

ANNEXURE A

Corrigendum to Request for Proposal (RFP) for
 "Selection of Managed Service Provider for Implementation of Enterprise Business System in Five Major Indian Ports"

ANNEXURE A: Revised Clause 10.1 on Page 350 of Volume 3 titled "Application under SLA Parameters during Phase III: Operations and Maintenance Period table of Phase III"

SLA Parameters during Phase III: Operations and Maintenance Period							
Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Application							
<i>Availability for Class I applications supporting POS functionality</i>							
Availability (uptime) of applications for doing business activities, except during scheduled down time as agreed with the department Uptime = $\{1 - [(Application\ downtime - maintenance\ Downtime) / (Total\ Time - Maintenance\ Downtime)]\}$	$\geq 99.5\%$	5	$< 99.5\%$ to $\geq 99\%$	3	$< 99\%$	-3	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism must be established for checking the availability of services.

SLA Parameters during Phase III: Operations and Maintenance Period

Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Time for opening of Home Page of portal Average must be achieved with maximum homepage opening time till success for 90% or more of the sample cases being within the stipulated time Web-to-web response time. Time for Home page opening, time for online submission of electronic documents, time for uploading and etc from <= operator to >= operator	<=3 seconds	3	> 3 seconds and <=5 seconds	1	>5 seconds	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Time for on-line submission of the electronic forms Average must be achieved with maximum time till success for 90% or more of the total submissions within the stipulated time Web-to-web response time	<=5 seconds	3	>5 seconds and <=7 seconds	1	>7 seconds	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.

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SLA Parameters during Phase III: Operations and Maintenance Period

Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Time for uploading data file including xml, txt, etc. (other than images and pdf) on various portals Average must be achieved with maximum time till success for 90% or more of the total uploads within the stipulated time Web-to-web response time	<=20 seconds	3	> 20 seconds and <=30 seconds	2	> 30 seconds	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Time for re-sending of the intimation/alerts through email or mobile app from the date of receipt of information of non-delivery.	<= 30 mins	3	>30 mins to <= 4 hours	0.5	>4 hrs	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.

Availability for Class II applications other than Class I applications

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Availability (uptime) of applications for doing business activities, except during scheduled down time as agreed with the department $\text{Uptime} = \left\{ 1 - \frac{[(\text{Application downtime} - \text{maintenance Downtime}) / (\text{Total Time} - \text{Maintenance Downtime})]} \right\}$	>=99.5%	5	<99.5% to >=99%	3	<99%	-3	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism must be established for checking the availability of services.
Time for on-line submission of the electronic forms Average must be achieved with maximum time till success for 90% or more of the total submissions within the stipulated time Web-to-web response time	<=5 seconds	3	> 5 seconds and > =7 seconds	1	>7 seconds	-2	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Time for uploading data file including xml, txt, etc. (other than images and pdf) on various portals Average must be achieved with maximum time till success for 90% or more of the total uploads within the stipulated time Web-to-web response time Time for re-sending of the intimation/alerts through email or mobile app from the date of receipt of information of non-delivery.	<=20 seconds	3	>20 seconds to <=30 seconds	2	>30 seconds	-2	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
	<= 30 mins	1	>30 mins to <= 4 hours	0.5	>4 hours	-2	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
<i>API service availability</i>							
Availability of API services for mobile, portal and other third party applications	>=99.5 %	5	<99.5% and >=99%	3	<99%	-2	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
							must be established for checking the availability of services.
<i>Response time for API Service requests</i>							
Time for providing response to the request received	<=5 seconds	2	> 5 seconds and <=7 seconds	1	> 7 seconds	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism must be established for checking the availability of services.
<i>Application Maintenance</i>							
Time to deliver the application changes as per desired functionality.	Within Agreed timeline	2	NA	NA	Beyond Agreed timeline	-1	Reports regarding the same to be captured through PMIS tool. All requests will be entered in

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
							PMIS by the bidder team as per records and provide status against the same
<i>Documentation Management</i>							
Maintaining document versioning (FRS, SRS, User, Training Manual etc.), application version control,	at the end of every quarter	1	Up to one week beyond the quarter end date	0.5	more than a week beyond the quarter end date	-1	Reports to be displayed through PMIS tool (and if requested by IPA/ports) and emails to provide these details
Integration and interfacing							
<i>Data exchange with PCS</i>							
Time to post information to PCS system in form of messages after the transaction carried out within port system	<=10 seconds	3	>10 seconds and <=15 seconds	1	> 15 seconds	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Time to receive and update information in port system after receipt of same from PCS system in form of messages	<=5 seconds	3	>5 seconds and <=7 seconds	1	> 7 seconds	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Time to reconcile all messages exchanged (received and posted with PCS system)	<=24 hours	2	NA	NA	Beyond 24 hours	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
<i>Data exchange with other systems</i>							
Time to post information to other system in form of messages after the transaction carried out within port system	as agreed at the time of design	3	NA	NA	Beyond agreed timelines	-1	Automated measurement tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Time to receive and update	as agreed	3	NA	NA	Beyond agreed	-1	Automated measurement

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
information in other system after receipt of same from PCS system in form of messages	at the time of design				timelines		nt tool to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Compute and Storage Infrastructure							
<i>Data Centre Availability</i>							
Uptime of all components at DC, Port Server Room & DR including but not limited to: . Servers . Storage . Tape Library . SAN	>=99.5 %	5	<99.5% and >=99%	3	<99%	-3	Automated measurement tool (EMS) to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
<ul style="list-style-type: none"> · Switches · Routers Any downtime for maintenance shall be with prior written intimation and approval of IPA . Uptime = {1 - [(Component downtime – maintenance Downtime) / (Total Time – Maintenance Downtime)]}							must be established for checking the availability of services.
<i>Security Components Availability</i>							

