

ADDENDUM – 7

Ref.: Plg/165/RFID/11936

e-Tender No.: KoPT/Kolkata Dock System/PnR/4/17-18/ET/219

The previous Addendum – 6 published on 16/10/17 must be ignored.

Following revised amendments are issued for the RFID based access control system project tender:

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment																															
1	RFP Annexure II – Technical Specifications	As per technical specification mentioned in the RFP published on 11-08-2017	Modify	<p>Revised Technical Specifications:</p> <p>1. Port Access Control System (PACS)</p> <table border="1" data-bbox="846 855 1980 1362"> <thead> <tr> <th data-bbox="846 855 936 938">Sl.No</th> <th data-bbox="936 855 1720 938">Minimum specification/ functionality required</th> <th data-bbox="1720 855 1850 938">Compliance</th> <th data-bbox="1850 855 1980 938">Remarks</th> </tr> </thead> <tbody> <tr> <td colspan="4" data-bbox="846 938 1980 1034">Mandatory compliance (These are the mandatory requirements. Bidder will be disqualified if he fail to comply with these requirements)</td> </tr> <tr> <td data-bbox="846 1034 936 1155">1</td> <td data-bbox="936 1034 1720 1155">The RFID solution software shall be developed/ customized, installed, supported and maintained by the service provider</td> <td data-bbox="1720 1034 1850 1155"></td> <td data-bbox="1850 1034 1980 1155"></td> </tr> <tr> <td colspan="4" data-bbox="846 1155 1980 1200">A. Port officer Authorization Module</td> </tr> <tr> <td data-bbox="846 1200 936 1283">2</td> <td data-bbox="936 1200 1720 1283">Provision to admin access into the complete system by a Port Authority</td> <td data-bbox="1720 1200 1850 1283"></td> <td data-bbox="1850 1200 1980 1283"></td> </tr> <tr> <td data-bbox="846 1283 936 1327">3</td> <td data-bbox="936 1283 1720 1327">Provision to Audit every pass issued</td> <td data-bbox="1720 1283 1850 1327"></td> <td data-bbox="1850 1283 1980 1327"></td> </tr> <tr> <td data-bbox="846 1327 936 1362">4</td> <td data-bbox="936 1327 1720 1362">Provision to restrict pass issue permission by Port</td> <td data-bbox="1720 1327 1850 1362"></td> <td data-bbox="1850 1327 1980 1362"></td> </tr> </tbody> </table>				Sl.No	Minimum specification/ functionality required	Compliance	Remarks	Mandatory compliance (These are the mandatory requirements. Bidder will be disqualified if he fail to comply with these requirements)				1	The RFID solution software shall be developed/ customized, installed, supported and maintained by the service provider			A. Port officer Authorization Module				2	Provision to admin access into the complete system by a Port Authority			3	Provision to Audit every pass issued			4	Provision to restrict pass issue permission by Port		
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S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment					
					Supervisor/ Scrutinizer				
				5	Provision to restrict number of passes per Company by a Port Authority				
				6	Direct access to all software & database by authorized Port Authority				
				7	Provision to limited access to Port Supervisor/Scrutinizers at the Gates				
				8	Provision to scan activity of pass issue by each operator at any counter				
				9	Provision to get summary report of all activities by operators on shift wise, daily, weekly, & monthly basis				
				10	Provision to log all activities of logged in operators issuing the passes				
				B. Sponsoring Company Registration has					
				11	Provision to define company type				
				12	Provision to register a company under one company type				
				13	Provision to define category and it rules				
				14	Provision to register one or more category under one Company				
				15	Revision to define validity based on the license date, bank guarantee date, and documents expiry date and categories validity period				
				16	Provision to define companies without any basic validity				
				17	Provision for Pre-renewal				

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment					
				18	Provision for renewal after expiry of registration				
				19	Provision for extension of validity for Company- Category and Category on the basis of validity Provision for parameterized, Dynamic definition Provision to declare defaulter and or blacklist a category and or a company immediately or with future date				
				20	Provision to declare defaulter and or blacklist all the permits under the category and or Company automatically due to default/blacklist of Company or category				
				21	Provision to restore the Company and or Category separately or together along with their Permits				
				22	Provision to cancel the Company/Company- Category as per rules				
				23	Provision to define Maximum Validity period for the type of permit of any Category in Category Master				
				24	Provision for not allowing cancellation without cancelling all permits under it or if the company is defaulted or blacklisted				
				25	Provision for forcible Cancellation of a Company				
				26	Provision to cancel all the permits under it automatically				
				27	Provision to declare quota for various types of Permits and provision to increase/decrease quota permanently, daily or for a specific period.				

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment				
				28	Provision to maintain the list of authorized signatories under company-category with Photo and Signature			
				29	Provision to maintain the list of Director/Partners/Proprietors with their photo and signature			
				30	Provision to define the Issuing Authority for different types of Permits.			
				31	User authentication should be based on OTP on the registered mobile including user-id and password			
				C. Authenticated User Enrolment and Issuance of permits has				
				32	Provision to enroll User – Employee biometrics, identification details, photograph.			
				33	Provision to attach Scanned documents.			
				34	Provision to generate uniqueness for every User			
				35	Provision to retrieve information based on Biometrics, User Identification details			
				36	Provision to verify User credentials like biometrics etc before issuing the Permit			
				37	Provision to issue User permit till the Company-Category's Validity date, Document Validity date, Maximum validity period			
				38	Provision to Generate, Print Permit on Smart Card, Water proof sticker, Paper			
				39	Provision to link Smart card / RFID tag/ paper pass with			

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment					
					Users credentials				
				40	Provision to renew / issue duplicate permits				
				41	Provision to blacklist or restore a user permit				
				42	Provision to record IN / OUT movement of User / vehicle / Employee				
				43	Provision to issue permits for different span of time like daily, weekly, Monthly, Quarterly, yearly				
				44	Provision to issue permits to a group or to every member of group individually				
				45	Provision to limit access of pass holder to specific areas				
				46	Provision to declare defaulter and or blacklist a user				
				47	Provision to restore defaulter and or blacklisted user				
				48	Provision to display Users Photograph on the LCD when moving in or out of the gate				
				49	Provision to push data of defaulters and or blacklisted user on all the readers. Thus controlling access of black listed persons				
				50	For out entry Flap barrier to be operated physically/ automated				
				51	Provision for various parameterized reports. User can generate their own MIS				
				52	Provision for customizable forms for storing user data along with photo identification, finger prints				

