

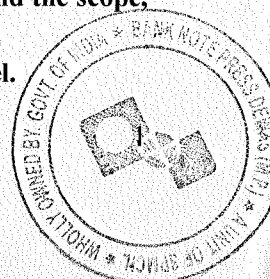
TECHINICAL SPECIFICATION AND SCOPE OF WORK
(SITCS OF SURVILLANCE AND SAFETY SYSTEM FOR TREASURY WAGONS)

1. INTRODUCTION

Bank Note Press, Dewas intends to install CCTV System, In-House Vehicle Tracking System (VTS) & Wired Fire Alarm System (FAS) in its treasury Vans (customized Railway Wagons). There are total 11 nos. of treasury vans which are used to transport high security materials and goods of national importance. Additionally, the materials are also transported using trucks and containers and also required VTS facility for the same. The proposed system shall run in power supply available in Railway Wagons, Transport vehicles. This is a turnkey project involving designing, engineering, supply, install, test, commission & CAMC. Bank Note Press, Dewas being a Security Sensitive institution of National Importance, the proposed system shall be fault tolerant and operational round the clock 24x7 basis. Wagons dimension is of length 70.2 feet, breadth is 9.5 feet and having 3 separate compartments, two for Security Personnel, one for Goods/Material. Power Source available in Wagon is 110v DC.

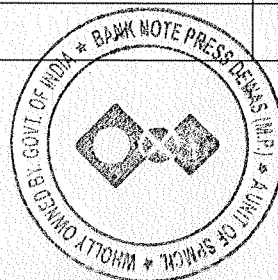
2. SCOPE, TECHNICAL REQUIREMENT & SPECIFICATION FOR CCTV System

- 2.1. The scope of work includes Design, supply, assembly, installation, testing of complete CCTV System in the treasury wagons.
- 2.2. Power source available in Treasury wagons is 110-volt DC. Supplier have to tap power supply from 110-volt DC source available in Railway Wagon.
- 2.3. Scope of work involve all Mechanical and Electrical work required for complete installation and commissioning of the system
- 2.4. CCTV system will be installed in customized Railway wagons. System (both DVR/NVR & camera) shall be fitted with a rugged case, which is ideal for high level vehicle surveillance solution. System shall have feature of -
 - 2.4.1. **Anti-shock and anti- vibration for steady image capture.**
 - 2.4.2. **Dual streams for local recording and wireless transmission.**
 - 2.4.3. **File protection technologies to enhance data reliability and data recovery for bumpy conditions (Train movement).**
 - 2.4.4. **CCTV Monitoring to be done from locally and shall have capability for remote monitoring from centralized command and controlled room of BNP. SIM/Data Connection required for the same would be provided by BNP.**
- 2.5. Mobile DVRs/NVR and CCTV Cameras to be installed at Treasury Van (Special Railway wagon).
- 2.6. No. of Treasury wagons – 11 Nos.
- 2.7. One set of system for each treasury van consisting of -
 - 2.7.1. Mobile DVR/NVR 8 Channel or more – 1 no.
 - 2.7.2. CCTV Camera with night vision feature– 4 Nos. (2 Dome & 2 Bullet)
 - 2.7.3. CCTV Monitor 21 inch or more – 1 Nos.
- 2.8. **The Complete system installed shall be plug n play type and can be removed and reinstall on the wagon as per requirement. The devices i.e. Camera, Screen, NVR will not be permanently fitted into the vehicle. Hence the solution design should be such that device mounting and unmounting from the vehicle (Wagon/ Truck) should be easy and quick.**
- 2.9. Supplier & offered system has to adhere to the Company IT Policy.
- 2.10. **Bidders are advised to visit the site before quoting in order to completely understand the scope, requirement & site condition before quoting.**
- 2.11. **The successful firm will have to give the escalation matrix for their service personnel.**



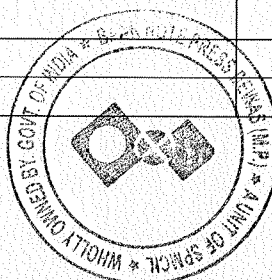
- 2.12. The System is required to be fully operational round the clock on 24 by 7 basis.
- 2.13. All cables (CAT6, Electric cable, Any Other Cable) shall have LSZH & Fire-retardant insulation material (cable jackets).
- 2.14. Technical Specifications:

Mobile DVR/NVR – 11 nos.			
Sl. No.	Parameter	Specifications	Compliance (YES/NO)
1	Model	*	
2	Make	Panasonic/Axis/Pelco/Bosch/Honeywell/Flir or equivalent	
3	No. of channels	8 channels or more for camera	
4	In-built facilities required	a) Vibration absorber with GPS & 4G/3G Connectivity	
5	Monitoring	On-line Local monitoring and Remotely from BNP Command and Control Room over 4G/3G	
6	Data Transfer	Data Transfer through Ethernet Port and wi-fi mode	
7	Recording	Continuous recording of CCTV video and events logs	
8	Recording duration	Up to 20 days	
9	Play back	Play back of the recorded videos	
10	Video Out	One video out port VGA/HDMI to display the live feed to monitors	
11	Network	Ethernet, 4G	
12	RAID Support	Yes. RAID 1	
13	Storage	Minimum 4TB+4TB in RAID I Mode	
14	Operating Temp	0 to 60°C	
15	Operating Humidity	10 to 90%	
16	Power Input	DC from vehicle by battery/UPS	
17	Connecting	Required connecting cables for connecting the Mobile DVR/NVR to the accessories.	
18	Video/Audio Compression	H.264/MPEG4/MJPEG or better	
19	Video recording resolution	Full HD.	
20	Recording Mode	General/schedule/alarm (Sensor trigger, speed, video loss, acceleration, temperature)	
21	Playback & Backup	Yes	
22	Playback Channel	1 CH by local playback, 1/4/8 channels by playback software	
23	Search Mode	Date/time, channel, Event	
24	Backup Mode	USB, HDD, Ethernet Port Network	
25	Certification	UL/EN, CE, BIS	
26	Warranty	3 years Onsite	