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
<p>Uptime of all security components for DC and BCP/DR site including but not limited to:</p> <ul style="list-style-type: none"> · Perimeter Security · Firewall etc. <p>Any downtime for maintenance shall be with prior written intimation and approval of IPA.</p> <p>Uptime = {1 - [(Component downtime – maintenance Downtime) / (Total Time – Maintenance Downtime)]}</p>	>99%	5	< 99% to >= 98%	3	<98%	-3	Automated measurement tool (EMS) to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism must be established for checking the availability of services.
<i>IT Infrastructure Monitoring Availability</i>							
Availability of IT Infrastructure Monitoring Tools (IT Infrastructure Monitoring Tools) at the active site.	>99%	5	< 99% to >= 98%	2	<98%	-2	Automated measurement tool (EMS) to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
							must be established for checking the availability of services.
<i>CPU and RAM Utilization</i>							
Peak CPU and RAM utilization for Application & Database Servers at DC site. The number of such occurrences wherein the CPU utilization is more than 80% for a sustained period of more than 4 hours except for scheduled batch processing tasks.	No Breach	3	NA	NA	CPU utilization is more than 80% for a sustained period of more than 4 hours	equal to n Where n is number of such instances in the reporting period	Automated measurement tool (EMS) to be developed as part of SLA monitoring tool to provide metric values against this parameter. End-to-end loop back mechanism must be established for checking the availability of services.
Network Infrastructure							
<i>Network Latency at Port LAN</i>							

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Latency of the Network not more than 50 ms (milli second) and packet loss not more than 5% Average of the month-wise scores shall be taken for the quarterly measurement of the concerned parameter.	No Breach	3	NA	NA	Latency of the Network more than 50 ms and packet loss more than 5% for a sustained period of more than 2 hours	equal to n Where n is number of such instances in the reporting period	Automated measurement tool (EMS) to be developed as part of SLA monitoring tool to provide metric values against this parameter.
<i>Uptime of network for Port Server Room</i>							
Any downtime for maintenance shall be with prior written intimation and approval of IPA. Uptime = $\{1 - [(Component\ downtime - maintenance\ Downtime) / (Total\ Time - Maintenance\ Downtime)]\}$	>99%	5	< 99% to >= 98%	3	<98%	-3	Automated measurement tool (EMS) to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Operations Infrastructure							
<i>Helpdesk Response time *</i>							

SLA Parameters during Phase III: Operations and Maintenance Period							
Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
<p>Time taken for sending email response & ticket assignment from the time of registering of request.</p> <p>Must be achieved within agreed timeline for resolution for at least 95% of the cases in a quarter.</p>	<=2 hrs	3	>2 hrs and <=8 hrs	1	> 8 hrs	-1	Automated measurement tool (reports from ticket management system) to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Resolution for Critical incident	<=2 hours	2	> 2 hours to <= 4 hrs	1	> 4 Hours	-1	Automated measurement tool (reports from ticket management system) to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Resolution for medium level incident	<=4 hours	2	> 4 hours to <= 8 hrs	1	> 8 Hours	-1	Automated measurement tool (reports from ticket management system) to be

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SLA Parameters during Phase III: Operations and Maintenance Period							
Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
							developed as part of SLA monitoring tool to provide metric values against this parameter.
Resolution for Low level incident	<= 1 day	2	>1 day to <= 3 days	1	> 3 Days	-1	Automated measurement tool (reports from ticket management system) to be developed as part of SLA monitoring tool to provide metric values against this parameter.
<i>Call Centre</i>							
Inbound Calls Response time* Response time for the calls received at the call center (i.e. the time taken to answer a call landing at the help desk excluding the IVRS time).	<=20 seconds	3	> 20 seconds and <=30 seconds	1.5	>30 seconds	-1	Automated measurement tool (reports from call center system) to be developed as part of SLA monitoring tool to provide

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SLA Parameters during Phase III: Operations and Maintenance Period							
Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
							metric values against this parameter.
Inbound Calls Abandonment Rate* Call abandonment rate (unanswered calls by helpdesk agents) This measures % of calls that were requested for an agent but got disconnected before being answered by the agent. Only calls that get disconnected after 20 seconds from transfer using IVRS options will be considered for computation of this SLA.	<=3%	3	>3% & <=5%	1.5	>5%	-1	Automated measurement tool (reports from call center system) to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Training and capacity building							
<i>Training Rating</i>							
The training and capacity building satisfaction will be measured by feedback rating given by the trainees during online and face to face training.	Rating >= 80%	2	Rating < 80% and Rating >= 70%	1	Rating < 70%	-1	Feedback rating given by the trainees during online and face to face training and

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SLA Parameters during Phase III: Operations and Maintenance Period							
Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Average rating must be achieved above the specified rating score for more than 80% of the feedback ratings received							uploaded on PMIS
<i>Training material</i>							
<i>Update of training materials on all portals within 1 week from date of release of modification to software into production environment</i>	Within 1 Week	2	upto 2 weeks	1	more than 2 weeks	-1	Automated measurement tool (reports from PMIS) to be developed as part of SLA monitoring tool to provide metric values against this parameter.
Other Parameters							
<i>Manpower availability</i>							
Manpower availability measures the availability of the required skill sets as proposed by the MSP in its proposal. This parameter shall also take into account the quality of	No Deviation	2	NA	NA	In case of deviations	-1	All deviations would be recorded and MIS report shall be made available to the IPA and ports via PMIS