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment					
				53	Maintaining unique data of Users from which passes isto be generated quickly				
				D. Authenticated Vehicle Enrolment and issuance of Vehicle Permit features					
				54	Provision to enroll Vehicle				
				55	Provision to Link passengers with Vehicle				
				56	Provision to generate Vehicle permits for different time period like Quarterly / yearly, Daily				
				57	Provision to renew / issue Duplicate Vehicle permit				
				58	Provision to change the Owner of the Vehicle				
				59	Track the IN /OUT movement of Vehicle at gate through RFID tag				
				60	Provision to limit access of vehicle to specific areas				
				61	Maintaining unique data of Vehicle from which passes is to be generated quickly				
				62	RFID based Internal Tracking of Equipment, Container, Vehicle,& Visitors within the Port premises.				
				E. Cash Collection and Remittance features					
				63	Provision to Define various permit				
				64	Provision to enter tariff for each definition of Permit.				
				65	Provision to Change Tariff for each Definition of Permit and should be applicable for a specific period				
				66	Provision to Collect Cash as per the rules defined				
				67	Provision for remittances made				

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment					
				68	Provision to collect deposit in advance against each company				
				69	Provision to collect cash against each permit as per the rules defined by making necessary withdrawal entry (Credit/Debit)				
				70	System should integrate with a Payment Gateway for remittance of fees by users as per requirement of the Port. Provision for online payment to Port Account Directly				
				71	Conveniently available Pass Collection Counters including third party such as (ICDs, CFS, e-Governance Centers, Authorized Centers, etc.)				
F. Blacklisting & Policy Enforcement Module									
				72	Provision to blacklist user, vehicle, company				
				73	Provision to auto-block pass issue to blacklisted entities				
				74	Provision to raise alert for blacklisted related requests				
				75	Provision to report suspicious or anomalous activities with severity levels				
				76	Provision to create rules defining Port Gate Entry Policy				
				77	Provision to enforce Gate Entry Policy such entry restricted from a specific gates, etc.				
				78	Provision to restrict individuals & vehicles to specific areas or zones				
				79	Provision of rules to generate alerts by email, SMS, or				

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					Phone Call			
				G. User Module Features:				
				80	Hierarchy of the users maintained Levels of the users and rights given to the levels could be changed through system			
				81	Maker Checker facility for the user creation			
				82	Log of creation of User, User Validity, password Validity, and Password Policy maintained			
				83	Copy / Paste not allowed in the login / Password Fields			
				84	Validation in such a way that no compromise by SQL Injection Techniques Password encrypted			
				85	Last login Date/time stored in the system and displayed on the screen to the user			
				86	Enforcement of the initial default password and forcing the user to change password after certain No. of days parameterized			
				87	After certain no. of attempts the user gets locked and the no. of attempts parameterized			
				88	Disabling the user automatically after certain period parameterized if the login is not at all used			
				89	Facility to disable the user manually			
				90	History of login details to the user of their own login & of all users for administrator / Super User login			

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				91	System should be secured enough for preventing of unauthorized attempts for access over web and security should be based on Cert-In guidelines			
				H. RFID Card Management Module				
				92	Advance enrolment of the port sponsor companies, users, vehicles, etc.			
				93	Pre-personalization and Personalization of cards			
				94	Printing of cards & stickers			
				95	Management of Temporary users			
				96	Provision to Issue Passes from authorized locations outside the Port			
				97	Remote disabling of cards			
				98	Alerting on expired card usage attempts Security & data encryption in card or server end			
				I. Comprehensive MIS Reports & Integration Module				
				99	Provision for Dashboard to view the current status of traffic at the Port			
				100	Tracking of each and every individual, vehicle, visitor across Port area			
				101	Category based reporting of traffic inside as well as at the gates			
				102	Classification of Users by pass type, usage activities, access zones			
				103	Classification of Vehicles by pass type, usage activities,			

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					access zones				
				104	Report on Vehicles associated by Drivers & Cleaners				
				105	Report of pass issued in by day, week, month, year, as well as by gates.				
				106	Graphical view of all the reports summary				
				107	Detailed report pass issue activities by Gate, by Period, by Operator				
				108	Summarized report of pass issue activities by Gate, by Period, by Operator				
				109	Reports providing anomalous activities at the gate				
				110	Report providing time spent by each and every man & vehicle				
				111	Report providing areas visited by individuals & vehicles				
				112	Report detailing overstay by individuals & vehicles				
				113	Report detailing additional movement by Individuals & Vehicles beyond a defined threshold				
				114	Report classifying internal and external vehicle movements				
				115	Report on pass payment collections and reconciliation				
				116	Provision to check complete details of vehicle or individual on handheld System				
				117	Provision to transfer data to Port servers on real-time or scheduled basis				
J. Gate Interface Module									

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				118	Gate Barrier Interface Module				
				119	Flap barrier Interface Module				
				120	License Plate Capture Camera Integration Module				
				121	Display Unit Controller				
				122	AVI Interface Module				
				123	User Photo Capture Interface Module				
				124	Container Reader & 3D Capture Interface Modules				
				125	Handheld Terminal for Mobile Spot Checking as well as speedy movement at the gates				
				K. Control Room & 24/7 Monitoring					
				126	Summarized dashboard				
				127	Real-time Data updates and Visuals				
				128	Anomaly & Policy Break Reporting				
				L. Backup, Archival & Retrieval Management					
				129	Backup server for record keeping				
				130	Regular synchronization with front-end server				
				131	Historical data keeping for audit trail				
				132	Fallback server				
				133	Doubles up as load balancing server				
				134	Distributed Architecture				
				135	High Availability Master Database				
				136	Archival & Retrieval System				
				137	Backup & DR				

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				M. Policy Framework & Rules Engine			
				138	Configurable policy framework and rules engine		
				139	Simplified Approval System with Email, SMS, & Mobile alerts to Scrutinizer		
				N. Integration APIs			
				140	System should support integration or data exchanges with legacy or future systems as per requirement of Port. 3 level comprehensive APIs to connect to various existing & future integrations		
				141	XML & Web service based open interfaces		
				O. Biometric Aadhaar Integration			
				142	RFID Pass should be linked to Aadhaar biometrics		
				143	Handheld based spot checking with Aadhaar database		
				144	All the parameters of Biometric Devices for Authentication should be as per certification of UIDAI as per latest STQC Scheme for certification of UIDAI Biometric Devices (Authentication)		
				P. Kiosk Module			
				145	RFID Pass renewal through standalone remote kiosk		
				146	Ability to make payment using kiosk		
				147	Provision to update & renew card using kiosk		
				148	Provision to spit slip of acknowledgement		
				149	Provision to remote health monitor the kiosk		
				150	Provision for information dispersal through kiosk		