Bullet Cameras – 22 nos. (02 each for 11 treasury vans)			
Sl. No.	Parameter	Specifications	Compliance (YES/NO)
1	Model	*	
2	Make	Panasonic/Axis/Pelco/Bosch/Honeywell or equivalent	
3	Image Sensor	1/3" CMOS Progressive Scan or better	
4	Camera Type	Outdoor Bullet Fixed with night vision	
5	Resolution	Full HD or more	
6	Lens Type	Fixed 3mm	
7	Min. Illumination	Color: 0.01 Lux, 0 lux with IR	
8	S/N Ratio	≥ 50 db	
9	Power supply	DC12V (±10%)	
10	IR Feature	Yes, Inbuilt	
11	IR Distance	30 Mtr or more.	
12	IR cut filter	Yes, D/N switch	
13	WDR	120 dB or better	
14	On board Storage	Yes with 64 GB or more capacity memory card	
15	Operating	0°C to 60°C	
16	Rating	IP66 or better, vandal proof, lightening proof	
17	White balance	Auto	
18	Mounting	Wall mount	
19	Camera housing and fixture and	Housing & wall / ceiling mounting fixture and all other accessories required for fixing the camera at the designated location of the treasury van.	
20	Camera Type	Outdoor type installation	
21	Certification	UL/ EN, CE, BIS	
22	Onsite warranty	3 Years	

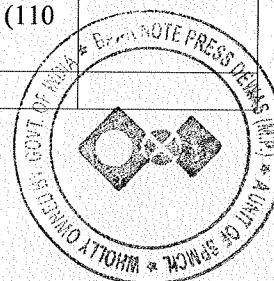
Dome Cameras – 22 nos. (02 each for 11 treasury vans)			
Sl. No.	Parameter	Specifications	Compliance (YES/NO)
1	Model	*	
2	Make	Panasonic/Axis/Pelco/Bosch/Honeywell or equivalent	
3	Image Sensor	1/3" CMOS Progressive Scan or better	
4	Camera Type	Dome Type Outdoor Fixed with night vision	
5	Resolution	Full HD or more	
6	Lens Type	Fixed 3mm	
7	Min. Illumination	Color: 0.01 Lux, 0 lux with IR	
8	S/N Ratio	≥ 50 db	
9	Power supply	DC12V (±10%)	
10	IR Feature	Yes, Inbuilt	



11	IR Distance	30 Mtr or more.	
12	IR cut filter	Yes, D/N switch	
13	WDR	120 dB or better	
14	On board Storage	Yes with 64 GB or more capacity memory card	
15	Operating	0°C to 60°C	
16	Rating	IP66 or better, vandal proof, lightening proof	
17	White balance	Auto	
18	Mounting	Wall mount	
19	Camera housing and fixture and accessories	Housing & wall / ceiling mounting fixture and all other accessories required for fixing the camera at the designated location of the treasury van.	
20	Camera Type	Outdoor type installation	
21	Certification	UL/ EN, CE, BIS	
22	Onsite warranty	3 Years	

LED Monitor 11 nos. (01 each for 11 treasury vans)			
Sl. No.	Parameter	Specifications	Compliance (YES/NO)
1	Offered Make and Model	*	
2	Display Panel Type	LED Full HD	
3	Screen Size	21 inch or more (measured diagonally)	
4	Input	VGA/HDMI	
5	Accessories	Along with all mounting accessories and HDMI, VGA cable of suitable length cable required to connect with DVR/NVR.	
6	Mounting	Yes. On wall of TV	
7	Warranty	Onsite 3 years	

Online UPS of suitable capacity along with battery for 1-hour backup (01 each of 11 treasury vans/wagons)			
Sl. No.	Parameter	Specifications	Compliance (YES/NO)
1	Offered Make, Model and Capacity	*	
2	Operation	Input power supply will be available from primary source: Treasury Wagon DC supply (110 V DC)	
3	By-pass operation	Yes. Simply by a switch/push button	



4	Capacity	To run CCTV System, VTS Module, Fire Alarm System	
5	Battery	1-hour backup of complete Treasury Wagon surveillance and safety system. Suitable no. of battery supply for 1-hour back-up under scope of supplier.	
6	Make	APC/Numeric or equivalent	
8	Warranty	Onsite	

* "Made in China" BOM item are not acceptable. The bidder and OEM should provide undertaking for GFR restrictions on procurement under Rule 144 (xi) as per F.No. 6/18/2019/PPD Dt:23.07.2020.