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Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
resources in terms of skill set, experience and ability to perform in similar environment besides deployment on the project. In case of replacements, the new resource should be of similar or higher skill set. The skill sets to be taken into account for measuring this parameter includes the following at a minimum: <ul style="list-style-type: none"> • Key Personnel as per Volume I of RFP • Team Leads for each of the tracks/areas • Team members for various skills required for carrying out the activities of the project • Minimum committed resources for IT helpdesk and call center • Production Support Team 							
<i>Monthly Project Progress Report</i>							

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SLA Parameters during Phase III: Operations and Maintenance Period

Parameter	Baseline		Lower Performance		Breach		Measurement
	Metric	Score	Metric	Score	Metric	Score	
Submission of monthly progress report including the following: - Progress against project plan for each port - Key dependencies - Details of non-compliances if any - Issues list - Activities completed within the reporting period - Activities to be completed in the next reporting period	Within 2 days from month end	2	NA	NA	Greater than 2 days	-1	Automated measurement tool (reports from PMIS) to be developed as part of SLA monitoring tool to provide metric values against this parameter.

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7 Indicative Bill of Materials

The figures provided within the Bill of material are indicative for estimation purpose only. MSP has to perform an independent assessment of the Infrastructure requirements for the proposed system and provide a detailed BOM for the proposed infrastructure in line with the requirements of the project and performance on service level agreements. IPA / IPA designated authority shall review and approve the BOM of the successful bidder at the time of implementation/deployment/commissioning. The MSP should take note of the reusability of existing infrastructure at the port in their response. . MSP may reduce the quantity of any component in lieu of existing infrastructure available within the port at their own risk. Subject to the specifications laid down in Volume II of the RFP, it is clarified that the BOM approved by IPA shall in no case be a lower version than the one proposed by the bidder in its technical proposal submitted to IPA and the same shall be scaled up / upgraded by the MSP as per the requirement for performance on the service levels at no additional cost to the IPA. Infrastructure hardware, software and services will be billed on actuals, subject to the ceiling as per commercial bid submitted by MSP. The ceiling will not apply for DNS and MOP components.

In order to assist MSP in sizing, an indicative figures have been provided in Annexure – Existing System details. The numbers specified may vary during the course of the project. Hence, MSP shall make its own independent assessment to meet the desired service levels as stated in the RFP.

7.1 Summary of BOM

Code	Component	Type of component	Distribution principle
Central Infrastructure (Refer to 7.1.1)			
APP.1	Application 1 – Supply	Shared	PORT SHARE
APP.2	Application 1 - Supply – ATS	Shared	PORT SHARE
APP.3	Application 2 - Bespoke + Configuration + Migration	Shared	PORT SHARE
MAS	Application Support – Manpower	Shared	PORT SHARE
TCB	Training & Capacity Building	Shared	PORT SHARE
CIH	Central IT Helpdesk	Shared	PORT SHARE
CCI	Central Compute Infrastructure	Shared	PORT SHARE
BWR.1	Bandwidth requirements - @Centre	Shared	PORT SHARE
CAC	Call Centre	Shared	PORT SHARE
Port-specific Infrastructure (Refer to 7.1.2)			
PSR	Port Server Room	Port-specific	Not opted by ports
NWI	Networking Infrastructure	Port-specific	As opted by port
BWR.2	Bandwidth requirements - @Port	Port-specific	As opted by port
PSC	Port Service Centre	Port-specific	As opted by port
PIH	Port-specific IT helpdesk	Port-specific	As opted by port
PCC	Port Command Centre	Port-specific	As opted by port
TRI	Training Room Infrastructure	Port-specific	As opted by port
EUC	End User Computing	Port-specific	As opted by port
DIC	Dispatch centres	Port-specific	As opted by port
DNS	Digitization & Scanning	Port-specific	As opted by port
MOP	Manpower - Operations	Port-specific	As opted by port

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7.1.1 Central Infrastructure

APP		
Sr. No.	Description	Minimum Quantity
1	Port operations	6 locations
2	ERP user licenses	880
3	Payroll	As required for employees and pensioners
4	ESS	As required for employees
5	BI-DW + ETL	1
6	DMS	1
7	Mail solution	1
8	SMS solution	1
9	Workflow (with DMS)	1
10	Helpdesk solution	1
11	GIS	1
12	Content Management System	1
13	Hospital	1
14	Enterprise management solution	1
15	Mobility Manager	1
16	API Solution	1
17	LDAP Application	1
18	Portal Application	1
19	HTTP Server	1
20	Application server software	1
21	Database solution	1
22	Learning Management System	1
23	Project Management Info System	1
24	Version Control Software	1
25	Replication Software	1
26	Legal	1
27	Pension	1
28	Provident Fund	1
29	Investments	1
30	E-forms	1
31	Grievance management	1
32	Incident management	1
33	Utilities & Maintenance (UTLM)	1
34	Please add others as required	

Note:

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Systems for Hospital and Estate will not be required for Mumbai Port. System for Canteen management will not be required for any of the ports. These will however have to be considered for integration with ERP and retained applications.

Port entry systems are available in all participating ports at administrative building. Bidder is expected to carryout assessment of the existing system at ports.