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				Q. Equipment & Asset Tracking Module			
				151	Provision to get real-time visibility of assets & equipment in the port premises under surveillance		
				152	Provision to identify asset or equipment on a 2D or 3D layout		
				153	Provision to track assets & equipment over longer distances		
				154	Provision to track multiple assets with conflict resolution		
				155	Provision to search all, one, or many assets on a single screen		
				156	Provision to search by individual attribute or entire set of attribute		
				157	Provision to save search results on a CSV, Excel, PDF, Print, or Copy		
				158	Multi-paging of results		
				159	Dashboard of summary of assets & equipment and their status		
				160	Provision to add, delete, edit assets & equipment		
				161	Provision to add unlimited features to an asset or equipment		
				162	Provision for bulk import & export		
				163	Provision to assign assets to department, person, role, etc.		

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				164	Provision for individual user to login and check the status of the assets assigned to them																											
				165	Provision to request for asset assignment, return, repair, etc.																											
				166	Provision of Comprehensive asset & equipment lifecycle management																											
R. Image Processing																																
				167	Offline comparison of man, material images captured by cameras																											
				168	Alerts when images are not consistent																											
				169	Comparative results and anomaly reports																											
2. Database																																
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S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment				
				6	The database should be highly scalable and should sustain incremental & peak loads over the operation period			
				7	Minimum 300 concurrent user connections support			
				8	Performance should not degrade with significant incremental data each day			
				9	Should be able to support both Windows & Linux			
				10	Should support audit trail and policy compliance of sensitive data			
				11	Should support periodic & occasion backup and restore without having to hold the operations			
				12	Both incremental & full back up to be supported			
				13	Should have inbuilt alert mechanism to warn potential issues			
				14	Crash recover mechanisms to be supported.			
				15	Should be able to distribute data onto physical storage devices for record keeping			
				16	Should support offline DB setup and quick search for record keeping			
				17	Relational Database Management System			
					Make: MySQL/ MSSQL/ Oracle/ Sybase/ PostgreSQL			
				3. RFID HF reader				

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment			
				Minimum specification/ functionality required	Compliance	Remarks	
				Operating frequency	13.56 Mhz		
				Connectivity/ Communication	Ethernet, PROFINET/ Modbus/TCP		
				Read range	Min. 2-3"		
				Support	Supports multiple technologies (standard iCLASS, MIFARE and MIFARE DESFire EV1)		
				Protocols/ Standards	ISO 15693, ISO 18000-3, ISO 14443 Type A/B		
				Operating temperature	-35°C to 65°C		
				Humidity	5-95% Non-condensing		
				Indications	Buzzer, LED indications for access granted, access denied, etc.		
				Regulations	CE/ FCC/ UL/ RoHS		
				Power	5-16 V DC, PoE		
				Features	<ul style="list-style-type: none"> - Encrypted data transfer between card and reader - Should have latest authentication, communication and security standards/ protocols - 802.1X authentication 		

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment				
				Protection	IP 65			
				Make	Make: HID/ Bosch/ Schneider Electric/ Siemens/ Lenel			
				4. RFID UHF reader				
				Minimum specification/ functionality required			Compliance	Remarks
				Operating frequency	860-960 MHz			
				Connectivity/ Communication	Ethernet			
				Connectivity options	TCP/IP, Wiegand, RS232/485			
				Read range	5-12 meters, Min. 80-100 cards/ second			
				Antenna type	Inbuilt, Circular Polarization Antenna			
				External control	2 × GPO and 2 × GPI			
				Protocols/ Standards	ISO18000-6C, EPC UHF Class 1 Gen 2, Dense reader mode			
				Protection	IP 68 else, if lesser rating like IP 52/ 53, then to be supplied with proper protection casing for protection against dust and water			
				Operating temperature	-35°C to 65°C			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment				
				Humidity	5-95% Non-condensing			
				Power	12 Volt DC supply, POE			
				Indications	Buzzer, LED indications for access granted, access denied, etc.			
				Regulations	CE/ FCC/ UL/ RoHS			
				Support	Should support: - Industrial protocols like PROFIBUS/ PROFINET/ TCP/IP/ EtherNet/IP			
				Make	Make: ThingMagic/ Convergence Systems Ltd./ Impinj/ Feig			
				5. UHF RFID card				
				Minimum specification/ functionality required			Compliance	Remarks
				Protocols/ standards	EPC Class1 Gen2, ISO 18000-6C, ISO/IEC-7810-2002 compliant			
				Frequency	860 - 960 MHz			
				Read range	Between 2 to 10 meters			
				Memory	512 bit user memory			
				Dimension	As per ISO standards			
				Temperature	-20 °C to 60 °C			
				Humidity	98% non-condensing			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment				
				Features	Data retention: 100,000 cycles			
					Card should support secure authentication methods and protocols, latest cryptographic standards			
					Card shall be interoperable, based on open standards and not subject to any patents/ proprietary standards			
					Waterproof, Dust proof, IP 68			
					White printable surface, external ID number, should be compatible to direct to card printing and thermal printing			
					Data retention	Minimum 10 years		
					Make	Make: HID/ Bosch/ Coresonant/ Schneider Electric/ Seimens		
				6. HF RFID card				
				Minimum specification/ functionality required		Compliance	Remarks	
				Protocols	ISO 15693 for tracking, ISO/IEC 14443A and ISO/IEC 14443 for MiFARE and ISO 18000-3			
				Frequency	Operating frequency - 13.56 Mhz			
				Read range	Between 3-12"			
				Memory	Minimum 1024 bits of memory			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment			
				Dimension	As per ISO standards		
				Temperature	Operating Temperature: Between -20 to +70 degrees Celsius		
				Humidity	Humidity: 5% to 95% (non-condensing)		
				Features	Card should support secure authentication methods and protocols, latest cryptographic standards		
					Card shall be interoperable, based on open standards and not subject to any patents/ proprietary standards		
					Waterproof, Dust proof, IP 68		
					White printable surface, external ID number, should be compatible to direct to card printing and thermal printing		
				Data retention	Minimum 10 years		
				Make	Make: HID/ Bosch/ Coresonant/ Schneider Electric/ Seimens		
				7. Handheld Terminal			
				Minimum specification/ functionality required		Compliance	Remarks
				Operations: Integrated operations for both HF & UHF operations			
				Read Range : HF - min. 5 cms, UHF - min. 75-100 cms			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment		
				Read Rate : Min 50 tags / second		
				Protocol: ISO 15693, ISO18000-6C, EPC UHF Class 1 Gen 2 with optional Dense Reader Mode (Class 3 Gen 2 compliant)		
				Antenna: Circularly polarized		
				User Interface – Input: QWERTY keyboard, Touch Screen, Trigger Button		
				User Interface – Output: LCD, LEDs, Buzzer		
				Connectivity : Wi-Fi (802.11 b/g), USB, GPRS, Ethernet, Bluetooth		
				Memory slot: SD Card, Standard SD and SDHC		
				Battery: Lithium Polymer 2200 mAh or higher battery pack (Rechargeable) with battery charger kit		
				Weight : Maximum 1 Kg		
				IP: IP 54		
				Make: ThingMagic/ Convergence Systems Ltd./ Impinj/ Feig		
				8. Smartcard printer		
				Minimum specification/ functionality required	Compliance	Remarks
				Printing specifications : Direct-To-Card printer with Dual-sided printing		
				Features : a. 100 card feeder		

