date of submission of the Bid. The Operator shall pay all the taxes, including Service Tax, with respect to Services provided under this Agreement, including, but not limited to, property, sales, use, excise duty, value-added, goods and services, consumption and other similar taxes or duties. DMD shall provide Operator with the original tax receipt of any taxes paid by DMD on behalf of the Operator and the Operator shall reimburse such amounts to DMD. The Operator agrees to reimburse and hold DMD harmless from any deficiency (including penalties and interest) relating to taxes that are his responsibility under this Article. For the purposes of this Agreement, taxes shall include taxes incurred on transactions between and among DMD, the Operator and third party subcontractors.
- b. In the event of any increase or decrease of the rate of taxes other than income taxes applicable to the Operator, due to any statutory notification/s during the term of the Agreement the consequential effect shall be to the account of the DMD.
- c. The Parties shall cooperate to enable each Party to accurately determine its own tax liability and to minimize such liability to the extent legally permissible. In connection therewith, the Parties shall provide each other with (i) any resale certificates, (ii) any relevant information regarding use of out-of-state materials, equipment or services and (iii) any exemption certificates or information reasonably requested by the other Party.

5. ARTICLE V - INTELLECTUAL PROPERTY

5.1 Intellectual Property Rights



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

a. The Intellectual Property Rights in any software product or solution, held by the Operator as on the date of the Agreement shall continue to vest with the Operator. In the event of transfer of Assets pursuant to the Exit Management Plan attached as Schedule II to this Agreement, then the Intellectual Property Rights in the said derivative works (HW/SW) shall stand licensed to DMD and DMD shall retain the perpetual right to use all the Intellectual Property Rights in all the derivative works (HW/SW) which forms part of the Proprietary Information. Additionally, any software that may be acquired from third parties during the Term and/or that which may have been developed by the Operator during the course of the Agreement specifically for EOCI Project shall also be considered as licensed to DMD or its nominee for the sole purposes of the EOCI Project. The assignment shall be upon the following terms and conditions:

- (i) the license in the third party software shall automatically be deemed to have been assigned in favour of DMD or its nominee. DMD shall be required only to intimate the licensor the name of the assignee, if applicable, and the date from which the assignment of the license shall be deemed to have taken effect. For the avoidance of doubt, this intimation shall not be construed as a condition to the assignment of the license.
- (ii) the assignment of the license, as aforesaid, shall be on fully paid basis, and upon the same terms and conditions, including warranties, upgrades and other benefits, as applicable under the license agreement between us and the Operator. For the avoidance of doubt, DMD shall not be required to pay any additional amounts whatsoever and to whomsoever, in respect of the software license being assigned, other than the payments specified in the Exit Management Plan in Schedule II.
- (iii) up on assignment of the license to the Software, as above, DMD or its nominee, as the case may be, shall be the licensee and shall assume all the rights and obligations under the license agreement in respect of the said software.

The Operator shall procure, no later than the Implementation Phase Completion Date, from each of the third party owners of Proprietary Software, a confirmation letter in the standard format. For avoidance of doubt, obtaining such confirmation letters from each of the third party owner of Proprietary Software shall be a condition to achieving Implementation Phase Completion Date.



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

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- b. Except to the extent otherwise expressly provided in this Agreement, DMD shall retain exclusive Intellectual Property Rights to the Bespoke Software, data, forms and compilations and any other material belonging to DMD used for the EOCI Project, to which DMD has the complete and unfettered rights and nothing herein shall or will be construed or deemed to grant to the Operator any right, title, license, sub-license, proprietary right or other claim against or interest in, to or under (whether by estoppels, by implication or otherwise) to the aforesaid rights.
- c. Nothing contained in this Agreement shall or will be construed or deemed to grant to the Operator any right, title, license or other interest in, to or under (whether by estoppels, by implication or otherwise) any logo, trademark, trade name, service mark or similar designations of EOCI Project or its respective affiliates/nominees or any confusingly similar designations of EOCI Project.
- d. Subject to any sole or exclusive rights granted by DMD to a third party prior to the Effective Date, DMD grants to the Operator and any sub-contractors to the Operator solely in their performance of Services for EOCI Project or its nominated agencies, non exclusive, paid-up, royalty-free right and license during the Term of this Agreement, but not the right to sub-license, to use the EOCI Project Data including the right to copy, perform, display, execute, reproduce, modify, enhance and improve the EOCI Project Data to the extent reasonably necessary or useful for the provision of Services hereunder.
- e. Operator shall not use the EOCI Project Data to provide services for the benefit of any third party, as a service bureau.
- f. Subject to Article 6.2, the Operator agrees to and shall indemnify, defend and hold harmless DMD / EOCI Project and their respective officers, employees, successors and assigns, from and against any and all losses arising from claims by third parties that any Deliverable (or the access, use or other rights thereto) created by Operator pursuant to this Agreement, or any equipment, software, information, methods of operation or other intellectual property (or the access, use or other rights thereto) provided by Operator or sub-contractors to the Operator pursuant to this Agreement
- (i) infringes a copyright enforceable in India;
- (ii) Infringes a patent issued in India or
- (iii) Constitutes misappropriation or unlawful disclosure or use of another Party's trade secret under the laws of the India (collectively, "**Infringement Claims**");



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Provided, however, that this will not apply to any Deliverable (or the access, use or other rights thereto) created by (a) DMD or its consultants; and/or (b) third parties (i.e., other than Operator or Operator's sub-contractors) at the direction of DMD. Provided that the Operator shall not be obligated under this Article to indemnify, defend and hold harmless if the infringement is caused by

(i) Goods, material, technical specification or Intellectual Property Rights supplied or provided by DMD;

(ii) Modifications by DMD or a third party engaged by DMD to the EOCI software or any other software supplied and deployed by the Operator; or

(iii) Use of the EOCI software or any other software supplied to the Operator by DMD and in a manner that has been prohibited by the Operator.

Provided further that in the event of Infringement Claims against the Operator, the Operator shall, at its own expense, take all steps required to cure or remedy the cause of such Infringement Claims and continue to provide the Services.