MAS. Application Support – Manpower		
Sr. No.	Item	Minimum Count
1	Project Director	1
2	Project Manager	1
3	Port Lead	6
4	Functional Lead- HR	2
5	Functional Lead- Finance	2
6	Functional Lead- Material Management	2
7	Functional Lead- Asset Management	2
8	Functional Lead- Plant maintenance	2
9	Solution Architect	1
10	Network Architect	1
11	Data Center Specialist	1
12	ERP OEM specialist	6
13	Application helpdesk	35
14	Database support	4
15	Network support	6
16	Applications support	4
17	ERP support	4
18	BI and reporting support	3
19	GIS support	2
20	Handholding staff	18

TCB: Training counts across all ports			
Sr. No.	Item	Indicative no of trainings till Go-live	Indicative no of trainings per year
1	Executive leadership workshop	36	6
2	Functional heads	72	12
3	Functional users	120	60
4	Administrators	24	12
5	ERP And POS users	48	24
6	Employees of support functions	24	12

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CIH: Central IT Helpdesk 1 Location at IPA office		
Sr. No.	Item	Min. Indicative Quantity
1	Workstation Desktop	5
2	Multifunction Device	3
3	Phone	5
4	Site preparation costs	As applicable
5	LCD TV 50"	2
6	UPS – 5.0 KVA	1
7	Access Switch: Industrial Grade Managed Switch Base-T + SFP Module, support hybrid queuing with SP+WRR / IPv4 and IPv6 DSCP, IEEE 802.1x	As required
8	Air conditioner	1

CCI. Central Compute Infrastructure			
Sr. No.	Item	Min. Indicative Quantity for VMs at Primary Site	Min. Indicative Quantity of VMs at Disaster recovery Site
1	Web server - Internal traffic	12	Functional DR with at least 50% compute capacity and 100% storage as that of Primary site.
2	Web server - External traffic	12	
3	Server - API Services	12	
4	Application Server	12	
5	Database server	12	
6	Other Servers	As required	
7	LMS server	1	
8	Project Management (PMIS) Server	1	
9	Storage (min per server)	50 GB	
10	Security components	As applicable	
11	Network components	As applicable	
12	One time cost of creating data dump site for any of the other Major ports not part of this tender*	Cost for ONE port has to be provided	

* - This shall include cost of all services only related to creation of a data dump site for any of the other Major Ports which are not part of this tender.

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BWR.1. Bandwidth requirements – at Centre		
Sr. No.	Minimum bandwidth per link	Min No. of Units
1	DC Internet link (Primary) - 20 Mbps	1
	DC Internet link (Secondary) - 20 Mbps	1
2	DR Internet link (Primary) - 20 Mbps	1
	DR Internet link (Secondary) - 20 Mbps	1
3	DC MPLS link (Primary) - 20 Mbps	1
	DC MPLS link (Secondary) - 20 Mbps	1
4	DR MPLS link (Primary) - 20 Mbps	1
	DR MPLS link (Secondary) - 20 Mbps	1

CAC. Call Centre				
Sr. No.	Item	Deployment		
		Quantity	Initial	Support
1	Call centre agents	11	10%	100%

7.1.2 Port-specific Infrastructure

Port Server room has not been opted by the ports. Though server room is not required at all ports, bidder shall need to setup necessary site infrastructure to host and manage the network operations as required for those ports

NWI. Networking Infrastructure across all ports except Chennai*		
* Network creating not under scope of MSP, relevant SLAs will be amended at the time of contract signing for Chennai port.		
Sr. No.	Components	Min. Indicative Quantity
1	Core Router (MPLS HA)	10
2	Core Router (Internet HA)	10
3	Core Switch	10
4	Distribution Switch	28
5	Access Switch 48 port	28
6	Access Switch 24 port	66
7	Access Switch 8 port	240
8	WAN switch 24 port (HA)	10

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NWI. Networking Infrastructure across all ports except Chennai* * Network creating not under scope of MSP, relevant SLAs will be amended at the time of contract signing for Chennai port.		
Sr. No.	Components	Min. Indicative Quantity
11	Wireless Access Point - Indoor	194
12	Wireless Controller (HA)	10
13	Wireless Controller License for Access Point	194
14	SFP 1G	376
15	SFP 10G	162
16	SFP Base T	240
26	Rack - 6U	177
27	Rack - 12U	49
28	Rack - 42U	30
29	UPS (Online - 650 VA)	177
30	UPS (Online - 7.5 KVA)	30
31	UPS (Online - 1.5 KVA)	49
32	EMS	5
33	UTM appliance at Port	10

NWI. Networking Infrastructure - Passive Components			
Sr. No.	Components	Min. Indicative Quantity	Unit
1	Fiber optic Outdoor armoured cable Single mode (SM) (in Mtr)		
	6 Core	25000	Mtr
	12 Core	50000	Mtr
	24 Core	50000	Mtr
	48 Core	50000	Mtr
2	LIU, 6/12/24/48 fiber	256	Nos
3	Fiber Joint Closure	400	Nos
4	UTP- CAT-6 cable (in Mtr.)	193920	Mtr
5	24 Port Patch Panel	326	Nos
6	48 Port Patch Panel	28	Nos
7	Information Outlets	4848	Nos
8	40 mm PLB HDPE Pipe with Silicon Coating for OFC Under Ground Laying	140000	Mtr

ANNEXURE B

Corrigendum to Request for Proposal (RFP) for
 "Selection of Managed Service Provider for Implementation of Enterprise Business System in Five Major Indian Ports"