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment			
				b. 30 card capacity output hopper			
				c. Single card feed mode			
				d. LCD control display			
				e. 300 dpi print resolution			
				f. Should support the card size being offered as part of the project along with other standard industry card sizes			
				Encoding module for contactless cards: MIFARE, DESFire, iCLASS/ iCLASS SE, ISO7816, ISO14443 A/B			
				Read/ Write module for contactless cards: MIFARE, DESFire, iCLASS/ iCLASS SE, ISO7816, ISO14443 A/B			
				Interfaces : Bidirectional USB 2.0 high speed or above & Ethernet			
				Color printing: Monochrome & Full Colour			
				Environmental Specifications : Printer should withstand high level of humidity and salty conditions			
				Print speed : Minimum 150 cards per hour			
				Approvals/ Certifications: As per applicable Indian Standards			
				Cleaning Kit: Should be included/ integrated by default			
				Accessories: Should be supplied with all accessories like Printer driver CD, USB cable, power cable (Indian)			
				Make: Samsung/ Zebra/ HP			

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment		
				9. RFID Reader/ Writer		
				Minimum specification/ functionality required		Compliance
				Protocol/ Standard : Support EPCglobal Gen 2 (ISO 18000-6C) with Anti-Collision and DRM		Remarks
				Frequency: 860 to 960 MHz		
				Connectivity: USB connectivity for Laptop/ Desktop		
				Read Rate: Up to 50 tags/second		
				Read Distance: Up to 3 ft depending on tag sensitivity and orientation		
				Make: Feig/ Impinj/ ThingMagic		
				10.Data Centre and Disaster Recovery Centre		
				Minimum specification/ functionality required		Compliance
				Modular design		Remarks
				Scalable based on future requirements		
				Should have appropriate racks for housing PACS servers, switches, storage devices with provision to scale upto a minimum of 25% of the present project infrastructure capacity		

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment			
				Sufficient Air condition, dust free environment and fire detection and suppression			
				Temperature and Humidity sensors			
				Connectivity & structured cabling			
				Fixtures such as plumbing and lighting as required			
				Security cameras, card readers, restricted and controlled access			
				Adequate redundancy measures for equipment, power, data, etc.			
				Partitioning as required			
				False ceiling as required			
				Fire rated doors and paintings			
				11.Port Server			
				Minimum specification/ functionality required		Compliance	Remarks
				Description	High availability server solution with single socket 8 core or higher		
				Processor	Intel Xeon processor E5-2620v4,2.1 GHz, 15MB Cache (per processor), Intel Hyper-threading technology		
				Memory	128 GB Memory, expandable to 256 GB		