- g. DMD shall have no liability or obligation to the Operator or any other Party under Article 5.1 (f) above to the extent the Infringement Claim is based upon any use of the equipment, software, information, methods of operation or other intellectual property (or the access, use or other rights thereto) for the benefit of any Party (including any use by the Operator or its nominees) outside the scope of the Services other than for EOCI Project.
- h. Notwithstanding any provisions of this Agreement to the contrary, the foregoing remedies constitute the Parties' sole and exclusive remedies and each Party's entire liability, with respect to Infringement Claims.
- i. If the Operator uses in the course of providing Services, any Third Party System it shall use all commercially reasonable endeavors to pass through to DMD such third party's warranties relating to such Third Party Systems. In the event that such warranties cannot be passed through to or enforced by DMD, the Operator shall enforce such warranties on behalf of and account to DMD for so doing.
- j. All right, title and interest in and to, and ownership in the data, forms and compilations, etc. used to enhance the EOCI software and Proprietary Information of EOCI Project which is provided to Operator, and all modifications, enhancements and other derivative works of such EOCI Project Proprietary Information ("**EOCI Project Proprietary Information**"), shall remain solely with DMD. Operator shall be entitled to



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

use such EOCI Project Proprietary Information only during the Term and only for the purposes of providing the Services. DMD shall retain ownership of all Intellectual Property Rights related to EOCI Project Proprietary Information.

- k. All right, title and interest in and to, and ownership in, Proprietary Information of the Operator, which is provided to DMD, and all modifications, enhancements and other derivative works of such Operator Proprietary Information ("**Operator Proprietary Information**"), shall remain solely with Operator. The Operator shall, within 30 days of the Effective Date, provide to DMD the status of all the Operator Proprietary Information along with documentary support sufficient to establish its sole legal rights in the aforesaid Proprietary Information. This Operator Proprietary Information shall refer to the Proprietary Information that has been owned by the Operator prior to the Effective Date. Any Proprietary Information acquired and/or developed by the Operator after the Effective Date and used for providing the Services, shall automatically be deemed to be included in the definition of Operator Proprietary Information.

DMD shall be entitled to use such Operator Proprietary Information only in connection with the Services or to the extent necessary for EOCI Project's normal operational, repair and maintenance purposes related to the Services. To the extent that the Operator Proprietary Information is incorporated within the Deliverables, Operator and its employees engaged hereby grant to DMD a worldwide, irrevocable, non-exclusive, license to use, copy for archival purposes only, transport to EOCI Project facilities, for the benefit of and internal use of EOCI Project such Operator Proprietary Information. DMD's rights pursuant to the preceding sentence include the right to disclose such Operator Proprietary Information to third party contractors solely for use on EOCI Project provided that all such third party contractors execute, deliver and comply with any customary confidentiality and nondisclosure agreements reasonably required by DMD.

- l. DMD hereby grants to the Operator a non exclusive right and license to access and use the EOCI Project Proprietary Information solely for the purpose of providing Services with respect to EOCI Project. Such right and license shall terminate upon the expiration or termination of this Agreement.
- m. Upon the expiration or any termination of this Agreement, Operator shall undertake the actions set forth below in this Article to assist DMD to procure replacement services equivalent to Services provided hereunder.
- n. Further the Operator undertakes to negotiate in good faith with DMD and any relevant Replacement Operator in respect of commercial terms applying to all Operator's



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Intellectual Property Rights and which DMD and any relevant Replacement Operator require to enable them to provide or receive services substantially equivalent to the Services hereunder.

- o. In respect of Operator, third party Intellectual Property Rights, Operator undertakes to assist DMD to secure such consents or licenses from such third parties as are necessary to enable DMD to receive services substantially equivalent to the Services hereunder. The obligations of the Operator under this Article shall be considered part of the services performed by the Operator under the Exit Management Services.
- p. Notwithstanding anything to the contrary, the Operator may, with the approval of DMD and upon such terms as may be specified by DMD, procure the Assets or any of them, directly in the name of DMD. The costs of such Assets shall be borne by the Operator and shall form part of the QGR. For the avoidance of doubt, this clause shall not relieve the Operator from its obligations under this Agreement, including, without limitation, the obligations specified in Clause 2.5.1 above in relation to such Assets.

5.2 Ownership of Deliverables

With respect to ownership of the Deliverables, the Parties agree that the following shall apply:

- i. The Deliverables shall be identified as being either Category A Deliverables or Category B Deliverables in the Project Engagement Definition Document. If not so identified, the Deliverable shall be considered Category A Deliverable for the purposes of this Agreement.
- ii. Category A Deliverables are those Deliverables, excluding the Proprietary Software, provided to DMD by the Operator during the course of its performance under this Agreement, which includes but is not limited to Bespoke Software as defined in this Agreement, in which, subject to the foregoing provisions of this Article, all right, title and interest in and to such Deliverables, shall, as between Operator and DMD, immediately upon creation vest in DMD. To the extent that the Operator Proprietary Information is incorporated within the Deliverables, Operator and its employees engaged hereby grant to DMD a worldwide, perpetual, irrevocable, non-exclusive, transferable, paid-up right and license to use, transport to EOCI Project facilities specified under this Agreement, for the benefit of and internal use of EOCI Project, of such Operator Proprietary Information.
- iii. Category B Deliverables are those Deliverables provided to DMD by the Operator during the course of its performance under this Agreement, in which the Operator retains the rights to but grants to DMD, subject to the foregoing provisions of this



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Article a worldwide, perpetual, irrevocable, non-exclusive, license to use the Deliverables including the right transport to EOCI Project at the locations provided by EOCI Project, for the benefit of and internal use of EOCI Project. If the Operator proceeds to apply for, or assigns to any third party, any patent rights relating to such Category B Deliverables, Operator will ensure that DMD's rights as provided herein are preserved. However, in the event of expiry or termination of this Agreement, if DMD exercises the option to purchase the license to the EOCI Software in accordance with Schedule II, the Operator shall license the Proprietary Software or obtain licenses to the Proprietary Software, in favour of the DMD, on the terms and conditions more fully mentioned in Schedule VIII.