NWI. Networking Infrastructure - Passive Components			
Sr. No.	Components	Min. Indicative Quantity	Unit
9	Misc (Patch cords, connectors & any other Civil/Electrical/Optical/Copper items etc)	5	Nos

NWI. Networking Infrastructure - Service items			
Sr. No.	Components	Min. Indicative Quantity	Unit
1	Manual Digging of Soil 1.5 Mtrs Depth with refilling & HDPE pipe	42000	Mtr
2	Outdoor Horizontal directional drilling (HDD) or Trenchless Digging, pulling HDPE pipe.	98000	Mtr
3	Excavations under road crossing & rail track without effecting the traffic	2500	Mtr
4	In building laying of fiber through Duct/ Conduit	42000	Mtr
5	Outdoor Laying of fiber through Duct/Conduit	98000	Mtr
6	Installation and termination of Fiber termination/Interconnection LIU	256	Nos
7	Fiber optics cable needs to be marked with the help of route marker	750	Nos
8	Performance testing of laid Fiber Optic cable for continuity, length & dB loss with Documentation of the results & performance certification for 5 years	5	Nos
9	Creation of Manhole/ Pit for Fiber Joint Enclosure including RCC material with Top Covering	350	Nos
10	In-building laying of UTP CAT 6 cable with cable route survey & detailed cable route diagram, termination of cable with labels & marking as per approved labelling plan & documentation with Performance testing and certification	193920	Mtr
11	Misc. (Civil, Electrical, Optical & Copper installation items and services)	5	Nos

BWR.2. Bandwidth requirements – at Port (per port) required at all ports		
Sr. No.	Minimum bandwidth per link	Min. Indicative Quantity
1	Port-site Internet link (Primary) - 10 Mbps	1

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Corrigendum to Request for Proposal (RFP) for
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BWR.2. Bandwidth requirements – at Port (per port) required at all ports		
Sr. No.	Minimum bandwidth per link	Min. Indicative Quantity
	Port-site Internet link (Secondary) - 10 Mbps	1
2	Port-site MPLS link (Primary) - 10 Mbps	1
	Port-site MPLS link (Secondary) - 10 Mbps	1
3	GPRS connectivity supplied to certain critical locations including - Sheds, Gates, signal station, yard, etc. in form	25
4	GPRS Connectivity for devices supplied (tablets, handheld, mobiles, other equipment)	25

PSC. Port Service Centre required at all ports:		
<ul style="list-style-type: none"> · Mumbai · Kandla · Kolkata · Haldia · Chennai · Paradip 		
Sr. No.	Item	Min. Indicative Quantity
1	Workstation Desktops	1
2	Desktops	6
3	Multifunction devices	6
4	Large Multifunction devices	2
5	Scanners	1
6	Bar code scanners	6
7	Cash Registers	3
8	Site preparation	As required
9	UPS with 2Hour Battery backup – 5.0 KVA	1
10	Diesel generator set including consumables and fuel	1
11	Air conditioner (2T, Split)	11
12	Dome camera for internal surveillance	12
13	Access Switch: Industrial Grade Managed Switch Base-T + SFP Module, support hybrid queuing with SP+WRR / IPv4 and IPv6 DSCP,IEEE 802.1x	1 as required
14	OS	as required
15	AV	as required
16	Consumables (Paper, Diesel, Toner, Cartridges)	1

ANNEXURE B

Corrigendum to Request for Proposal (RFP) for
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PIH. Port-specific IT helpdesk required at all ports except Chennai (1 per port)		
Sr. No.	Item	Min. Indicative Quantity
	Port IT Helpdesk	
1	Desktop	5
2	Small Multifunction Devices	2
3	Phone	5
4	Site preparation	As required
5	UPS – 3.5 KVA	1
6	Diesel generator set including consumables and fuel	1
7	Air conditioner	1
8	Access Switch: Industrial Grade Managed Switch Base-T + SFP Module, support hybrid queuing with SP+WRR / IPv4 and IPv6 DSCP,IEEE 802.1x	1
9	OS	as required
10	AV	as required

PCC. Port Command Centre required at all ports except Chennai (1 per port)		
Sr. No.	Item	Min. Indicative Quantity
1	Desktop	3
2	LCD TV (50")	2
3	Multifunction Device	2
4	Landline Phones	3
5	Site preparation	As required
6	Biometric Access control system	1
7	UPS – 5.0 KVA	1
8	Fire alarm system	1
9	Rodent repellent system	1
10	Diesel generator set including consumables and fuel	1
11	Air conditioner	2
12	Access Switch: Industrial Grade Managed Switch Base-T + SFP Module, support hybrid queuing with SP+WRR / IPv4 and IPv6 DSCP,IEEE 802.1x	1 as required
13	OS	as required
14	AV	as required

TRI. Training room across ports required at all ports (1 per port)		
Sr. No.	Item	Min. Indicative Quantity
1	Projector	1
2	Projector Screen	1

ANNEXURE B

Corrigendum to Request for Proposal (RFP) for
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TRI. Training room across ports required at all ports (1 per port)		
3	White board	2
4	Thin clients (except Chennai Port)	10
5	Server	1
6	Audio system	1
7	Video Conferencing system	1
9	Desks and seating arrangement	20
10	Site Preparation	as required
11	Access Switch: Industrial Grade Managed Switch Base-T + SFP Module, support hybrid queuing with SP+WRR / IPv4 and IPv6 DSCP,IEEE 802.1x	1 as required
12	OS	As required
13	AV	As required