3. SCOPE, TECHNICAL REQUIREMENT & SPECIFICATION FOR In-House Vehicle Tracking System (VTS)

3.1. Scope of work shall include but shall not restrict to the following:

3.1.1. BNP consignments monitoring system should be of latest, accurate, reliable vehicle tracking system. **The system shall be based on indigenous IRNSS (Indian Regional Navigation Satellite System) navigation system.** Apart from IRNSS it shall also support GPS navigation system. The solution should be workable with the same interchangeable devices for Railway Consignment (through wagons) as well as road consignments (Trucks / cars / vans / Trailers) involving GIS, IRNSS, GPS, GSM, GPRS/4G, SMS systems. The client server architecture should support at least 100 clients at a time without losing its effectiveness.

One central server should provide access to clients for viewing and monitoring based on the user level access restrictions granted upon each web user. The maps must be GIS map with additional option to align and track the vehicle using either Bhuwan Map, Google Maps or Map My India maps or any other vendor maps as per future requirement. Solution should have option to use GSM, GPRS, 4G, SMS, IRNSS, GPS using Satellite phone communication with server.

3.2. Purpose of the system consignment Monitoring System:

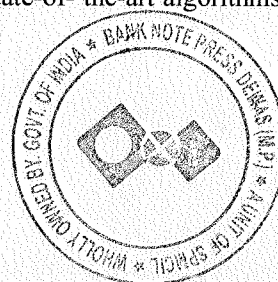
3.2.1. The Consignment monitoring system main objective is to keep track of highly sensitive national interest articles passage from BNP plant location to RBI centers/ Banks/ Any other Unit across the country and vice versa. The Consignment location (Nearest Landmark, Village, City, state) must be recorded in the server and available for monitoring by authorized clients on the map. The tracking of vehicles must be complete and on no accounts any drop-in tracking is allowed. There must be geo-fences and there must be alerts on passing each geo-fence and on reaching destinations to specified users automatically by the system. On deviation from specified route/ geo-fence warning and alerts must be passed on to specified levels of users automatically by the system. The emphasis is on updated maps and Continuous tracking record of the consignment at server under all circumstances by using GPS & GSM (GPRS/ 4G) & Sat-Phone

3.3. Power source available in Treasury wagons is 110-volt DC. Supplier have to tap power supply from 110volt DC source available in Railway Wagon.

3.4. Function Requirement:

3.4.1. Solution provided should be is a 3-Tier Architecture and Open Source Technology, Web- based scalable solution and offers information service for logistics visibility and collaboration involving GIS, IRNSS / GPS, and mobile communications like GSM / GPRS/4G, and Advanced web Technologies. Solution proposed shall be highly modular decision support system, using state-of- the-art algorithms with user-friendly graphical interfaces. Real Time Monitoring of:

- Current Position of vehicle/treasury vans on the map



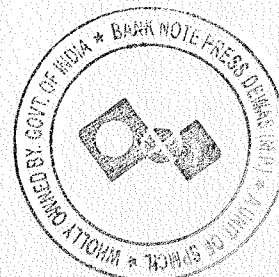
- See road information for current position of vehicle
- Track device group location on a map
- Live Track vehicle – page auto refreshes every 30 seconds to show where vehicle is
- Multiple tracking / display on pointer option (Distance / time / track angle base)
- Different legend for different state of vehicle
- Different legend/icon for different type of vehicle
- Summary report for the current or displayed Vehicle / Group
- Mark areas on map and get an SMS / email alerts when the vehicle enters or leaves the area
- View daily / cumulative reports on vehicle speed, stoppage times and area entry / exits
- Communication from device to control room and from control room to device
- Specific Communication from users to device for display / alarm.
- In case of Network non-availability, provision should be there to send emergency data through satellite phones by the GPS device automatically without any manual interference.

3.5. VTS (Vehicle Tracking System) Module or Device

- The module must be IRNSS, GPS, GSM (GPRS/4G), Sat-Phone enabled.
- The VTS device must be portable and lightweight.
- **The device will not be permanently fitted into the vehicle/treasury vans. Hence the device mounting and unmounting from the vehicle (Wagon/ Truck) should be easy and quick.**
- The device must have integrated antenna for positioning and data communication and allow easy installation and removal from vehicles / wagons.
- The device should be IP67 compliant.
- The device should be IRNSS, GPS and GSM based system for location and communication.
- Should have local storage for 24 hrs. to store data in case of non-availability of GSM coverage.
- The device should be mounted on vehicles, till the vehicle is on the device should use the Vehicle power. During vehicle engine off / power shut cases, it should have online internal chargeable battery for its functioning. The rechargeable battery should provide backup for 24 hours or more and get recharged on power source restoration automatically without manual intervention.
- Should have inbuilt GSM module to incorporate more than one GSM SIM card, if network of one SIM not available it should change automatically to the other SIM / Service provider.
- Should have a unique ID for device mounted on vehicle.
- Smart algorithm of data acquisition (time and distance based)
- Should support multi geo-fence zones (rectangular or circular)
- Flexible configuration of data sending in roaming networks (depending on GSM providers list)
- The device should be CE and E-mark certified
- The device should be minimum 20 Channel GPS receiver with external antenna

3.6. MAP

- 3.6.1. Offline GIS digital maps and inbuilt in the VTS application server without any link with third party online mapping servers. The maps should be updated as part of maintenance work from the mapping servers. The map should cover all the state, national highways and Indian railway- rail network.
- 3.6.2. Map should include all state capitals, cities with RBI offices and cities and villages of India, road network, rail network and the location of the RBI. The maps should be updated as a part of maintenance work from the mapping servers.
- 3.6.3. Maps (GIS/owned Maps like Map My India) data must be approved by Survey of India and should be in accordance with the latest new map policy of Government of India.
- 3.6.4. Road and rail networks to be shown vide separate options and color and design.
- 3.6.5. Additional areas need to be developed for complete information on the routes as and when required.
- 3.6.6. All India - Railway network coverage is must, with names of junction, cities, villages and mentioning the distance from major land mark area.
- 3.6.7. National highways, state highways should have clear demarking.