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment				
				Drive bays	8* 2.5" SAS Drive bay hot pluggable with complete redundancy			
				Hard drives	2*1.2 TB 10K RPM SAS Disks. Should be redundant and should support 200GB SSD for future expansion			
				Optical Drive	DVD-RW			
				Expansion slots	Built in 2* PCI-express – Should be redundant, Hot pluggable			
				Graphics	One VGA port			
				Network	Usable 2 X 10/100/1000 Ethernet ports. Both ports should be redundant			
				I/O Ports& Connectors	Pluggable. 1* Active service network modem, 1*10/100 Management port 4 USB port, 2* 9 Pin serial port			
				Input device	USB or PS2 Keyboard and mouse			
				Power Supply	Hot plug and redundant power supply (230V @ 50Hz) unit			
				Power Cord	230 V @50Hz, Indian power cords to be supplied			
				Operating System	Microsoft windows 2008 or latest (Should be able to install in the same machine quoted). Pre-installed from OEM			
				Software	System management software to monitor system health at local console and over network.			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment				
				Other requirements	The server should have hardened drivers for OS and protect the system from transient errors.			
					The server should offer minimum 99.999%			
					Should be able to install Microsoft windows, Linux, VM Ware on the same machine quoted/supplied			
					Server should mandatorily be able to connect to all leading external storage seamlessly like IBM, HP, EMC, Netapp, Hitachi			
					Scope includes supply & installation			
					Give compliance statement for the above specifications.			
					Bidder should attach the OEM technical Literature of the proposed model with clear indication of compliance to the technical sepecifications			
					Bidder should furnish all necessary part codes including service components from OEM's (Part codes should be from OEM)			
				Support Services	Direct problem call logging with manufacturer			
					24/7 support services directly from manufacturer			
				Make	IBM/ DELL/ HP/ STRATUS/ LENOVO			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment																																										
				<p>12.IP Camera – Gates</p> <table border="1"> <thead> <tr> <th data-bbox="848 550 1720 630">Minimum specification/ functionality required</th> <th data-bbox="1720 550 1848 630">Compliance</th> <th data-bbox="1848 550 1960 630">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="848 630 1720 678">Camera type : Fixed Bullet IP Camera</td> <td data-bbox="1720 630 1848 678"></td> <td data-bbox="1848 630 1960 678"></td> </tr> <tr> <td data-bbox="848 678 1720 726">Image sensors : 1 / 2.8 “ mm progressive scan CMOS</td> <td data-bbox="1720 678 1848 726"></td> <td data-bbox="1848 678 1960 726"></td> </tr> <tr> <td data-bbox="848 726 1720 774">Resolution : 2 Megapixel-60 fps in 1920 x 1080</td> <td data-bbox="1720 726 1848 774"></td> <td data-bbox="1848 726 1960 774"></td> </tr> <tr> <td data-bbox="848 774 1720 821">Lens: Varifocal, f = 2.8 - 10mm power zoom lens,F1.2-1.6</td> <td data-bbox="1720 774 1848 821"></td> <td data-bbox="1848 774 1960 821"></td> </tr> <tr> <td data-bbox="848 821 1720 901">Day/night : Day and Night IR cut filter. Should give clear images/ videos in very low light conditions</td> <td data-bbox="1720 821 1848 901"></td> <td data-bbox="1848 821 1960 901"></td> </tr> <tr> <td data-bbox="848 901 1720 949">Light : 0.05 lux color and 0 lux with built-in IR</td> <td data-bbox="1720 901 1848 949"></td> <td data-bbox="1848 901 1960 949"></td> </tr> <tr> <td data-bbox="848 949 1720 997">IR distance : Built-in IR Light up to 30m</td> <td data-bbox="1720 949 1848 997"></td> <td data-bbox="1848 949 1960 997"></td> </tr> <tr> <td data-bbox="848 997 1720 1077">Video compression & streaming : H.264 (with High Profile support) / MJPEG/ MPEG-4</td> <td data-bbox="1720 997 1848 1077"></td> <td data-bbox="1848 997 1960 1077"></td> </tr> <tr> <td data-bbox="848 1077 1720 1125">WDR : 100dB</td> <td data-bbox="1720 1077 1848 1125"></td> <td data-bbox="1848 1077 1960 1125"></td> </tr> <tr> <td data-bbox="848 1125 1720 1173">Card slot : MicroSD, 32 GB card to be supplied</td> <td data-bbox="1720 1125 1848 1173"></td> <td data-bbox="1848 1125 1960 1173"></td> </tr> <tr> <td data-bbox="848 1173 1720 1220">Audio : 2-way audio with microphone input</td> <td data-bbox="1720 1173 1848 1220"></td> <td data-bbox="1848 1173 1960 1220"></td> </tr> <tr> <td data-bbox="848 1220 1720 1268">Alarm : Alarm Input and alarm output</td> <td data-bbox="1720 1220 1848 1268"></td> <td data-bbox="1848 1220 1960 1268"></td> </tr> <tr> <td data-bbox="848 1268 1720 1316">Power : 12 VDC ± 10%, PoE based on IEEE standards (802.3af)</td> <td data-bbox="1720 1268 1848 1316"></td> <td data-bbox="1848 1268 1960 1316"></td> </tr> </tbody> </table>	Minimum specification/ functionality required	Compliance	Remarks	Camera type : Fixed Bullet IP Camera			Image sensors : 1 / 2.8 “ mm progressive scan CMOS			Resolution : 2 Megapixel-60 fps in 1920 x 1080			Lens: Varifocal, f = 2.8 - 10mm power zoom lens,F1.2-1.6			Day/night : Day and Night IR cut filter. Should give clear images/ videos in very low light conditions			Light : 0.05 lux color and 0 lux with built-in IR			IR distance : Built-in IR Light up to 30m			Video compression & streaming : H.264 (with High Profile support) / MJPEG/ MPEG-4			WDR : 100dB			Card slot : MicroSD, 32 GB card to be supplied			Audio : 2-way audio with microphone input			Alarm : Alarm Input and alarm output			Power : 12 VDC ± 10%, PoE based on IEEE standards (802.3af)		
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S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment																														
				Mounting : Suitable for Pole and Wall mounting in Lanes																														
				Recording software: To be included																														
				Support: ONVIF & IPv6																														
				Compatibility: Should support open API supported by other Network Video Recording softwares																														
				Management: Through web interface & multi-camera management applications																														
				Make: Axis/ Pelco/ Bosch/ Panasonic																														
				13.Camera - Registration counter																														
				<table border="1"> <thead> <tr> <th data-bbox="840 895 1720 986">Minimum specification/ functionality required</th> <th data-bbox="1720 895 1848 986">Compliance</th> <th data-bbox="1848 895 1966 986">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="840 986 1720 1034">5 megapixel or above, CMOS</td> <td data-bbox="1720 986 1848 1034"></td> <td data-bbox="1848 986 1966 1034"></td> </tr> <tr> <td data-bbox="840 1034 1720 1082">Resolution: 1920x1080</td> <td data-bbox="1720 1034 1848 1082"></td> <td data-bbox="1848 1034 1966 1082"></td> </tr> <tr> <td data-bbox="840 1082 1720 1129">Auto focus lens system, Built-in flash</td> <td data-bbox="1720 1082 1848 1129"></td> <td data-bbox="1848 1082 1966 1129"></td> </tr> <tr> <td data-bbox="840 1129 1720 1177">Color depth: 24 bit true color</td> <td data-bbox="1720 1129 1848 1177"></td> <td data-bbox="1848 1129 1966 1177"></td> </tr> <tr> <td data-bbox="840 1177 1720 1225">Video capture: HD quality</td> <td data-bbox="1720 1177 1848 1225"></td> <td data-bbox="1848 1177 1966 1225"></td> </tr> <tr> <td data-bbox="840 1225 1720 1273">Built-in microphone</td> <td data-bbox="1720 1225 1848 1273"></td> <td data-bbox="1848 1225 1966 1273"></td> </tr> <tr> <td data-bbox="840 1273 1720 1337">Upto 30 fps, H.264/ MPEG-4 Advanced Video Coding</td> <td data-bbox="1720 1273 1848 1337"></td> <td data-bbox="1848 1273 1966 1337"></td> </tr> <tr> <td data-bbox="840 1337 1720 1374">High speed USB</td> <td data-bbox="1720 1337 1848 1374"></td> <td data-bbox="1848 1337 1966 1374"></td> </tr> </tbody> </table>	Minimum specification/ functionality required	Compliance	Remarks	5 megapixel or above, CMOS			Resolution: 1920x1080			Auto focus lens system, Built-in flash			Color depth: 24 bit true color			Video capture: HD quality			Built-in microphone			Upto 30 fps, H.264/ MPEG-4 Advanced Video Coding			High speed USB					
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S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment				
				Make: Sony/ Canon/ Nikon/ Olympus				
				14.Camera - Pedestrian lane				
				Minimum specification/ functionality required			Compliance	Remarks
				360 degree Camera for Pedestrian lanes				
				Image Sensor	2-Megapixel progressive scan CMOS Sensor, 360° overview and panoramic views			
				Frame rate	Minimum 25 fps @ 1920x1080			
				Lens	Varifocal, P-iris Lens			
				Day and night	Removable IR-cut Filter for Day & Night Function, Built-in IR Illuminators, Effective up to minimum 30 Meters			
				Video compression & streaming	H.264/MJPEG/MPEG-4			
					WDR for Visibility in bright and dark environments			
				Audio streaming	Two-way, full duplex, Echo cancellation and noise reduction			
				Audio input & output	Built-in microphone & speaker			
				Casing	IP66 1K10 vandal resistant enclosure. Outdoor weatherproof enclosure with OEM mounting			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment						
					arrangements					
				Power	PoE, 12VDC(±10%)					
				15.PC - For Lanes & Counters						
				Minimum specification/ functionality required			Compliance	Remarks		
				Processor : Intel Core i5 3.5 GHz latest generation processor, minimum 6MB L3 Cache						
				HD Graphics & 10/100/1000 Network : Integrated						
				Memory : 4GB compatible RAM or higher. Should be expandable to 64 GB depending on memory type						
				Hard Disk Drive : 1 TB 7200 rpm SATA HDD						
				Monitor : 47 cm (18.5 inch) TFT/LED Digital Colour Monitor TCO-05 certified.						
				Keyboard : 104 Keys or Better						
				Mouse : Optical Scroll Mouse						
				Should have: - 6 USB Ports (with at least 1 in front, minimum 2 USB 3.0) - Audio port for microphone and headphone - Minimum 2 LAN ports - Minimum 2 PCI Express slots						