6. ARTICLE VI - PROTECTION AND LIMITATIONS

6.1 Warranties

The Operator warrants and represents to DMD that:

- i. It has full capacity and authority to enter into and to perform its obligations under this Agreement and to provide the Services as per the Agreement;
- ii. This Agreement is executed by a duly authorized representative of Operator;
- iii. The Operator is experienced in managing and providing works similar to the Services and that it will perform the Services and discharge its obligations under this Agreement with due skill, care and diligence so as to comply with level of services as mentioned in the RFP.
- iv. the Services shall be provided and rendered by appropriately qualified, trained and experienced personnel;
- v. Operator has and shall have all the necessary Approvals and all the necessary technology, hardware and software to enable it to provide the Services;
- vi. the Services shall be supplied in conformance with all the Applicable Laws;
- vii. Operator shall use its reasonable endeavors to ensure that the equipment, software and hardware supplied and/or used in the course of the provision of the Services, save for the Assets, are operational and functional; and
- viii. If the Operator uses in the course of the provision of the Services components, equipment, software and hardware manufactured by any third party which are embedded in the Deliverables or are essential for the successful use of the Deliverables, it shall pass through third party manufacturer's warranties relating to



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

those components, equipment, software and hardware to the extent possible, to DMD. In the event that such warranties cannot be enforced by DMD, the Operator shall enforce such warranties on behalf of DMD and pass on to DMD, the benefit of any other remedy received in relation to such warranties. For the avoidance of doubt, the Operator shall be required to provide to DMD, under this Agreement, only such warranties as have been provided by such third party manufacturers.

6.2 Third Party Claims

- a. Subject to Article 6.2 (b) below, the Operator (“**Indemnifying Party**”) undertakes to indemnify DMD (“**Indemnified Party**”) and its employees, officers, agents etc. from and against all losses, claims for damages on account of bodily injury, death or damage to tangible personal property arising in favor of any person, corporation or other entity (including the Indemnified Party) attributable to the Indemnifying Party's performance or non-performance under this Agreement.
- b. The indemnities set out in Articles 6.2 (a) shall be subject to the following conditions:
 - i. the Indemnified Party, as promptly as practicable, informs the Indemnifying Party in writing of the claim or proceedings and provides all relevant evidence, documentary or otherwise;
 - ii. the Indemnified Party shall, at the cost of the Indemnifying Party, provide the Indemnifying Party all reasonable assistance in the defense of such claim including reasonable access to all relevant information, documentation and personnel provided that the Indemnified Party may, at its sole cost and expense, reasonably participate, through its attorneys or otherwise, in such defense;
 - iii. if the Indemnifying Party does not assume full control over the defense proceeding of a claim as provided in this Article, the Indemnified Party may participate in such defense proceedings at its sole cost and expense, and the Indemnified Party shall have the right to defend the claim in such manner as it may deem appropriate, and the cost and expense incurred by the Indemnified Party shall be included in the amount of losses to be indemnified;
 - iv. the Indemnified Party shall not prejudice, pay or accept any proceedings or claim, or compromise any proceedings or claim, without the written consent of the Indemnifying Party;
 - v. all settlements of claims subject to indemnification under this Article shall: (a) be entered into only with the consent of the Indemnified Party, which consent shall not



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

be unreasonably withheld and include an unconditional release to the Indemnified Party from the claimant for all liability in respect of such claim; and (b) include an appropriate confidentiality agreement prohibiting disclosure of the terms of such settlement;

- vi. the Indemnified Party shall account to the Indemnifying Party for all awards, settlements, damages and costs (if any) finally awarded in favor of the Indemnified Party which are to be paid to it in connection with any such claim or proceedings;
- vii. the Indemnified Party shall take steps that the Indemnifying Party may reasonably require to mitigate or reduce its loss as a result of such a claim or proceedings; and
- viii. in the event that the Indemnifying Party is obligated to indemnify an Indemnified Party pursuant to this Article, the Indemnifying Party shall, upon payment of such indemnity in full, be subrogated to all rights and defenses of the Indemnified Party with respect to the claims to which such indemnification relates.

6.3 Limitation of Liability

- a. There shall be no limitation of liability in case of any damages for bodily injury (including death) and damage to real property and tangible personal property.
- b. This Agreement does not grant or create any rights, benefits, claims, obligations or causes of action in, to or on behalf of any person or entity (including any third party) other than between the respective Parties to this Agreement.
- c. The Operator recognizes and acknowledges that the Services to be provided by it under this Agreement are not replicable and/or are specific to the Operator. Accordingly, the Operator acknowledges that in the event of a breach of this Agreement by it, compensation by way of damages will not be an adequate remedy for DMD and accordingly, DMD shall be entitled to seek and enforce specific performance of this Agreement.
- d. The Operator shall also be liable for damages caused due to breach by the Operator of its obligations under this Agreement other than as stated in Article 6.3 (a). However, the aggregate liability of the Operator for damages caused due to breach by Operator of its obligations under this Agreement other than as stated in Article 6.3 (a) shall not exceed an amount equivalent to the aggregate amount of 10 QGRs. It is hereby clarified that in the event this Agreement is terminated by DMD for breach by Operator of its obligations under this Agreement, the Operator shall be liable to make payment of the penalty as specified above. In such an event DMD shall, without prejudice to its other rights, be



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

entitled to recover the amount of penalty by invoking the Implementation Phase Performance Guarantee and/or the Project Performance Guarantee, as the case may be, and where such amounts are inadequate, DMD shall be entitled to appropriate the penalty from any other amounts that may be payable by DMD to the Operator under this Agreement.

- e. In case the initial tender awarded by the DMD to the Operator is cancelled by any order of a Court, DMD agrees to pay, the actual amounts spent on the components procured and delivered by the Operator to the DMD.
- f. Neither Party shall be liable to the other for any special, indirect, incidental, consequential (including loss of profits or revenue), exemplary or punitive damages, whether in contract, tort or other theories of law, even if such Party has been advised of the possibility of such damages.
- g. The Lead Member and the other Members constituting the Operator, shall be jointly and severally liable for fulfillment of all the obligations of the Operator under this Agreement.