- 3.6.8. The GIS / Map My India maps should provide all India Rail network on a scale of 1:10000 with railway stations, towns as points as well as all India road network covering national & state highways on a scale of 1:10000.
- 3.6.9. Both options of railway and road networks should have separate layers showing separate National, state, district, city boundaries with names of states and cities, villages, important landmarks as point layers.

3.7. Data Communication

- 3.7.1. Data communication must be automatic and online with data transported from the module to the central server via GSM network using 4G/GPRS fall back is SMS. Outside of cellular range, the device should automatically switch to global satellite mode, sending critical updates via satellite phone while maintaining a live reporting interval as preselected to the server. The high frequency messages are stored and sent to server when back in cellular coverage.
- 3.7.2. The data communication must be on real time basis over GPRS (TCP / IP internet protocols) and SMS.
- 3.7.3. If GPRS is not available then the module must transmit data over SMS.
- 3.7.4. If GSM coverage not available for SMS / GPRS then VTS module should have feature to use the Satellite phone to send data to server.
- 3.7.5. If the VTS module will be out of GSM coverage area, then scope must be there on the device to store high frequency data locally and the device should automatically switch to global satellite mode, sending critical updates at preselected intervals. The stored data must be sent once the device comes in to GSM network area to the central server.
- 3.7.6. The device must have the application to collect GPS data at the interval of 1 minute and store locally. This GPS data-sampling interval must be configurable over air.
- 3.7.7. The system has to be interfaced with the existing domain system.
- 3.7.8. The client access to server should be configured through existing LAN / WAN
- 3.7.9. One dedicated direct client at Control Room should be provided for viewing by Security Staff.
- 3.7.10. Provision to set the different reporting intervals on GPRS or satellite should be available independently.
- 3.7.11. Provision to set the mobile numbers / email addresses for email / SMS alerts from Device and Server.
- 3.7.12. The selective data and alert must be automatically sent to the nearest district police headquarters / Railway stations / Control room using Satellite phone / GSM in emergency situations.

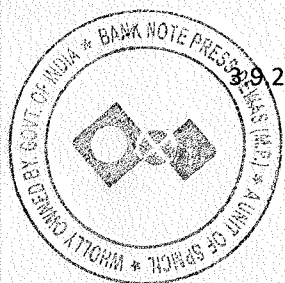
3.8. In Built Alert -

- SMS / E-Mail / Client Application alerts for over speeding
- SMS / E-Mail/ Client Application alerts for stoppage
- SMS / E-Mail/ Client Application alerts for Area Entry / Exit
- Add / Modify / Client Application Delete geo-fence where you want an alert
- Search any location and set radius on map. When vehicle enters/leaves the radius, alert is triggered
- SMS / E-Mail / Client Application alerts if the Preset route is deviated.
- SMS / E-Mail / Client Application alerts on reaching destination.

3.9. Application Software/Hardware along with perpetual licenses

- 3.9.1. **Application Software:** VTS application software shall be web based with required RDBMS platform (latest version for running VTS application) with licenses. The application should be accessible via web-browsers in BNP LAN. Dynamic status of the vehicle must be provided by the software. The web-enabled reports must be available in PDF format. User must be able to download and save reports locally. The tracking / replay of devices should be available online / LAN / WAN through web browsers. The tracking should be done on digital GIS maps. The application should support concurrent users. More than one user should be able to simultaneously for monitor / replay / generate reports for same or different devices. Backup data for summary reports & detailed reports should be available for a minimum of 360 days. The vehicle tracking analysis software should be comprehensive covering straight answers to the questions like: where did the vehicle drive for the last, say, 15 days, where did it stop, how fast did it drive, was there over speeding moments, how many kilometers did it make etc.

- 3.9.2. **Running Mode** – The application shall run in hot standby mode. i.e. Application shall run on primary server and in case primary server fails, the secondary server shall automatically take over and it shall be



seamless for client. There shall no manual intervention to force the switchover and also no data loss during transition.

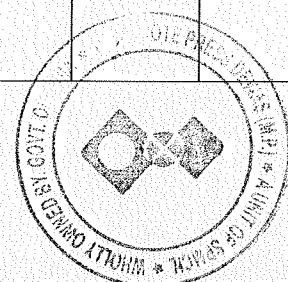
3.9.3. Database & Application Server: MS SQL/ORACLE/ Any other database with perpetual license for life.

3.9.4. Any Software: Any software apart for above, if required for complete commissioning would be under the scope of supplier to provide licenses for such software without any additional cost.