EUC. End User Computing across ports (combined figure from all ports except Chennai Port)		
Sr. No.	Item	Min. Indicative Quantity
1	Desktops	500
2	Laptops	50
3	Thin Clients	145
4	Multifunction devices	25
5	Printers	100
6	Scanners	40
7	Bar code scanners	45
8	Cash Registers	23
9	Tablets (at least 8")	95
10	Mobile Phones (at least 5")	55
12	OS (1 + 2 + 3) If cost not included above	as required
13	AV (1 + 2 + 3) If cost not included above	as required

Dispatch centres required at all ports (One dispatch centre per department of port except Chennai Port where it will have only ONE Dispatch Centre in Port rather that Department-wise Dispatch Centres)		
Sr. No.	Item	Min. Indicative Quantity
1	Desktops	2
2	Large Multifunction Device	1
3	Access Switch: Industrial Grade Managed Switch Base-T + SFP Module, support hybrid queuing with SP+WRR / IPv4 and IPv6 DSCP,IEEE 802.1x	1
4	Site preparation	As required

ANNEXURE B

Corrigendum to Request for Proposal (RFP) for
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Dispatch centres required at all ports (One dispatch centre per department of port except Chennai Port where it will have only ONE Dispatch Centre in Port rather than Department-wise Dispatch Centres)

Sr. No.	Item	Min. Indicative Quantity
5	Operating System	as required
6	Antivirus	as required

DNS. Digitization & Scanning

Sr. No.	Department Name	Minimum Indicative Document nos.
1	Mumbai	0
2	Kolkata	25,00,000
3	Haldia	25,00,000
4	Kandla	75,00,000
5	Paradip	75,00,000
6	Chennai	25,00,000

MOP. Manpower – Operations may be opted by ports##

Sr. No.	Item	Min. Quantity	Deployment	
			Implementation	O&M
1	Data Entry - Senior	3	100%	100%
2	Data Entry - Junior	21	100%	100%
3	Front desk - Senior	3	50%	100%
4	Front desk - Junior	12	50%	100%

Billing for MOP will be on actual basis based on manpower deployed at port

ANNEXURE C – TRS Security Port

Functional Requirement Specifications - Port Security Implementation of Enterprise Business System in Five Major Indian Ports Bidder name: _____				
Component: UTM for Port Complexes				
Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
General Requirements				
1	The security gateway (UTM) must have Stateful Inspection based on granular analysis of communication and application state to track and control the network flow.			
2	Should be a Appliance Based UTM and EAL4 Certified and IPS should be NSS/ICSA Labs recommended.			
3	The UTM offered by the bidder must be rated as 'leaders' in the latest Magic Quadrant for Unified Threat Management solution by Gartner.			
4	The UTM solution shall have in built security acceleration mechanism.			
5	The appliance must be based on an industry standard hardened OS and use hardware that is optimized for UTM, IPS and IPsec.			
6	UTM shall internally come ready with Active – Active / Active -Passive mode without any third party alliance.			
7	Licensing shall be a per device and not user/IP based (No user limit must be placed on the total number of users).			
8	UTM Shall include minimum 1000 number of policies & 1000 IPSEC VPN Tunnels and must be scalable as the requirements increase.			
9	UTM Shall be rack mountable.			
Technical Requirements				
10	Appliance shall have minimum of 8, 10/100/1000Mbps interfaces on Copper (including ONE interface for the High-Availability), 2 No.s 10G Base- X ports complying IEEE 802.3ae standard at speed of 10 Gbps on a multimode/singlemode fibre, it should come ready with IPv4 and IPv6 addressing schema			

Functional Requirement Specifications - Port Security
Implementation of Enterprise Business System in Five Major Indian Ports
 Bidder name: _____

Component: UTM for Port Complexes

Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
11	UTM Shall have automatic ISP failover, ISP load sharing and load balancing for outbound traffic.			
12	UTM shall support for RIP v2, OSPF & BGP routing protocols.			
13	UTM shall have built in storage capacity of minimum 60GB for storing logs.			
14	UTM shall be capable of upgrading to new versions/products in case a new feature is released by the OEM.			
15	UTM shall Blocks attacks such as DoS, port scanning, IP/ICMP/TCP related.			
16	Encryption support of AES 128-256 bit, 3DES 56-168 bit.			
17	UTM must support at least 2 Million concurrent connections.			
18	UTM must support at least 50000 new sessions per second processing.			
19	UTM shall have minimum threat prevention/protection throughput of 1Gbps			
UTM Filtering Requirements				
20	UTM Shall support the standard Layer 3 mode of configuration with Interface IP's. It shall be possible to protect the UTM policies from being compromised.			
21	UTM must provide NAT functionality, including dynamic and static NAT translations.			
22	UTM must provide filtering capability that includes parameters like source addresses, destination addresses, source and destination port numbers, protocol type.			
23	UTM shall be able to filter traffic even if the packets are fragmented.			
24	All internet based applications shall be supported for filtering like Telnet, FTP, SMTP, http, DNS, ICMP, DHCP, ARP, RPC, SNMP, mime, s/mime, Lotus Notes, MS-Exchange etc.			

