



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - Fossil Boilers
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

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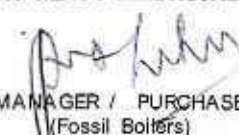
ENQUIRY (INDIGENOUS)

Vendor Code :	Enquiry No	Enquiry Date	Due Date for Quotation
Vendor Name :	2681300025	06.07.2013	05.08.2013
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

ITEM NO	ITEM DESCRIPTION	Delv Date	Quantity	UOM
10	Lease rental contract for CCTV-HPBP			
<p>Scope of supply :-HPBP HPBP - 122 nos Total installation and maintenance of the wireless based CCTV surveillance system on 5 year Financial Lease (rental and guarantee)contract basis, consisting of the following: # Design, development, manufacture, supply, assemble, transport, install all the hardware & software, configuring, testing, commissioning of wireless based CCTV surveillance system as per specifications enclosed and prove the performance of complete system. The system should be able to meet the following requirements (but not limited to):</p> <ol style="list-style-type: none"> 1.Complete wired/Wireless integration of 122 no.of cameras for HPBP ,Trichy through Wireless technology. Complete design, development, installation,commissioning of the networking components involved in the total system,bandwidth calculation,all statutory requirements for setting up the wireless networking is under vendor's scope 2. Integration of all the cameras with the Video management software and continuous transfer of the videos recorded is completely under vendor's scope. All the software requirements should be as per BHEL's requirements and proving out the analytics and other features as per BHEL's requirements. 3. Integration of the cameras with the application server and the storage server and proving out the capacity of the storage server for 1 month continuous recording. 4.Proving out the total performance of the system from the cameras till the storage server. 5.The system should comply with ISMS (Information security management system) 6.Comprehensive Maintenance of entire system for a period of 5 years and maintaining 98% uptime. 				
	SINo Description	Delv Date	Quantity	UOM
	10	28.10.13	1.000	AU
20	Lease rental contract for CCTV-PPPU			
<p>Scope of supply :- PPPU -Thirumayam -17 nos Total installation and maintenance of the wired/wireless based CCTV surveillance system on 5 year Financial Lease (rental and guarantee)contract basis, consisting of the following: # Design, development, manufacture, supply, assemble, transport,</p>				

The offers should reach us before the time of opening of tenders.
The offers will be opened at 14:30 hours on the due date in the presence of the tenderers who may like to be present.
Late tenders are liable to be rejected.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**



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install all the hardware & software, configuring, testing, commissioning of wired/wireless based CCTV surveillance system as per specifications enclosed and prove the performance of complete system. The system should be able to meet the following requirements (but not limited to):

- 1.Complete wired/Wireless integration of 17 no of cameras for Thirumayam through wired/Wireless technology, Complete design,development ,installation,commissioning of the networking components involved in the total system,bandwidth calculation,all statutory requirements for setting up the networking is under vendor's scope
2. Integration of all the cameras with the Video management software and continuous transfer of the videos recorded is completely under vendor's scope. All the software requirements should be as per BHEL's requirements and proving out the analytics and other features as per BHEL's requirements.
3. Integration of the cameras with the application server and the storage server and proving out the capacity of the storage server for 1 month continuous recording.
- 4.Proving out the total performance of the system from the cameras till the storage server.
- 5.The system should comply with ISMS (Information security management system)
- 6.Comprehensive Maintenance of entire system for a period of 5 years and maintaining 98% uptime.

The following annexures are enclosed for line items 10 & 20 HPBP-Trichy & PPPU, Thirumayam

1. Qualification Criteria_Annexure-G/2 Pages.
2. General Points_Annexure-G/2 Pages.
3. Techno-Commercial Terms & Conditions_Annexure-G/4 Pages.
4. Scope of Work_Annexure-G/2 Pages.
5. Indoor Camera_Annexure-G/1 Page.
6. Outdoor Camera_Annexure-G/1 Page.
7. Out door IR Camera_Annexure-G/1 Page.
- 8.Specification for 36X IP PTZ Speed Dome Camera_Annexure-G/1 Page.
- 9.IR Explosion poof Camera_Annexure-G/1 Pages.
- 10.Network system for BHEL Trichy & Thirumayam_Annexure-G/8 Pages.
- 11.Acceptance Test Procedure_Annexure-G/1 Page.
- 12.Maintenance & Backup_Annexure-G/1 Pages.
- 13.Breakup List-2 pages.
- 14.Locations for BHEL Trichy & Thirumayam Complex_Annexure-I/1 Page.
- 15.Deviation/No-Deviation Certificate_Annexure-II/2 Pages.
16. Third Party non-disclosure Agreement_Annexure-III/1 Page.
- 17.Letter of Authority_Annexure-A/1 Page.
- 18.Commercial Terms & Conditions_Annexure-B/7 Pages.
- 19.Integrity Pact_Annexure-C/7 Pages.

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- 20.5yrs financial lease format for BHEL Trichy_Annexure-D1/1 page.
21.5yrs financial lease format for BHEL Thirumayam_Annexure-D2/1 page.
22.Outright purchase format for BHEL Trichy_Annexure-E1/1 page.
23.Outright purchase format for BHEL Tirumayam_Annexure-E2/1 page.

SINo	Description	Delv Date	Quantity	UOM
10		28.09.13	1.000	AU

General Note:

THE TENDER IS PRIMARILY FOR 5 YEARS FINANCIAL LEASE ONLY. THOSE VENDORS WHO ARE WILLING TO PARTICIPATE IN 5 YEARS FINANCIAL LEASE OPTION ARE REQUESTED TO SEND THEIR OFFER. OTHERWISE THEIR OFFER WILL NOT BE CONSIDERED FOR FURTHER EVALUATION.