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment		
				DVD Drive : DVD R/W		
				Operating System : Windows 10 Professional (64 bit) preloaded with media.		
				Make: Dell/ HP/ Lenovo/ IBM		
				16.Boom Barrier		
				Minimum specification/ functionality required		Compliance
				Application : Outdoor		Remarks
				Barrier length: 3-6 mtrs		
				Opening/ closing time: Between 0.3-4 secs		
				Voltage: 80-264 VAC, 50/ 60 hz		
				Housing: All housing & internal parts should be with rust & corrosion free metals with suitable Epoxy coating as applicable		
				Enclosure rating: IP 54		
				Temperature: -22°F to +122°F		

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment		
				Features: - Integrated feature to detect vehicle presence - Boom with reflective strips - Access control operation - Automatic & manual through push button - When struck by Trailer / other equipment, barrier should have the feature to move/swing to prevent damage - Shall function with the Access control solution implemented in the premises, network, etc		
				Compliance: CE/ UL		
				Make: Magnetic AutoControl/ Elka/ Automatic Systems/ Gunnebo		
				17.Flap Barrier		
				Minimum specification/ functionality required	Compliance	Remarks
				Application: Indoor/ Outdoor		
				Throughput: Minimum 25-30 people per minute		
				Traffic flow: Bi-directional		
				Width: Standard 520mm & Wide 900mm		
				Flaps: Retractable obstacles		
				IP: 32 and/ or 54		
				MCBF: Minimum 4-5 million cycles		

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment			
				Features: - Should be fully functional, compatible and integrable with 3rd party RFID card readers and RFID solutions - Should be fully functional and compatible with 3rd party RFID based Access Control System applications - Should prevent Tailgating, Piggybacking, Pass back through alarms - Bi-directional motorised operation - Adjustable speed - Automatic/ Configurable opening in the event of power failure and emergencies - All Housing and internal parts should be rust & corrosion free metals or alloys of high strength or with suitable epoxy coating			
				Make: Magnetic AutoControl/ Elka/ Automatic Systems/ Gunnebo			
				18.55" LED display			
				Minimum specification/ functionality required	Compliance	Remarks	
				Type : LED, size 55" (minimum) Professional display			
				Display Resolution : 1920 x 1080p (min) (FHD resolution)			

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment		
				Connectivity : 1 x HDMI & 1 x USB		
				Screen Size (Diagonal) : 138 cms Minimum		
				Refresh Rate : 50Hz-100Hz		
				Make: Sony/ Samsung/ Panasonic/ LG		
				19.32" LED display		
				Minimum specification/ functionality required	Compliance	Remarks
				Type : LED, size 32" (minimum) Professional display		
				Display Resolution : 1920 x 1080p (min) (FHD resolution)		
				Connectivity : 1 x HDMI & 1 x USB		
				Screen Size (Diagonal) : 80 cms Minimum		
				Refresh Rate : 50Hz-100Hz		
				Make: Sony/ Samsung/ Panasonic/ LG		
				20.UPS		
				Minimum specification/ functionality required	Compliance	Remarks
				Design : Online UPS (2KVA) with batteries		