6.4 Force Majeure

- a. Neither Party to this Agreement shall be liable to the other for any loss or damage which may be suffered by the other, directly, due to the extent and for the duration of any event or circumstance or a combination of events and circumstances referred to in this Article, which:
 - (i) Is beyond the reasonable control of the affected Party;
 - (ii) Such Party could not have prevented or reasonably overcome with the exercise of reasonable skill and care;
 - (iii) Does not result from the negligence of such Party or the failure of such Party to perform its obligations under this Agreement;
 - (iv) Is of an incapacitating nature and prevents or causes a delay or impediment in performance; and
 - (v) May be classified as acts of God not confined to the premises of the Party claiming Force Majeure, flood, lightning or fire, earthquakes, acts of Government or other competent authority, war, terrorist activities, military operations, riots, epidemics and civil commotions. ("**Force Majeure**")

No failure, delay or other default of any contractor or sub-contractor to either Party shall entitle such Party to claim Force Majeure under this Article.

b. Exceptions to Force Majeure

The Operator shall not be entitled to claim any of the following events to be an event of



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Force Majeure:

- (i) Late delivery of any equipment or materials where such delivery is not attributable to Force Majeure events;
 - (ii) Economic hardship including insufficiency of funds;
 - (iii) Strikes, lockouts or other industrial actions or labour disputes by the employees of the Operator or its agencies; or
 - (iv) General economic slowdown.
- c. EOCI is a facility designed and created to support Force Majeure conditions and is expected to be operational during incidents. However the Operator shall be eligible to seek relief based on declared Force Majeure conditions during Implementation Phase and not during Operations & Maintenance Phase. In such cases the party relying on Force Majeure shall promptly, within 2 days, notify the other Party of the occurrence of a Force Majeure event as a condition precedent to the availability of this defense with particular details in writing to the other Party and shall demonstrate that it has and is taking all reasonable measures to mitigate the events of Force Majeure.
- d. The event of Force Majeure is to be reviewed under two categories i.e. prior to commencement of operations (Implementation Phase) and post commencement of operations (Operations & Maintenance Phase) respectively.

6.4.1 Implementation Phase

If the event of Force Majeure occurs prior to commencement of operations and maintenance and continues for a period in excess of ten days, then DMD will grant a period of 7 days to the Operator to resume normal activities under this Agreement. In case the default continues, then DMD may discuss the issue with the Operator and revise the existing timelines for the Project. If the Operator does not complete the Implementation Phase in accordance with the revised timelines, DMD shall have the option to invoke the Implementation Phase Performance Guarantee and/or terminate this Agreement.

6.4.2 Operations & Maintenance Phase

It is important to note that the EOCI Project is designed to establish and facilitate communication linkages between SEOC, remote EOCs and ERV / portable VSATs at remote affected location(s) during Force Majeure situations. The Operator shall make all efforts to maintain SEOC facilities up and running and establish communication linkages as per the directions receive from SEOC or its designated official in charge. DMD shall deal with service outages during Force Majeure conditions very seriously and strictly. In case the default is due to extreme geographical conditions preventing physical access to damages inflicted area of the



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

EOCI Project, DMD may review such incidents on case-to case basis for wavier of penalties giving more time to the Operator for rectifying the situation. In case of non fixation of mutually agreeable date attributable to any of the parties, the Evaluation Committee shall decide the date. In case the default continues further, DMD shall have the option to invoke the Project Performance Guarantee and/or terminate this agreement.

- e. All payments pursuant to termination due to Force Majeure event shall be in accordance with Schedule VI.
- f. Notwithstanding the terms of this Article, the failure on the part of the Operator under this Agreement to implement any disaster contingency planning and back-up systems and other data safeguarding systems in accordance with the terms of this Agreement and as mentioned in the Project Documents against natural disaster, fire, sabotage or other similar occurrence shall not be an event of Force Majeure.

6.5 Data Protection

- a. In the course of providing the Services the Operator may be compiling, processing and storing proprietary EOCI Project Data relating to the users.
- b. The Operator and each user are responsible for complying with its respective obligations under the applicable data protection laws and regulations governing the EOCI Project Data.
- c. The Operator is required to perform or adhere to only those security measures concerning the EOCI Project Data which were in place (i) as of the Effective Date; and (ii) those made available to it in writing from time to time in accordance with the Project Engagement Definition Document.
- d. As a processor of EOCI Project Data, the Operator shall process EOCI Project Data in accordance with the Project Engagement Definition Document.
- e. The Operator shall not transfer any EOCI Project Data unless otherwise authorized by DMD in this regard.
- f. Upon reasonable written request from a Party to the Agreement, the other Party to the Agreement shall provide the requesting Party with such information that it has regarding the EOCI Project Data and its processing which is necessary to enable the requesting Party to comply with its obligations under the applicable data protection laws or regulations.

6.6 AUDIT, ACCESS AND REPORTING



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- a. The Parties shall comply with the Audit, Access and Reporting Schedule provided in Schedule III.
- b. The Operator shall, on request, allow access to DMD and its nominees to all information which is in the possession or control of the Operator, which relates to the provision of Services as set out in the RFP and is reasonably required to comply with the terms of the RFP.

6.7 INSURANCE

6.7.1 Insurance during the Term of the Agreement

- (i) The Operator shall effect and maintain at its own cost, during the Implementation Phase and the Operation and Maintenance Phase, such insurances for such maximum sums as may be required under the Financing Agreements and the Applicable Laws, and such insurances as may be necessary or prudent in accordance with good industry practice. The Operator shall also effect and maintain such insurances as may be necessary for mitigating the risks that may devolve on DMD as a consequence of any act or omission of the Operator during the Implementation Phase or the Operation and Maintenance Phase. The Operator shall procure that in each insurance policy, DMD shall be a co-insured and that the insurer shall pay the proceeds of insurance into a bank account designated as the Project Account.
- (ii) Without prejudice to the provisions contained in Clause (i) above, the Operator shall, during the Operation and Maintenance Phase, procure and maintain insurance cover including but not limited to the following:
 - (a) Loss, damage or destruction of the Assets, including assets handed over by DMD to the Operator, at replacement value;
 - (b) Comprehensive third party liability insurance including injury to or death of personnel of DMD or others who may enter the Premises;
 - (c) The Operator's general liability arising out of this Agreement;
 - (d) Liability to third parties for goods or property damage;
 - (e) Workmen's compensation insurance; and
 - (f) Any other insurance that may be necessary to protect the Operator and its employees, including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (e) above.