Functional Requirement Specifications - Port Security
Implementation of Enterprise Business System in Five Major Indian Ports
 Bidder name: _____

Component: UTM for Port Complexes

Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
25	UTM Shall support authentication protocols like LDAP, RADIUS and have support for UTM passwords, token-based products like SecurID, LDAPstored passwords, RADIUS or TACACS+ authentication servers, and X.509 digital certificates.			
26	UTM Shall provide advanced NAT capabilities, supporting all applications and services-including H.323 and SIP based applications.			
27	UTM shall support for Filtering TCP based applications.			
28	UTM Shall support CLI & GUI based access to the UTM modules.			
29	Local access to UTM shall support role based access.			
30	The system shall be able to send log information to an external log server via an encrypted connection.			
31	The UTM administration software must provide a means of viewing, filtering and managing the log data.			
32	UTM Shall support more than 1000 + signatures and automatic updates.			
33	IPS shall block only the attack session without effecting service to legitimate clients.			
34	UTM Shall not reduce the performance by enabling Layer 7 attacks filters.			
35	UTM Shall have a graphical interface capable to display summary information in terms of critical, medium, low of the attack nature.			
36	UTM shall support application scanning and detection of distinct applications and Web 2.0 widgets including instant messaging, social networking, video streaming, VoIP, games, Protocol misuse, malware communications, tunneling attempts, generic attack types without predefined signatures etc.			
37	The solution should categorize URLs and applications by Risk Factor.			

Functional Requirement Specifications - Port Security
Implementation of Enterprise Business System in Five Major Indian Ports
 Bidder name: _____

Component: UTM for Port Complexes

Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
38	The solution must provide a mechanism to limit application usage based on bandwidth consumption.			
39	Support Scan and secure SSL encrypted traffic passing through the gateway, such as HTTPS.			
40	UTM shall support URL filtering with Websites to allow, block or limit web site access in real-time—all web site traffic, clear and SSL-encrypted.			
41	UTM shall support Pattern-based spyware blocking at the gateway, and support File-based AV or protocol-based AV.			
42	UTM Shall support SPAM blocking by, IP Reputation, Content-based, Mail Antivirus, and Zero-hour Outbreak Protection.			
43	UTM shall support Email IPS protection against Denial of Service (DoS), buffer overflow attacks.			
Administration/ Management Requirements				
44	Management solution for all the appliances shall be provided alongwith the solution			
45	The UTM management system must be capable of pushing UTM security policies and configurations to individual or multiple UTMs through a secure, encrypted connection interfaces.			
46	The UTM administration station must provide a means for exporting the UTM rules set and configuration to a text file.			
47	Any changes or commands issued by an authenticated user shall be logged to a database.			
48	The UTM must send SNMP traps to Network Management System in response to System failures			
49	Support automatic synchronization ability of rules on multiple UTMs and the management servers at DC & DR sites if required			
50	Provision to generate automatic mail alerts to multiple recipients			

Functional Requirement Specifications - Port Security
Implementation of Enterprise Business System in Five Major Indian Ports
 Bidder name: _____

Component: UTM for Port Complexes

Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
51	Support for role based administration of UTM.			
52	Support for user authentication at the UTM system for the different TCP/IP applications, like HTTP, Telnet etc			
53	Support for integration with two factor authentication as the strong user authentication mode.			
54	Support for RADIUS, Active Directory & LDAP for the user authentication protocols.			
55	Shall support NTP (Network Time Protocol) for date & time synchronization from NTP Server.			
56	UTM shall support SNMP v1/v2 /v3.			
Reporting				
57	Provision for logging and reporting.			
58	The UTM administration software must provide a means of viewing, filtering and managing the log data.			
59	The UTM logs must contain information about the UTM policy rule that triggered the log.			
60	The UTM must provide at a minimum basic statistics about the health of the UTM and the amount of traffic traversing the UTM.			
61	Support to log in detail all connections which are blocked.			
62	Support to log in detail all connections which go through the UTM.			
63	Provision to report all denied connections inbound and outbound			
64	Provision to report all successful connections inbound and outbound			
65	Provision to report traffic levels for inbound & outbound destinations.			
66	Support to generate performance statistics on real-time basis.			
67	Capability to produce reports which measure usage.			
68	UTM shall generate reports on gateway traffic , rule base analysis, and policy installations.			

ANNEXURE C

Corrigendum of Request for Proposal (RFP) for "Selection of Managed Service Provider for Implementation of Enterprise Business System in Five Major Indian Ports"

Functional Requirement Specifications - Port Security
Implementation of Enterprise Business System in Five Major Indian Ports
 Bidder name: _____

Component: UTM for Port Complexes

Sr. No.	Description of Requirement	Compliance (Yes/No)	Details of Reference Document for verifying compliance	Reference Page No
69	UTM shall generate IPS reports about the attack.			
70	Shall support integration with SIEM solution if required			
71	Integration with Radius/AAA solution for authentication.			
72	Shall support integration with Domain Controller solution if required			

PQ Form 6 - Format for Consortium Agreement

<<On non-judicial stamp paper of appropriate value to be purchased in the name of executants companies or as required by the jurisdiction in which executed>>

This Consortium Agreement executed on this day of..... Two Thousand

By:
M/s.a Company incorporated under the laws of.....and having its registered office at..... (Hereinafter called the “Lead Member/First Member” which expression shall include its successors);

And

M/s. a Company incorporated under the laws ofand having its registered office at..... (Hereinafter called the “Second Member” which expression shall include its successors)

And

M/s. a Company incorporated under the laws ofand having its registered office at..... (Hereinafter called the “Third Member” which expression shall include its successors)

The Lead Member/First Member, the Second Member and the Third Member shall collectively hereinafter be called as the “Consortium Members” for the purpose of submitting a proposal (hereinafter called as “Bid”) for the work of(Name of project) of Indian Ports Association (IPA) (hereinafter called the “Owner”) in response to Request for Proposal Document (hereinafter called as “tender” Document) Dated..... for the purposes of submitting the bid no.and entering into a contract in case of award for the work of (Name of work).....