3.9.5. All the licenses shall be registered by name of Bank Note Press, Dewas.

3.9.6. Hardware

Sl. No.	Item and Description	Quantity	Compliance (Yes/No)
1	<p>Equipment Mounted in Vehicle</p> <p>Vehicle Mount Unit (VMU) consisting of IRNSS, GPS module, Antenna, cable, Built in communication modem GSM/4G, antenna and with Power Supply unit and Fixtures. IP 67 rating and features as per tender document</p> <p>Operating Temp: -10 to 70 degree Celsius</p> <p>Storage Temp: -10 to 70 degree Celsius</p> <p>Operational humidity 5% to 95 %</p>	25	
	Control Centre Equipment		
2	<p>Rack Mount Server Hardware</p> <p>Application Server and Data Base Server - Intel Xeon Scalable 2nd Generation 3000/4000 series Processor 2.0 GHz or more, 64bit , 8 core or more, 16 GB RAM, Dual 1000 / 100 / 10 Giga bit Ethernet, DVD Writer / reader, Hot swap redundant power supply with RAID controller, HDD with RAID, HDD of suitable capacity (to hold data tracking data for 1 year apart from System software) , Form factor Rack with OS- Preferably Window Server 2016 with one time life subscription, Microsoft Office Professional 2019, Desk mountable with 19" LED monitor Keyboard and optical mouse, operating temp : 0 to 40 degree Celsius, OEM End of life shall be up to 8 year from date of installation, end of support be up to 10 years.</p> <p>The server should be configured in such a way the server must provide support to at least 100 simultaneous sessions of clients into the web server at a given point. The server should provide support for client on LAN (https protocols) using client- Server architecture. The entire system should be architecture in such a way it can be either a subdomain of the existing domain or should have trust relationships with the existing domain.</p> <p>Make – HP/Dell or equivalent</p>	02	
3	<p>Work Station</p> <p>Intel® Core i5 processor, 2.5 GHz or above, 6 MB cache or more, 1333 MHz memory, Quad-Core, Intel® HD Graphics, 8GB DDR4 RAM, 1TB SATA 7200 rpm, CD/DVD combo drive, 21" LED along backlit monitor, Integrated gigabit Ethernet controller, Keyboard and optical mouse, Windows 10 professional, 64bit, Antivirus Software 3 years subscription, Microsoft Office Professional Plus 2019</p>	1	
4	<p>Interface for server with satellite phone communication from receiving messages from vehicles traveling by Road or Rail networks, for real-time tracking as an Automatic backup to VTS via GPRS/ SMS of GSM system</p>	1	



4. SCOPE, TECHNICAL REQUIREMENT & SPECIFICATION FOR Wired Fire Alarm System in Treasury

Wagons (Railway Wagon)

- 4.1. Treasury wagons are used for transportation of high value good and materials and requires safety system from Fire related incident.
- 4.2. Scope of Work consist of Supply, Installation, Test, Commissioning, Training of complete fire alarm system on all wagons on turnkey basis.
- 4.3. **The Complete system installed shall be plug n play type and can be removed and reinstall on the wagon as per requirement. The devices i.e. Main Panel, Detectors, MCP, Hooter Siren will not be permanently fitted into the vehicle. Hence the solution design should be such that device mounting and unmounting from the vehicle (Wagon/ Truck) should be easy and quick.**
- 4.4. Each wagon shall be equipped with one no. of fire control panel along with MCP and Hooter. The main control panel along with hooter and MCP shall be placed in Front or Back compartment of wagons.
- 4.5. 4 no. of smoke detector shall be installed in Goods compartment. (38.5 ft x 9.5 ft)
- 4.6. Bill of Material

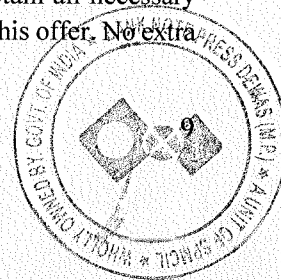
Sl. No.	Item and Description	Quantity	Compliance (Yes/No)
1	Single Zone Main Fire Control Panel with power supply system Each panel shall have sufficient capacity to connect 10 nos. of devices such as Smoke cum heat detectors, flame detectors, hooter/siren, Manual Call Point etc. Operating Temp: -10 to 70 degree Celsius Storage Temp: -10 to 70 degree Celsius Operational humidity 5% to 95 % Make – System Sensor, Agni, Bosch, Honeywell or equivalent reputed make	15	
2	Manual Call Point (Red Color) Make – System Sensor, Agni, Bosch, Honeywell or equivalent reputed make	15	
3	Smoke cum Heat Detector Make – System Sensor, Agni, Bosch, Honeywell or equivalent reputed make	50	
4	Hooter/Siren	15	
5	Fire Proof cable for interconnecting component of Fire Alarm System	500 meters	

Note : (a) Genuinity/Authenticity certificate needs to be provided from OEM for all major component used in the system at the time of supply.

(b) All the products used in system needs to be malware/Bug free and declaration certificate needs to be provided by the firm at the time of supply.

5. SITE INSPECTION

- 5.1. The bidder should inspect and examine the site and its surrounding and shall satisfy as to the nature of the work, scope of work, site layout and design, the quantities and nature of work, materials necessary for completion of the work and their availability, means of access to site and in general to obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his offer. No extra claim consequent on any misunderstanding or otherwise shall be allowed.



6. SYSTEM HARDENING

- 6.1. Implements data security, network security and physical security measures and best practices for securing the Server, Workstation, System software against cyber-attacks. This includes security considerations for the hardware and software of servers, clients and network device components of a complete installed surveillance system.
- 6.2. Incorporates standards-based and best-practice-based security and privacy controls and maps them to each hardening recommendation.
- 6.3. Apply appropriate measures from manufacturer's system hardening guide.
- 6.4. Remove all default, installer, or temporary user accounts and passwords used during installation that are not part of End-user's final operational requirements.
- 6.5. Assign new passwords that are substantially different from factory default passwords to user accounts that match factory-default user accounts.