6.7.2 Notice to DMD



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

No later than 45 (forty five) days prior to commencement of the Implementation Phase or the Operations and Maintenance Phase, as the case may be, the Operator shall by notice furnish to DMD, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Clause 6.7. Within 30 (thirty) days of receipt of such notice, DMD may require the Operator to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the provisions of Clause 10.1 shall apply.

6.7.3 Evidence of Insurance Cover

All insurances obtained by the Operator in accordance with this clause 6.7 shall be maintained with insurers on terms consistent with good industry practice. Within 15 (fifteen) days of obtaining any insurance cover, the Operator shall furnish to DMD, notarised true copies of the certificate(s) of insurance, copies of insurance policies and premia payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Operator to DMD.

6.7.4 Remedy for failure to insure

If the Operator shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, DMD shall have the option to either keep in force any such insurances, and pay such premia and recover the costs thereof from the Operator, or in the event of computation of a payment for transfer of Assets upon termination, treat an amount equal to the insurance cover as deemed to have been received by the Operator.

6.7.5 Waiver of subrogation

All insurance policies in respect of the insurance obtained by the Operator pursuant to this Clause 6.7 shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, DMD, and its assigns, successors, undertakings and their subsidiaries, affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

6.7.6 Operator's waiver

The Operator hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, DMD and its assigns, undertakings and their subsidiaries, affiliates, employees, successors, insurers and underwriters, which the Operator may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Operator pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.



6.7.7 Application of insurance proceeds

The proceeds from all insurance claims, except life and injury, shall be paid to the Operator by credit to the designated Project Account and it shall, notwithstanding anything to the contrary contained herein, apply such proceeds for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Assets, and the balance remaining, if any, shall be applied in accordance with the provisions contained in this behalf in the Financing Agreements.

7. ARTICLE VII - BREACH AND RECTIFICATION/TERMINATION

In the event that either Party believes that the other is in breach of its obligations under this Agreement, such aggrieved Party may issue notice of breach to the other Party. Any such notice served pursuant to this Article shall give reasonable details of the breach, which could include the following events:

7.1 Implementation Phase

- 7.1.1** If there is any breach which translates into delay in setting up the network by the Operator or attainment of the Implementation Phase Completion Date, then DMD, shall be entitled to levy or impose penalties at the rates specified in Schedule VI and the Operator shall make payment for such penalties within 15 days of notice, provided that in the event such breach crosses the threshold limit relating to such breach, as specified in Schedule IX, the same shall constitute a material breach by the Operator, which shall entitle DMD to, at its sole option, forthwith terminate this Agreement, forfeit the Implementation Phase Performance Guarantee, unless the Operator has in the meantime rectified, removed or cured the breach by taking remedial action to the satisfaction of DMD.
- 7.1.2** In the event of the Operator failing to pay the penalties levied for not meeting the Implementation Phase Completion Date deadline within 15 days of notice by DMD, the DMD shall have right to forfeit the Implementation Phase Performance Guarantee. In the event of DMD invoking the Implementation Phase Performance Guarantee for non-payment of the penalties, the Operator shall submit a fresh Implementation Phase Performance Guarantee of the same amount as of original Implementation Phase Performance Guarantee within 14 days of invocation / forfeiture of the Implementation Phase Performance Guarantee. On submission of the fresh Implementation Phase Performance Guarantee, DMD shall return to the Operator the balance amount of the encashed Implementation Phase Performance Guarantee after deducting the penalties. Failure to submit the fresh Implementation Phase Performance Guarantee within the 15 days period shall constitute a breach of the agreement and shall entitle DMD to terminate the Agreement and/or forfeit the Implementation Phase Performance Guarantee.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- 7.1.3 If the defects pointed out by the Evaluation Committee as per Article 2.6.1 are not rectified by the Operator within 15 days of such notice of defects being issued by the Testing Agent or Evaluation Committee. DMD shall have the right to reject the Services, terminate the Agreement and forfeit the Implementation Phase Performance Guarantee and/or Project Performance Guarantee.

7.2 Operation & Maintenance Phase

If there is any breach of the terms of the Agreement during the Operation & Maintenance Phase which translates into reduction in Total Average Percentage Uptime for provision of Services by the Operator as per the Agreement, then DMD shall be entitled to levy or impose penalties at the rates specified in Schedule IX. DMD may at its sole option, debit or set off the amounts of such penalties and pay the Actual Quarterly Revenue ("AQR") so calculated.

The payment of 50% of QGR shall be made within 15 days of quarter ending subject to the condition that an invoice is raised by the Operator within 2 days of quarter ending. Any payment over & above 50% of QGR to which the Operator is entitled shall be paid after the penalty is calculated by the designated official / agency ("Third Party Agency"). The remaining payment out of QGR (after deducting the penalties) shall be made within 15 days from the date of response by the Operator to the notice issued by DMD as mentioned hereinafter, provided the Operator immediately responds to the notice issued by DMD. Prior to deduction of such penalties, DMD shall serve a notice to the Operator giving details of such penalties and reasons for levy of the same and the Operator shall have 15 days from the date of receipt of such notice to respond to the satisfaction of DMD prior to deduction of such penalties. Any delay in responding to the notice by the Operator will also delay the payment of AQR.

In the event that the Total Average Percentage Uptime for the network and Services falls below 95 % in a given month, the Operator would be served a notice for improvement of the Services during the next 2 months or face termination of Agreement. If the Operator does not improve the Total Average Percentage Uptime to at least 95 % in the following prescribed period, DMD may, at its sole option, terminate the Agreement, at the end of the prescribed period, and forfeit the Project Performance Guarantee.