WHEREAS, the Owner invited bids vide its tender document no.for the work of.....AND WHEREAS as per document, Consortium bids will also be considered by the Owner provided they meet the specific requirements in that regard.

AND WHEREAS the bid is being submitted to the Owner vide proposal dated based on the Consortium Agreement and the bid with its forms and submission documents, in accordance with the requirement of tender conditions and requirements have been signed by all the partners and submitted to the Owner.

AND WHEREAS Clause <> of tender document stipulates that a Consortium of maximum <3> companies, meeting the requirements stipulated in the tender document may submit a Proposal signed by Lead Member of the Consortium Members so as to legally bind all the Members of the Consortium to the Owner and duly signed Consortium Agreement shall be attached to the Proposal.

NOW THEREFORE, in consideration of the mutual covenants of the members of the Consortium, the sufficiency whereof is hereby acknowledged and other good valuable consideration, we agree as follows:

1. We the members in the Consortium hereby confirm that the name and style of the Consortium shall be..... Consortium.
2. M/s.shall act as Lead Member for self, and for and on behalf of M/s (Second Member) and (Third Member) and further declare

ANNEXURE D

Corrigendum of Request for Proposal (RFP) for “Selection of Managed Service Provider for Implementation of Enterprise Business System in Five Major Indian Ports”

and confirm that we shall jointly and severally be bound unto the Owner for the successful performance of the obligations under the Request for Proposal (**tender**) and resulting Contact Agreement(s) submitted / executed by the Lead Member in the event of the selection of Consortium. Further, the Lead member is authorized to incur liabilities and receive instructions for and on behalf of any or all partners of the consortium.

3. The composition or the constitution of the consortium shall not be altered without the prior consent of the Owner.
4. The roles and responsibilities of the lead member, second member and the third member of the consortium for execution of various components/activities as defined in the **tender** document shall be as under:

S. No.	Project Component/Activity	Roles & Responsibility of Lead Member	Roles & Responsibility of Consortium Member
1			
2			
3			
4			

5. It is agreed that the lead member shall be liable for the entire scope of work and risks involved thereof. It is also agreed that all non-lead members of the consortium shall be held equally responsible along with the lead member for the obligations under the tender Document, Contract and this Agreement, as per the scope of work, roles and responsibility agreed in this agreement.
6. For the purpose of this Agreement, the tender Document and the Contract, the Lead member shall be the single point of contact for the IPA, shall have the overall responsibility of the management of the Project and shall have single point responsibility for ensuring that all members of the consortium are complying with the terms and conditions set out in the Contract and the tender Document.
7. If IPA suffers any loss or damage on account of any breach in the stipulation of the Agreements to be entered into by the Consortium Members, upon its selection pursuant to tender (the "Agreements") or any shortfall in the performance of the Transaction or in meeting the performances guaranteed as per the tender and the Agreements, the Consortium Members hereby jointly and severally undertake to promptly make good such loss or damages caused to IPA on its demand without any demur or contest. The Owner shall have the right to proceed against anyone of the partners and it shall neither be necessary nor obligatory on the part of the Owner to proceed against the Lead bidder before proceeding against or dealing with the other Member.
8. The financial liability of the Consortium Members to the IPA, with respect to any of the claims arising out of the performance or non-performance of obligations under the tender and the resulting Agreement(s) shall not be limited so as to restrict or limit the liabilities of any of the Members.
9. It is expressly agreed by the Members that all the due payments shall be made by the Owner to lead member only.
10. This Consortium agreement shall be construed and interpreted in accordance with the laws of India and the Courts of Delhi shall have the exclusive jurisdiction in all matters arising there under.
11. It is also hereby agreed that Lead Member shall, on behalf of the Consortium shall submit the Bid and performance Security as specified by owner in the tender document.
12. It is further agreed that this Consortium Agreement shall be irrevocable and shall continue to be enforceable till the same is discharged by IPA
13. This Agreement shall come into force as of the date of signing and shall continue in full force and effect until the complete discharge of all obligations, concerning the carrying out of the Project, which have been taken on by the Parties under the Contract, tender Document and under this Agreement.

ANNEXURE D

Corrigendum of Request for Proposal (RFP) for “Selection of Managed Service Provider for Implementation of Enterprise Business System in Five Major Indian Ports”

14. Any other terms and conditions not in contradiction to the tender and above mentioned terms and conditions.

IN WITNESS WHEREOF, the Members to the Consortium agreement have through their authorised representatives executed these presents and affixed common seal of their companies, on the day, month and year first mentioned above.

<p>Common Seal of has been affixed in my/our Lead Member presence pursuant to Board of Director's resolution dated</p> <p>1) Witness</p> <p>2) Witness</p>	<p>For and on behalf of M/s.....</p> <p>(Lead Bidder)</p> <p>(Signature of authorized representative) Name : Designation:</p>
<p>Common Seal of has been affixed in my/our Lead Member presence pursuant to Board of Director's resolution dated</p> <p>1) Witness</p> <p>2) Witness</p>	<p>For and on behalf of M/s.....</p> <p>(Second member)</p> <p>(Signature of authorized representative) Name : Designation:</p>
<p>Common Seal of has been affixed in my/our Lead Member presence pursuant to Board of Director's resolution dated</p> <p>1) Witness</p> <p>2) Witness</p>	<p>For and on behalf of M/s.....</p> <p>(Third member)</p> <p>(Signature of authorized representative) Name : Designation:</p>