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment																																											
				Full Load Backup Time : Min. 60 minutes A.C Incoming supply 160-270 V, Single Phase,50 Hz +/-2.5 Hz. During intermittent interruption Cycle Continuously supplying power Make: DB/ APC/ Microtek/ TataLibert																																											
				21.Network Switch <table border="1" data-bbox="846 774 1982 1316"> <thead> <tr> <th colspan="2" data-bbox="846 774 1720 853">Minimum specification/ functionality required</th> <th data-bbox="1720 774 1848 853">Compliance</th> <th data-bbox="1848 774 1982 853">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="846 853 1075 893">Ports</td> <td data-bbox="1075 853 1720 893">16 Gigabit Ports, 4 SFP slots, 4 PoE/PoE+ Ports</td> <td data-bbox="1720 853 1848 893"></td> <td data-bbox="1848 853 1982 893"></td> </tr> <tr> <td data-bbox="846 893 1075 933">VLANs</td> <td data-bbox="1075 893 1720 933">255</td> <td data-bbox="1720 893 1848 933"></td> <td data-bbox="1848 893 1982 933"></td> </tr> <tr> <td data-bbox="846 933 1075 973">VLAN IDs</td> <td data-bbox="1075 933 1720 973">1-4096</td> <td data-bbox="1720 933 1848 973"></td> <td data-bbox="1848 933 1982 973"></td> </tr> <tr> <td data-bbox="846 973 1075 1013">MAC table size</td> <td data-bbox="1075 973 1720 1013">8K</td> <td data-bbox="1720 973 1848 1013"></td> <td data-bbox="1848 973 1982 1013"></td> </tr> <tr> <td data-bbox="846 1013 1075 1053">Console Port</td> <td data-bbox="1075 1013 1720 1053">RS232</td> <td data-bbox="1720 1013 1848 1053"></td> <td data-bbox="1848 1013 1982 1053"></td> </tr> <tr> <td data-bbox="846 1053 1075 1141">Operating temperature</td> <td data-bbox="1075 1053 1720 1141">-40° C to +85° C</td> <td data-bbox="1720 1053 1848 1141"></td> <td data-bbox="1848 1053 1982 1141"></td> </tr> <tr> <td data-bbox="846 1141 1075 1189">Humidity</td> <td data-bbox="1075 1141 1720 1189">5 to 95% (non-condensing)</td> <td data-bbox="1720 1141 1848 1189"></td> <td data-bbox="1848 1141 1982 1189"></td> </tr> <tr> <td data-bbox="846 1189 1075 1236">MTBF</td> <td data-bbox="1075 1189 1720 1236">> 2,00,000 hours</td> <td data-bbox="1720 1189 1848 1236"></td> <td data-bbox="1848 1189 1982 1236"></td> </tr> <tr> <td data-bbox="846 1236 1075 1316">Power requirements</td> <td data-bbox="1075 1236 1720 1316">24 V DC, redundant dual inputs</td> <td data-bbox="1720 1236 1848 1316"></td> <td data-bbox="1848 1236 1982 1316"></td> </tr> </tbody> </table>				Minimum specification/ functionality required		Compliance	Remarks	Ports	16 Gigabit Ports, 4 SFP slots, 4 PoE/PoE+ Ports			VLANs	255			VLAN IDs	1-4096			MAC table size	8K			Console Port	RS232			Operating temperature	-40° C to +85° C			Humidity	5 to 95% (non-condensing)			MTBF	> 2,00,000 hours			Power requirements	24 V DC, redundant dual inputs		
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				Management tools	Web based, Telnet, CLI management, RMON, Port mirroring			
				Security	ACL, SSH, SSL, MAC based port security, VLAN, RADIUS, TACACS+, SNMP			
				Protocols	HTTP, HTTPS, TFTP, SFTP, SNMP, IGMP			
				Industrial protocols	EtherNet/IP, Modbus/TCP, Profinetv2			
				Redundancy protocol	STP, RSTP, MSTP, Link Aggregation			
				Protection	IP 40			
				Mounting	DIN-rail/ Panel/ Rack			
				IPv6 support and features	Should support IPv6 based configurations			
					IPv6 addressing			
					Ping, Traceroute, VTY, SSH, TFTP, SNMP, HTTP, HTTPS			
					Access Control Lists			
				Minimum L2 features for the L2 switches	Support following Ethernet Standards : 802.3, 802.3x (flow control), 802.3ad (LACP), 802.1p, 802.1q			
					Support loop avoidance mechanism like 802.1d (spanning-tree), 802.1s (MSTP), 802.1w(RSTP), PVST or PVST+			
					Should have mechanism to detect the failures of uplink port			

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment				
					Support Per port enabling/disabling of unknown unicast/ multicast flooding			
					Support Layer 2 Multicast Features like IGMPv1, v2 and v3			
					Should have REP or equivalent as ring convergence mechanism			
				Minimum L3 features for the L3 switches	Support Static Routing			
					Support Inter Vlan Routing			
					Support Routing Protocols like RIPv1/ RIPv2/ OSPF/ EIGRP/ IS-IS/ BGP 4			
					Support Policy Based Routing			
					Support multicast features like PIM Sparse mode(PIM-SM), Dense Mode(PIM-DM), Sparse-Dense Mode			
					The switch should support DHCP with DHCP option 82 for data insertion and pass through			
					Support HSRP or equivalent features			
					Support RIPng/ OSPFv3/ EIGRP for IPv6			
			Make	Hirsehmann/ Cisco/ Ruggedcom/ Garrettcom/ Juniper/ HP/ Extreme networks/ Perle/ Advantech/ Schneider/ Mootek/ Moxa/ Molex				

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment																													
				<p>22. Wireless Network</p> <table border="1" data-bbox="846 510 1982 1383"> <thead> <tr> <th colspan="2" data-bbox="846 510 1720 590">Minimum specification/ functionality required</th> <th data-bbox="1720 510 1848 590">Compliance</th> <th data-bbox="1848 510 1982 590">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="846 590 1086 1383" rowspan="8">Design Specifications</td> <td data-bbox="1086 590 1720 790">The wireless solution shall consist of a number of Wireless devices (including Indoor, Outdoor, Branch and Mesh Access Points) operating as a solid network under a common network management system</td> <td data-bbox="1720 590 1848 790"></td> <td data-bbox="1848 590 1982 790"></td> </tr> <tr> <td data-bbox="1086 790 1720 869">Access point should support 802.11bgn and 802.11an standards</td> <td data-bbox="1720 790 1848 869"></td> <td data-bbox="1848 790 1982 869"></td> </tr> <tr> <td data-bbox="1086 869 1720 981">Access point should support Inbuilt Spectrum analysis feature to troubleshoot and analyze RF problems remotely</td> <td data-bbox="1720 869 1848 981"></td> <td data-bbox="1848 869 1982 981"></td> </tr> <tr> <td data-bbox="1086 981 1720 1101">Access points should support feature to detect, classify and mitigate the non-Wi-Fi interference</td> <td data-bbox="1720 981 1848 1101"></td> <td data-bbox="1848 981 1982 1101"></td> </tr> <tr> <td data-bbox="1086 1101 1720 1220">Access point should support selective beam forming feature to improve performance of legacy 802.11abg clients</td> <td data-bbox="1720 1101 1848 1220"></td> <td data-bbox="1848 1101 1982 1220"></td> </tr> <tr> <td data-bbox="1086 1220 1720 1300">Each Wireless Access Node shall have the following capabilities :</td> <td data-bbox="1720 1220 1848 1300"></td> <td data-bbox="1848 1220 1982 1300"></td> </tr> <tr> <td data-bbox="1086 1300 1720 1383">Wireless access and at least 2 backhauls in separate radios</td> <td data-bbox="1720 1300 1848 1383"></td> <td data-bbox="1848 1300 1982 1383"></td> </tr> </tbody> </table>				Minimum specification/ functionality required		Compliance	Remarks	Design Specifications	The wireless solution shall consist of a number of Wireless devices (including Indoor, Outdoor, Branch and Mesh Access Points) operating as a solid network under a common network management system			Access point should support 802.11bgn and 802.11an standards			Access point should support Inbuilt Spectrum analysis feature to troubleshoot and analyze RF problems remotely			Access points should support feature to detect, classify and mitigate the non-Wi-Fi interference			Access point should support selective beam forming feature to improve performance of legacy 802.11abg clients			Each Wireless Access Node shall have the following capabilities :			Wireless access and at least 2 backhauls in separate radios		
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	Each Wireless Access Node shall have the following capabilities :																																
	Wireless access and at least 2 backhauls in separate radios																																