7.3 General Rules

- i. In the event of breach of any other terms or conditions of this Agreement by the Operator, DMD shall provide the Operator 30 days to rectify or remedy the breach. In the event the Operator is unable to rectify or remedy the breach within the aforementioned period, DMD shall have the right to terminate this Agreement.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- ii. If DMD fails to fulfill its payment obligation under this Agreement, then the Operator may give a 30 day's notice for curing such breach and in the event the breach continues, the Operator shall have the option to terminate the Agreement.
- iii. Where the Operator fails to seek prior written approval of DMD for any Change of Control, DMD, at its sole discretion, invoke the Implementation Phase Performance Guarantee and/or the Project Performance Guarantee and by a 30 days written notice, terminate this Agreement and such notice shall become effective at the end of the notice period.
- iv. DMD may serve a written notice on the Operator/Lead Member at any time to terminate this Agreement with immediate effect and invoke the Implementation Phase Performance Guarantee and/or the Project Performance Guarantee in the event of an order of winding up passed by any High Court of India under Section 433 of the Companies Act, 1956 or in the event of the Operator/Lead Member files a petition for voluntary winding up as per the Companies Act, 1956. Where the Operator/Lead Member is an entity incorporated under laws of any country outside India, then the aforesaid provisions shall apply under the laws applicable to such Operator/Lead Member.
- v. Any representation or warranty of the Operator or Bidder contained herein or in the bid submitted pursuant to the RFP, which is found, at any time, to be materially false, incorrect or misleading or the Operator is at any time found to be in breach thereof, shall constitute a material breach of this Agreement and the provisions of clause 7.3(i) above shall apply.

7.4 Consequences of Termination

- a. In the event that DMD or the Operator terminates this Agreement pursuant to Article 7.1, 7.2 & 7.3 and depending on the event of default, compensation shall be decided in accordance with the Schedule VI.
- b. In the event of termination of the Agreement, by DMD, due to the breach by the Operator, DMD shall be entitled to invoke the Project Performance Guarantee, if such termination is during Operation & Maintenance Phase and Implementation Phase Performance Guarantee if it is during the Implementation Phase.
- c. Upon termination of this Agreement for any reason, the Parties shall comply with the Exit Management Plan, as provided in the RFP.
- d. Notwithstanding any other provision contained in this Agreement to the contrary, in the event of termination of this Agreement in the circumstances described in Clause 7.3(iv) no compensation shall be payable to the Operator, provided that such termination shall not prejudice or affect any other right of action or remedy which may have accrued or shall accrue thereafter to DMD.



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- e. Notwithstanding anything contrary contained herein or elsewhere in the Project Documents, DMD and/or the GoB shall have no obligation or liability whatsoever in respect of the personnel and employees of the Operator during the term of this agreement or thereafter. The Operator shall indemnify DMD and/or GoB against any claims of any nature whatsoever that may be made by any personnel and employee of the Operator, involved in the operations of the EOCI Project, against DMD and/or the GoB. Upon termination, whether by efflux of time or earlier as the case may be, of the Agreement, the Operator shall continue to be responsible for all the employees and personnel, of the Operator, operating the Project. Notwithstanding and without any obligation to do so, DMD and/or the GoB, may at its sole discretion make an offer to retain any of the employees.
- f. In the event of termination, whether by efflux of time or earlier as the case may be, DMD shall have the right to retain the Implementation Phase Performance Guarantee and/or the Project Performance Guarantee for a period of three (3) months thereafter. During this period DMD shall have the right to inspect the Assets and determine the state of the same and determine if any repairs are required in respect of the same. DMD shall have the right to deduct appropriate sum from the said performance guarantee towards the cost incurred or to be incurred for such repairs and replacement.

7.5 Survival of Liability

- a. Termination of this Agreement shall not relieve the Operator or DMD of any obligations hereunder which expressly or by implication survives termination hereof.
- b. Except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, the termination of this Agreement shall not relieve either party of any obligation or liabilities for loss or damage to the other Party arising out of or caused by acts or omission of such Party prior to the effectiveness of such termination or arising out of such termination.
- c. Notwithstanding anything contained above, all obligations surviving the cancellation, expiration or termination of this Agreement shall only survive for a period of 5(five) years following the date of such termination or expiry of this Agreement.

7.6 Fixed Term Contract

The Operator recognizes and confirms that this Agreement is a fixed term contract and therefore, the Operator shall not be entitled to terminate this Agreement for any reason whatsoever, except for the reasons specifically provided for in this Agreement.

8. ARTICLE VIII - CONFIDENTIALITY



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

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- a. The Operator recognizes that during the term of this Agreement, sensitive data will be procured and made available to it, its subcontractors, agents and others working for or under the Operator. Disclosure or usage of the data by any such recipient may constitute a breach of Applicable Laws causing harm not only to the company whose data is used but also to its shareholders, directors and other officers. DMD requires the Operator, its subcontractors and agents to demonstrate utmost care, sensitivity and strict confidentiality. Any breach of this Article will result in DMD and its nominees receiving a right to seek injunctive relief and damages without any limit from the Operator. Further the provisions of Article 6.3 (f) will apply for damages due to breach of this Article.
- b. Each Party agrees as to any Confidential Information disclosed by a Party to this Agreement (“**Discloser**”) to the other Party to this Agreement (“**Recipient**”):
- i. to take such steps necessary to protect the Discloser's Confidential Information from unauthorized use, reproduction and disclosure as the Recipient takes in relation to its own Confidential Information of the same type, but in no event less than reasonable care;
 - ii. to use such Confidential Information only for the purposes of this Agreement or as otherwise expressly permitted or expressly required by this Agreement or as otherwise permitted by the Discloser in writing;
 - iii. not, without the Discloser's prior written consent, to copy the Confidential Information or cause or allow it to be copied, directly or indirectly, in whole or in part, except as otherwise expressly provided in this Agreement, or as required in connection with Recipient's use as permitted under this Article, or as needed for the purposes of this Agreement, provided that any proprietary ledgers and notices (whether of the Discloser or of a Third Party) are not removed or obscured; and
 - iv. not, without the Discloser's prior written consent, to disclose, transfer, publish or communicate the Confidential Information in any manner to any person except as permitted under this Agreement.
- c. The restrictions of this Article shall not apply to Confidential Information that:
- i. is or becomes generally available to the public through no breach of this Article by the Recipient;
 - ii. was in the Recipient's possession free of any obligation of confidence prior to the time of receipt of it by the Recipient hereunder;
 - iii. is developed by the Recipient independently of any of Discloser's Confidential Information;
 - iv. is rightfully obtained by the Recipient from third parties authorized at that time to make such disclosure without restriction;
 - v. is identified in writing by the Discloser as no longer proprietary or confidential; or