7. SUBMITTALS & DOCUMENTATION

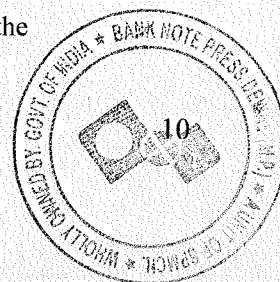
- 7.1. Extensive documentation shall be provided on installation, operation, administration, programming details and maintenance of the various equipment. Three complete sets of hard copy & soft copy should be provided. The documentation shall necessarily cover the following:
 - 7.1.1. User, operation, administration and maintenance manuals (3 sets).
 - 7.1.2. System configuration sheet for Server & other devices etc. (3 sets).
 - 7.1.3. Installation drawings, wiring charts, layout of cables etc. (3 sets).
 - 7.1.4. Detailed Engineering Diagram, signal flow / cabling diagram indicating the complete cable routing and integration of the various equipment blocks, in the system (3 sets).
 - 7.1.5. User and technical manuals of the items (1 set).
 - 7.1.6. System test plan, calibration reports, preventive maintenance charts etc.
 - 7.1.7. Bill of Materials
 - 7.1.8. Test Certificates, Internal test reports etc.
 - 7.1.9. Software media along with license of all software such as VMS, DB Server, OS License, Firmware.
 - 7.1.10. **One HDD containing all media and executable, API documentation, SDK & software.**
 - 7.1.11. Recovery disc of systems, if any.

8. INSTALLATION, COMMISSIONING

- 8.1. The whole project is required to be completed on Turn- Key basis. Accordingly, Bidder is understood to have assessed and quoted for all the items required for successful completion of the Project. It will be the responsibility of the Bidder to provide such items on free of cost basis which are not quoted in the bid but otherwise required at the time of installation for completion and successful commissioning of the
- 8.2. The successful Bidder shall offer the services of an installation Team which shall be responsible to install and commission the entire system. The whole project will be carried out directly under the supervision of OEM's / Authorized representative's technical team.
- 8.3. Installation & Commissioning shall be treated as complete after installation of all the systems and sub-systems and issuance of FAT certificate.
- 8.4. Installation and Commissioning is to be done as per availability of Railway Wagons.

9. TRAINING

- 9.1. The contractor shall impart training to BNP Staff / CISF Security personnel at site for complete operation of the equipment and software.
- 9.2. The contractor shall impart training to BNP Staff at the site for operation & maintenance of the equipment/system/servers etc.

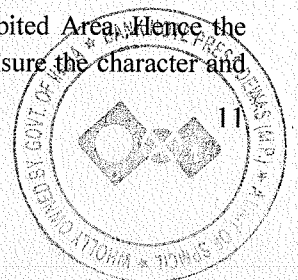


10. SAFETY

- 10.1. The Principal Agencies to whom the job has been assigned by BANK NOTE PRESS, DEWAS will be primarily responsible for ensuring safety of all their employees working under them while they work inside Factory premises of the respective units.
- 10.2. The Principal Agencies to whom the job has been assigned will be responsible for any act of the Contractor, which amounts to contravention of any provision of the Factories Act, 1948 and the respective Factories Rules under the Act.
- 10.3. Electrical connection will be taken only with the written permission from the respective units. Any unauthorized connection which is found to be of imminent danger to the safety of the employees will be disconnected immediately.
- 10.4. Every Contractor will ensure that their employees do NOT SMOKE inside the factory premises
- 10.5. Every Contractor will ensure that the Hand Tools, other Equipment's, Ladders etc. are maintained in good working condition and will also ensure that they are safe and free from risk to the employees and their health.
- 10.6. All the machines brought by Contractors for their work should be properly guarded/ maintained in proper condition for their safe working.
- 10.7. For Working at Height, Welding Work, Gas Cutting work, Excavation Work, Working on Fragile Roof, Working on Electrical Lines or work of similar nature, the Principal Agencies and the Contractors will inform the Safety Department of the respective units in advance. In each case the "PERMIT TO WORK" (Blank Format) will be obtained by the Principal Agency / Contractor from Safety Department of the BNP.
- 10.8. All the Contractors will arrange for MEDICAL TREATMENT of their employees in case of serious injury.
- 10.9. All the lifting machines, lifting tackles, chains, ropes, pulleys etc. will not be allowed to be used inside the Factory unless they are thoroughly examined and certified by the Competent person (as per Factories Act, 1948) once in every six months. Such certificate(s) should be produced to the respective units before taking them inside the Factory.
- 10.10. In case of any accident, the Principal Agencies and the Contractors will arrange to inform it to Safety Department of BNP immediately. They will also arrange to fill up the necessary forms and provide any information, as required by the BNP for submitting the same to the Industrial Safety & Health Dept. (i.e. concerned Inspector of Factories).
- 10.11. Safe use of electricity will be responsibility of the Principal Agency and their Contractor.
- 10.12. Proper "Earthing" should be provided to the Main Switch
- 10.13. The source for tapping electrical supply will be shown to the Contractor. He will provide separate main switch, wires and cables of suitable capacity for welding set as per electrical load of the equipment. The wires/cable should be without joints.