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment					
					Capability to provide wireless backhaul to a wired LAN				
					The wireless system shall support multiple services like Data, Voice over IP, Video, and Mobility				
					The wireless network should support the following applications: Plant Extension, Cell site Backhaul				
					The network design should minimize the number of fiber/wired Ethernet connections required for backhaul at required throughput level				
					The total wireless system capacity shall increase as more nodes are added				
					The equipment shall support automatic over the air rate adjustment depending on signal strength and link conditions				
					Support Multiple Receiving Antenna on the access side for better Reception				
					In order to allow optimal channel selection, access points shall detect and measure the signal strength of other Access Points in the area				

S. No.	RFP volume and clause	Existing clause	Change type (New/ Modify/ Delete)	Revised clause/ Amendment					
					System should support 512 SSID's and the ability to choose at least 16 SSID's per Access points				
					Each access radio shall be capable of supporting different security profiles on a per SSID basis				
					Multiple Authentication Servers should be supported				
					The design should support the centralized architecture with Wireless LAN controller managed Access points				
				Backhaul Specifications	The Wireless Backhaul shall operate in 5Ghz				
					The equipment shall support integrated wireless backhaul with a capability of delivering at least 20 Megabits/ TCP/ IP throughput for user traffic per backhaul link at 1200 feet				
					Support Encrypted and authenticated connectivity between all backhaul components				
					Wireless Access Nodes shall provide a 'wired' interface for connection to local area networks or backhaul of local clients				

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment					
					Wireless access node shall provide Power Over Ethernet through the wired interface to power other equipment				
					The following interface options shall be available;10/100/1000 Ethernet interface 1000 BaseFX single mode fiber interface				
				Management	Support for SNMP version 2 as well as 3				
					Web Graphical User Interface must support HTTPS				
					Support Single management solution for both Indoor and outdoor wireless Networks				
					Support for TACACS+ or RADIUS for authentication of users to the network				
					All management interfaces supported via Access Control Lists				
					The solution supports redundancy / fault tolerance				
					The network management system must scale to support in excess of 1000 managed elements				
					The network management systems must support automatic configuration download to the network elements				

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment				
					Historical alarm information must be archived by the network management system			
					The network management system must be capable maintaining logs for all management activity performed to all components of the mesh network			
					The network management system must support client/server capabilities with separate access levels and defined user portals			
					The network management system must support standard northbound interfaces			
					The network management system must be capable of alarm filtering to the northbound interface			
				Environmental and Electrical Specifications	Outdoor Equipment shall support powering from AC at 110- 240 VAC (50-60Hz) or 56VDC input			
					Equipment shall support POE			
					Equipment shall support pole, wall, and roof mounting options			
					Geographic orientation flexibility – tilt angle for pole, wall, and roof mounting units			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment			
					The equipment shall support up to 100 MPH sustained winds & 165 MPH wind gusts		
					The Access point shall be IP67 / NEMA4 rated for dust and water ingress		
					The Access point shall be rated for operation over an ambient temperature range of -40 F (-40 C) to +122 F (+ 50 degree Celsius)		
					Power consumption shall be less than 120 Watts meeting all safety specifications		
					Mounting of the unit cannot exceed 24 inches higher than the top of the light pole / structure		
23.CISF Cabins							
Minimum specification/ functionality required						Compliance	Remarks
Features							
<u>04'X06'X8.5'H</u>							
TUBELIGHT:1							
FAN: 1							
WINDOW:1: 3ftx3ft SERVICE WINDOW/(3ftx3ft)							
DOOR: 1 (6.5x3ft) WITH SHED (6 Inch)							
MCB: 1							

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment			
				MainSwitch : 1			
				ELECTRIC POINT: 5 amps. – 2			
				A.C POINT. 1			
				Cooler point ; 1			
				Exhaust fan ; 1			
				LCD/ PC provision;1			
				Chairs - 2			
				Seating space for two officials			
				BASE FRAME: 50x50mm square pipes. & cross members for nesting are used nesting are used 40x80, C'Channel /40x40 square pipes.18mm cement sheet mounted with vinyl flooring.			
				ROOF FRAME : M.S 18swg Corrugated sheet welded with M.S. frame Structure. Top inner ceiling decorated with 9mm particle board.			
				SIDE WALLS: M.S. frame work with square pipes, & wall thickness 50mm.			
				EXTERIOR WALL: 18swg M.S. bended sheet welded on M.S. frame.			
				INTERNAL WALL: 9MM particle board.			
				CORNER POST: Made of specially 50mm x 50mm square pipe.			
				DOOR: Frame work by tubular pipe of 40x20 external wall made by 18swg. M.S sheet & inner wall decorated by 4mm hardener board, with suitable looking arrangement.			

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment		
				INSULATION: 50 mm thick Glass Wool insulation shall be used for selected walls and 25mm thick Glass Wool insulation to be provided for roof.		
				ELECTRICAL: All wiring shall be concealed and shall be pvc insulated copper wires of ISI quality, gauge 1.5sqmm used for light, socket & 4sqmm for main incoming supply, 5amp plug with switches, & overhead light above the door and light.		
				PAINTS: All components are externally painted with single coat of Zinc phosphate & final coat of corrosion free HD paint		
				LEGS : 4 corner legs 4 inch		
				SHADE: 18swg M.S. sheet above the door with a depth of 6"		
				General requirement: Cabin should accommodate 2 persons easily and should be supplied with required furniture like table, Air Condition, lighting, last mile cabling, etc.		
				24.Unified Threat Management Device		
				Minimum specification/ functionality required	Compliance	Remarks
				Firewall throughput – 1gbps		
				Minimum Concurrent sessions – 40,000		
				New sessions per second – 3000		
				Must be a 64 bit hardware platform		

S. No.	RFP volume and clause	Existing clause	Change type (New/Modify/Delete)	Revised clause/ Amendment			
				Ethernet ports – 05			
				SFP (Mini GBIC) - 02			
				Features:			
				<ul style="list-style-type: none"> - Stateful inspection firewall - Identity based firewall - Intrusion prevention system - Gateway antivirus, antispymware and antispam - Web content filtering, application filtering, web application firewall, VPN - Group based control - Bandwidth management - Inbuilt on-appliance reporting with 250GB internal storage - High availability - Load balance - Monitoring and reporting - All licenses for 07 years - 24X7 support 			
				Certifications – ICSA lab/ IPSec/ Antivirus and Network IPS (Copy of certifications to be submitted)			