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

- vi. is required to be disclosed by law, regulation or court order, provided that the Recipient gives prompt written notice to the Discloser of such legal and regulatory requirement to disclose so as to allow the Discloser reasonable opportunity to contest such disclosure.
- d. To the extent that such disclosure is required for the purposes of this Agreement either Party may disclose Confidential Information to:
 - i. its employees, agents and independent contractors and to any of its affiliates and their respective independent contractors or employees; and
 - ii. its professional advisors and auditors, who require access for the purposes of this Agreement, whom the relevant Party has informed of its obligations under this Article and in respect of whom the relevant Party has used commercially reasonable efforts to ensure that they are contractually obliged to keep such Confidential Information confidential on terms substantially the same as set forth in this Article. Either Party may also disclose Confidential Information to any entity with the other Party's prior written consent.
- e. The provisions of this Article shall survive the expiration or any earlier termination of this Agreement.
- f. Confidential Information shall be and remain the property of the Discloser and nothing in this Article shall be construed to grant either Party any right or license with respect to the other Party's Confidential Information otherwise than as is expressly set out in this Agreement.
- g. Subject as otherwise expressly provided in this Agreement all Confidential Information in tangible or electronic form under the control of the Recipient shall be destroyed, erased or returned to the Discloser promptly upon the earlier of: (i) the written request of the Discloser, or, (ii) termination or expiry of this Agreement.
- h. Notwithstanding the foregoing, both Parties may retain, subject to the terms of this Article, a reasonable number of copies of the other Party's Confidential Information solely for confirmation of compliance subject to the confidentiality obligations of this Agreement.
- i. Neither Party is restricted by the provisions of Article 8 from using (including using to provide products or perform services on behalf of third parties) any ideas, concepts, knowhow and techniques that are related to the Recipient's business activities and which are retained in unaided memories of the Recipient's employees or agents (and not intentionally memorized for the purpose of later recording or use) (collectively, the



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

“Residuals”). This Article shall not permit the disclosure or use by either Party of any financial (including business plans), statistical, product, personnel or customer data of the other Party. Each Party agrees not to disclose the source of the Residuals.

- j. Both Parties agree that monetary damages would not be a sufficient remedy for any breach of this Article by the other Party and that DMD and Operator, as appropriate, shall be entitled to equitable relief, including injunction and specific performance as a remedy for any such breach. Such remedies shall not be deemed to be the exclusive remedies for a breach by a Party of this Article, but shall be in addition to all other remedies available at law or equity to the damaged Party.

9. ARTICLE IX – MISCELLANEOUS

9.1 Personnel

- a. Personnel assigned by Operator to perform the Services shall be employees of the Operator or its subcontractors and under no circumstances will such personnel be considered employees of EOCI Project. Operator shall have the sole responsibility for supervision and control of its personnel and for payment of such personnel's entire compensation, including salary, withholding of income taxes, social security taxes, worker's compensation, employee and disability benefits and the like and shall be responsible for all employer obligations under all Applicable Laws.
- b. The Operator shall ensure that sufficient personnel are employed to perform the Services and those personnel have appropriate qualifications to perform the Services. DMD shall have the right to require the removal or replacement of any personnel appointed by the Operator, performing work under this Agreement. In the event that DMD requests that any Operator personnel be replaced, the substitution of such personnel shall be accomplished pursuant to a mutually agreed upon schedule but not later than 30 working days.
- c. The Operator shall also be responsible in terms of and as mentioned in the RFP to train certain employees of EOCI Project with regard to the Services being provided by the Operator as and when required by DMD during the term of this Agreement. The parameters of training required for these employees of EOCI Project shall be communicated by DMD to the Operator periodically and shall be mutually agreed and shall be in accordance with the latest procedures and processes available in the relevant areas of work.
- d. In the event DMD identifies any personnel of the Operator as being key personnel, then the Operator shall not remove such personnel without the prior written consent of DMD under the applicable Project Engagement Definition Document. DMD shall allow



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

removal of such of the key personnel, whose employment with the Operator is terminated, or who is sick or is suffering from any disability that does not permit him to provide services under the EOCI Project or is disallowed from providing Services under the corporate policies of the Operator.

- e. Except as stated in this Article, nothing in this Agreement shall limit the ability of the Operator to freely assign or reassign its employees; provided that Operator shall be responsible, at its expense, for transferring all appropriate knowledge from personnel being replaced to their replacements. DMD shall have the right to review and approve Operator's plan for any such knowledge transfer. Operator shall maintain the same standards for skills and professionalism among replacement personnel as in personnel being replaced.
- f. Each Party shall be responsible for the performance of all its obligations under this Agreement and shall be liable for the acts and omissions of its employees and agents in connection therewith.

9.2 Independent Contractor

Nothing in this Agreement shall be construed as establishing or implying any partnership or joint venture between the Parties to this Agreement and, except as expressly stated in this Agreement, nothing in this Agreement shall be deemed to constitute any Parties as the agent of any other Party or authorizes either Party (i) to incur any expenses on behalf of the other Party, (ii) to enter into any engagement or make any representation or warranty on behalf of the other Party, (iii) to pledge the credit of or otherwise bind or oblige the other Party, or (iv) to commit the other Party in any way whatsoever without in each case obtaining the other Party's prior written consent.

9.3 Sub-Contractors

Operator shall be entitled to subcontract all work related to the following for the purposes of providing Services to DMD under this Agreement:

- a. Site preparation including all civil and electrical work at the site;
- b. Network services implementation and management;
- c. Manpower requirements at all ERV and remote locations. For meeting the resource requirement, sub contracting shall be done from a single source/agency with prior approval from the DMD; and
- d. Maintenance of electrical equipments such as DG Set, Air-Conditioning and UPS at all locations; and
- e. Any other function constituting the Services, with the prior written approval of DMD.

9.4 Assignment



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

All terms and provisions of this Agreement shall be binding on and shall inure to the benefit of the Parties. Any assignment or transfer of this Agreement or any rights hereunder by the Operator, whether directly or indirectly shall be strictly prohibited.