11. SECURITY

- 11.1. The contractor should scrupulously conform to the safety and security norms as stipulated by BNP while working in the security area.
- 11.2. The contractor shall take all the precaution while executing this work. Protective gear such as safety helmets, boots, belts etc. shall be provided by the contractor at his own cost to all his workers at site. It shall be the responsibility of the contractor to ensure that such protective gear is worn at all times by all personnel working at site. BNP shall have the right to stop any person not wearing such protective gear from working on the site.
- 11.3. BNP is a security organization and the Govt. declares the premise as Prohibited Area. Hence the contractor has to abide by the security rules of the Company. The contractor has to ensure the character and



antecedent of the persons deployed. The contractor must be in a position to produce such documents whenever he is asked to do so. Details shall be furnished as per format when called for. The contractor has to issue printed photo identity card to its workers duly authenticated by the designated security officer of the Company. Contractor should apply for Gate Pass for labours, welding permission and material entry pass etc. as per approved format only, well in advance to avoid any delay in issue of Gate passes

- 11.4. While applying for pass, contractor must enclose copy of address proof (Voters ID card or ration card or driving license or passport etc.), for all the workers for which gate pass has been requested. The details shall be submitted in the prescribed format available from BNP.
- 11.5. **On award of the contract the contractor shall sign the Non-disclosure format and abide with that.**
- 11.6. Any worker of the contractor, if found by the Company as unsuitable or having doubtful integrity, shall be removed from the premises at the risk and cost of the contractor. The contractor shall vouch guarantee for the integrity of its workers.
- 11.7. All the products used in system needs to be malware/Bug free and declaration certificate needs to be provided by the firm at the time of supply.

12. SECRECY

- 12.1. All maps, plans, drawings, specifications, schemes and the subject matter contained therein, and all other information given to the VENDOR by BNP shall be held confidential by the VENDOR, and shall remain the property of BNP and shall not be used or disclosed to third parties by the VENDOR for any purpose other than that for which they have been supplied or prepared. All such drawings and documents shall be returned to BNP upon completion of the work under the contract.
- 12.2. No copies, duplication, Photostat shall be retained by the VENDOR without the written consent of BNP. The VENDOR may disclose to third parties, upon execution of secrecy agreements satisfactory to BNP, such part of the drawings, specifications, or information, if such disclosure is necessary for the performance of the contract.
- 12.3. Maps, layouts and photographs of the plant including its surrounding regions showing the vital installation for national security of the BNP's country shall not be published or disclosed with the third parties, or taken out of the country without prior written approval of secrecy agreement satisfactory to the BNP with such third parties prior to disclosure.

13. SPARES

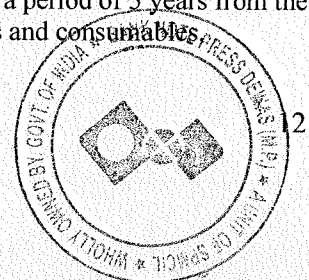
- 13.1. Vendor shall have to kept ready spares of items supplied such as IP Cameras, VTS Device, Detectors etc.
- 13.2. No. of Cameras as spares – 05 nos., Detectors – 05, VTS Device - 03

14. FINAL ACCEPTANCE TEST & CERTIFICATE

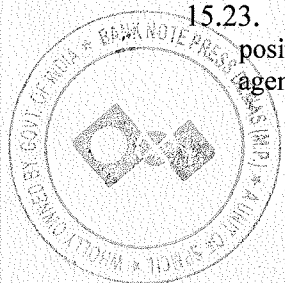
- 14.1. Complete Supply and Installation as per specification and scope.
- 14.2. Complete documentation and license and media handover.
- 14.3. Checking of all features under working condition.
- 14.4. Maintaining spares inventory as per SPARES Clause.
- 14.5. Completion of work after following all standard safety and environment norms.
- 14.6. All the relevant certificates to specified standard is to be provided.

15. WARRANTY, SERVICE ENGINEER & COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT

- 15.1. Complete system and its all components will be under warranty for 03 years from date of issue of final acceptance certificate including all consumables such as Battery, CMOS, UPS Battery etc.
- 15.2. The system shall be under comprehensive annual maintenance contract for a period of 5 years from the date of expiry of warranty. The AMC is comprehensive and inclusive of all spares and consumables



- 15.3. During Warranty and CAMC Period, Bidder shall maintain the system so that it is operational and running round the clock.
- 15.4. The contractor shall provide Guarantee that every work executed under this contract shall be free from all defects and faults in materials, workmanship etc. and shall be of the highest grade and consistent with established and accepted standards for materials and workmanship of the type ordered and full conformity with the specifications and equipment shall satisfy its intended use.
- 15.5. Workmanship and operation of all the equipment, accessories etc. supplied by the contractor shall be under warranty for a period of minimum 36 months from the date of taking over the system / issue of acceptance certificate of the system by the BNP at the site as mentioned in specifications. Contractor shall also provide the total maintenance of the equipment / systems during warranty period at site.
- 15.6. It shall be obligatory on the part of contractor to modify and/or replace any hardware and modify the operating, application and diagnostics software free of cost, in case of any malfunction is revealed during operation after taking over within the warranty period. Also, the contractor must do corrections and up gradation of the software during warranty.
- 15.7. **During warranty & CAMC period, required manpower (At least one skilled technician) needs to be deployed for mounting and demounting of devices, Wagons equipment testing before departing for consignment, server management and necessary updates of Operating systems, Maps and all concerned activities during warranty period and during Comprehensive AMC period. The service engineer shall be required to check the health of the system on monthly basis and do maintenance work of the System.**
- 15.8. Supplier shall have all the statutory and legal requirements for engaging manpower. BNP reserves right to verify the same.
- 15.9. Supplier shall maintain vital spares at BNP to restore the system immediately in case of breakdown during warranty period. During warranty period, all defective / faulty items shall have to be replaced / rectified by the supplier without any additional cost.
- 15.10. Any breakdown of the system or part of the system shall be attended immediately and resolved within a period of 24 hours for major equipment failure and 48 hours for minor equipment failure.
- 15.11. In case of non-fulfilment of obligations, penalty @ Rs. 500/- per day per equipment failure, @ Rs. 1000/- per day for major failure will be imposed and will be deducted from the Security Deposit.
- 15.12. **During warranty, Defective HDD i.e. Hard Disk (Not in RAID Configuration) has to be changed with working one on non-replacement basis. Defective HDD will be kept with BNP.**
- 15.13. **The Bidder shall maintain back to back agreement with the OEM's for proper maintenance of Server, PC's, NVRs, UPS, Software. The agreement shall remain valid during the warranty Period and CAMC period. Copy of Such Agreement to be provided to BNP.**
- 15.14. As Bank Note Press has shift operation, the service engineer may have to perform duty in shift hours/odd hours. The service engineer can also be called during scheduled maintenance and liable to work on holiday/Sunday (if services are required) and no additional amount will be paid.
- 15.15. Bank Note Press is a security organization; hence supplier should submit valid police verification of the deputed engineer.
- 15.16. The engineers should be qualified Degree/Diploma Engineer with an experience of not less than 2 (two) years in Computer/Electronics Hardware, Software & computer network maintenance. The Firm is required to provide evidence in dealing/maintenance in respect of qualification and experience, which would be checked by this Office to verify the suitability/competency of the service engineer.
- 15.17. Educational Qualification for resident service engineer - Minimum ITI/Three Year Diploma (CSE, ECE, IT) or higher qualification such as B.Tech/B.E (CSE,ECE,IT)/BCA/MCA/M.SC (IT,ECE, Computers)
- 15.18. The bidder will be responsible for following all labor laws and safety procedures in respect of manpower deployed by them in SPMCIL premises for the purpose of this project.
- 15.19. Bidder will have to provide necessary tool kits to its deployed resources to perform their duties effectively.
- 15.20. Bidder shall comply all statutory/legal requirements such as Minimum wages PF, ESI, Bonus and all related labor laws required for engaging the staff in order to deliver the service.
- 15.21. Central Govt. labor laws shall be applicable for the contract.
- 15.22. The successful bidder shall be responsible for compliance of all statutory provisions relating to Minimum Wages, Provident Fund, ESIC, Bonus etc. in respect of the persons deployed by it in BNP for the service delivery.
- 15.23. The personnel assigned for work in BNP by the successful agency/bidder should be polite, cordial, positive and efficient while handling the assigned work. In case, the person employed by the successful agency/bidder commit any omission/commission that amounts to misconduct /indiscipline /incompetence, the



successful agency will be liable to take disciplinary action against such persons including their removal from the work, if required by the BNP.

- 15.24. If any mis-happens during the contract period, contract delivery the successful bidder shall be held responsible. They shall not claim any amount from BNP.

16. STATUTORY COMPLIANCE

- 16.1. The engagement and employment of laborers and payment of wages to them should be as per existing provisions of various labor laws and regulations is the sole responsibility of the Contractor and any breach of such laws or regulations shall be deemed to be breach of the contract. BNP may ask the contractor to produce documents to verify that these provisions/laws are complied by the contractor.
- 16.2. All wages allied benefits such as leave, ESI, PF, Gratuity, Bonus etc., shall be paid by the contractor and BNP shall not incur any liability or additional expenditure whatsoever for personnel deployed. Also, the contractor shall be made wage through bank account transfer/Cheque.
- 16.3. The Contractor shall abide by all labor laws, related to Employee Provident Fund & Miscellaneous Act 1952, ESI Corporation 1948, Workmen Compensation Act 1923, Payment of Wages Act 1936, Minimum Wage Act 1948 Industrial dispute Act 1947, Maternity Benefit Act 1961, Payment of Bonus Act 1965, Factory Act 1948 and other related applicable labor laws/codes. The details of EPF, ESIC in respect of their deployed staff shall be submitted by the Contractor to BNP along with the bills. The Contractor shall abide including but not limited to, matters relating to timely payment of wages and allowances, payment of minimum wages, payment of overtime, grant of leave, payment of workmen's compensation, working hours, safety, maternity benefits, holidays, framing of standing orders, disciplinary action against their employees, payment of provident fund contributions, payment of gratuities and payment of bonuses as per statutory rules. The Contractor shall submit periodical returns as may be specified from time to time.
- 16.4. The successful tenderer has to pay the minimum wages to its personnel / staff / members deployed as per the notification published by Central Govt., besides paying all other statutory payments. The successful bidder has to maintain all records and legal documents up dated as per prevailing statute and has to produce before the management / statutory authorities as and when asked for. Besides the successful bidder has to indemnify the BNP from all types of legal implications due to any negligence on the part of successful bidder and for which the Bank Note Press Dewas is not responsible.