9.5 Trademarks, Publicity

Neither Party may use the trademarks of the other Party without the prior written consent of the other Party. Except as required by law or the rules and regulations of each stock exchange upon which the securities of one of the Parties is listed, neither Party shall publish or permit to be published either alone or in conjunction with any other person any press release, information, article, photograph, illustration or any other material of whatever kind relating to this Agreement, or the business of the Parties without prior reference to and approval in writing from the other Party, such approval not to be unreasonably withheld or delayed.

9.6 Notices

Any notice or other document, which may be given by either Party under this Agreement, shall be given in writing in person or by pre-paid recorded delivery post or by facsimile transmission.

- a. In relation to a notice given under this Agreement, any such notice or other document shall be addressed to the other Party's principal or registered office address as set out below:

The Principal Secretary

Disaster Management Department, Government of Bihar

Old (Main) Secretariat,

Patna-800015, Bihar State

Phone: 0612-2215600, Fax: 0612-2225786

E-Mail: secy-disastermgmt-bih@nic.in

The Operator:

(Name, address, telephone / fax numbers and e-mail address for communications)

[]

- b. Any notice or other document shall be deemed to have been given to the other Party (or, if relevant, its relevant associated company) when delivered (if delivered in person) if delivered between the hours of 9.30 am and 5.00 pm at the address of the other Party set forth above or if sent by fax, provided the copy fax is accompanied by a confirmation of transmission, or on the next working day thereafter if delivered outside such hours, and 7 days from the date of posting (if by letter).



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

- c. Either Party to this Agreement may change its address, telephone number, facsimile number and nominated contact for notification purposes by giving the other reasonable prior written notice of the new information and its effective date.

9.7 Variations and Further Assurance

- a. No amendment, variation or other change to this Agreement shall be valid unless authorized in accordance with the change control procedure as set out in the Schedule I and made in writing and signed by the duly authorized representatives of the Parties to this Agreement.
- b. Each Party to this Agreement agrees to enter into or execute, without limitation, whatever other agreement, document, consent and waiver and to do all other things which shall or may be reasonably required to complete and deliver the obligations set out in this Agreement.

9.8 Severability and Waiver

- a. If any provision of this Agreement, or any part thereof, shall be found by any court or administrative body of competent jurisdiction to be illegal, invalid or unenforceable the illegality, invalidity or unenforceability of such provision or part provision shall not affect the other provisions of this Agreement or the remainder of the provisions in question which shall remain in full force and effect. The relevant Parties shall negotiate in good faith in order to agree to substitute for any illegal, invalid or unenforceable provision a valid and enforceable provision which achieves to the greatest extent possible the economic, legal and commercial objectives of the illegal, invalid or unenforceable provision or part provision.
- b. No failure to exercise or enforce and no delay in exercising or enforcing on the part of either Party to this Agreement of any right, remedy or provision of this Agreement shall operate as a waiver of such right, remedy or provision in any future application nor shall any single or partial exercise or enforcement of any right, remedy or provision preclude any other or further exercise or enforcement of such right, remedy or provision or the exercise or enforcement of any other right, remedy or provision.

9.9 Compliance with Laws and Regulations

Each Party to this Agreement accepts that its individual conduct shall (to the extent applicable to it) at all times comply with all applicable laws, rules and regulations. For the avoidance of doubt the obligations of the Parties to this Agreement are subject to their respective compliance with all applicable laws and regulations.

9.10 Ethics



RFP for setting-up and Operationalization of EOCI on BOOT basis in Bihar State

Operator represents, warrants and covenants that it has given no commitments, payments, gifts, kickbacks, lavish or expensive entertainment, or other things of value to any employee or agent of EOCI Project, or its nominated agencies in connection with this Agreement and acknowledges that the giving of any such payment, gifts, entertainment, or other things of value is strictly in violation of EOCI Project's standard policies and may result in cancellation of this Agreement.

9.11 Entire Agreement

This Agreement, the Project Engagement Definitions, all schedules appended thereto and the contents and specifications of the Project Documents constitute the entire agreement between the Parties with respect to their subject matter, and as to all other representations, understandings or agreements which are not fully expressed herein.

9.12 Survivability

The termination or expiry of this Agreement for any reason shall not affect or prejudice any terms of this Agreement, or the rights of the Parties under them which are either expressly or by implication intended to come into effect or continue in effect after such expiry or termination.

10. ARTICLE X - DISPUTES AND LAW

10.1 Dispute Resolution

- a. Any dispute arising out of or in connection with this Agreement shall in the first instance be dealt with in accordance with the escalation procedure as set out in the Schedule IV.
- b. Any dispute or difference whatsoever arising between the parties to this Agreement out of or relating to the construction, meaning, scope, operation or effect of this Agreement or the validity of the breach thereof, which cannot be resolved through the application of the provisions of Schedule IV, shall be referred to a sole arbitrator to be appointed by mutual consent of the Parties. If an arbitrator cannot be appointed mutually then each party appoints one arbitrator and the two arbitrators so appointed shall jointly appoint a third arbitrator, who shall serve as presiding arbitrator. The provisions of the Arbitration and Conciliation Act, 1996 shall be applicable and the award made thereunder shall be final and binding upon the parties hereto, subject to legal remedies available under the law. Such differences shall be deemed to be a submission to arbitration under the Indian Arbitration and Conciliation Act, 1996, or of any modifications, rules or re-enactments thereof. The arbitration proceedings shall be held at Patna, BIHAR.

10.2 Amendments



**RFP for setting-up and Operationalization of EOCI on BOOT basis
in Bihar State**

The Parties acknowledge and agree that amendment to this agreement shall be made in writing in accordance with terms of this Agreement.

IN WITNESS WHEREOF the Parties have by duly authorized representatives set their respective hands and seal on the date first above written in the presence of:

<p>For and on behalf of the DMD, Government of BIHAR</p> <p>Signed by:</p> <p>(Name) (Designation) (Address)</p> <p>(Date)</p>	<p>For and on behalf of the Operator [Insert name of the Operator Company]</p> <p>Signed by:</p> <p>(Name) (Designation) (Address)</p> <p>(Date)</p>
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WITNESSES:

- 1.
- 2.