1. Please submit your detailed offer in two part bid system i.e Part-I. Technical and commercial bid along with unpriced bid (indicating % of taxes & duties as per Annexure-D1,D2 & E1,E2) in a sealed cover Part-II. Priced offer in another separate sealed cover.

Both the covers shall be duly super-scribed with tender reference and due date of opening. These covers shall be put in a single cover duly super-scribed with tender reference and due date of opening and addressed to us.

2. Point-to-point confirmation to BHEL's specification and commercial terms & conditions shall be provided. The supplier must fill and send all the Annexures as indicated in the list of attachments. Annexure-B & Annexure-D1,D2, E1,E2 (with taxes and duties, without indicating prices) should be filled and submitted along with the technical bid, else your offer is liable for rejection.

3. Offers with validity of less than 180 days and non-acceptance of 5 years Financial Lease, LD & RP clause, will lead to rejection of submitted offer.

4. Integrity Pact (IP) should be furnished along with offer. IP should be signed by authorized official of the bidder. Offer without signed IP will not be considered.

5. If the due date of tender opening happens to be a holiday, the tenders will be opened on the next working day.

6. All clarifications may be sought at least ten days prior to tender due date, from the undersigned with due written request.

7. This contract will be monitored by independent external monitor by name Shri D P Bagchi, IAS (Retd.)

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8. BHEL reserves the right to go for a reverse auction (RA) instead of opening the submitted sealed bid, which will be decided after technical evaluation. Information and general terms and conditions covering RA are given in commercial terms and conditions (Annexure-B/Point no.16)

9. BHEL will consider MSME vendor as per Government guidelines.

10. Wired/Wireless CCTV Network System for BHEL Trichy & Thirumayam are considered as a package and cannot be split-up to more than one vendor. Hence final evaluation of the tender is cumulative basis for both BHEL Trichy & BHEL/PPPU/Thirumayam and the entire work will be awarded to only lowest bidder of the tender.

11. Vendors are requested to avoid the following points while submitting the Bid documents:

- a) Loose or spiral bound bid documents are not encouraged.
- b) In case of any corrections/overwriting in the tender documents, the same shall be duly attested by the bid submitter.

12. Vendor representative having proper ID proof and authorization letter shall attend the tender opening.

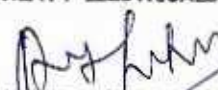
13. Corrigendum if any, with respect to this tender will be hosted only in the website <http://www.bhel.com> or <http://tenders.gov.in>. You are requested to visit the website regularly for updates.

Enclosures:

"LD clause has to be confirmed without fail."

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(Fossil Boilers)

**REQUEST FOR PROPOSAL**

Bharat Heavy Electricals Ltd., Trichy (A Govt. of India Undertaking) invites tenders from bidders who qualify as per criteria below. The tender is invited in TWO PARTS, PART- I (Techno -Commercial) & PART- II (PRICE) for Supply, installation & maintenance of CCTV system for a period of 5 years on Financial Lease(Rental and Guarantee) basis. The Qualification criteria for the bidders are as follows:

1.0 QUALIFICATION CRITERIA:

Qualification Criteria for Supply, installation & maintenance of CCTV system for a period of 5 years on Financial Lease(Rental and Guarantee) basis.

- 'Bidder' means the Original Equipment Manufacturer [OEM] / System Integrator who is offering the wireless based CCTV surveillance system for this tender.

- **The Bidder shall fulfill the qualification criteria points [Sl.no. 1.1 to 1.9], which shall be supported by necessary documents. Relaxation of qualification criteria points will not be entertained under any circumstance. Hence bidders who do NOT comply with one or more of the qualification criteria NEED NOT apply.**

Sl.No	Description	Bidder's Compliance
1.1	Bidder should be either Original Equipment manufacturer or should be Authorized System Integrator having direct purchase and support agreement with the OEM for IP based wired/ wireless CCTV security surveillance system including cameras, software, wireless components like base stations, switches, servers and storage systems quoted for this tender. In case the bidder is a system Integrator , a valid certificate/authorization letter from the Authorized Representative of the OEM/ Principal Manufacturer to quote exclusively for this specific tender is to be submitted.	
1.2	The Bidder shall have back-to-back agreement with the OEM to provide service and spare support for at least 5 years for the offered solution. This should be confirmed at the time of bid submission.	
1.3	The bidder should have turnover of at least 1 Crore per annum in past 2 financial years in the field of business for IP(Server) based wired/wireless CCTV security surveillance system or company turnover of 10 crores per annum in the last 2 financial years. Certificate from bankers/chartered accountant/IT return to this effect shall be submitted along with the offer.	
1.4	The bidder should have dealt in Supply & Installation work in IP(server) based CCTV wired/ wireless security surveillance system at least in the last 5 years from the date of tender enquiry, catering to 25 or more CCTV cameras (including PTZ camera, Fixed box type indoor, outdoor and Fixed box type outdoor IR cameras) of the indicated makes (Honeywell, Bosch, Sony, Pelco, Infinova, Axis, Panasonic only) in at least one project. The purchase order for the mentioned project should be on the name of bidder. The Purchase order copy of the mentioned project and its performance certificate from the customer should be submitted along with the technical offer.	
1.5	Bidder shall clearly mention all of their customer references with number of equipment's supplied and year of commissioning of wired/wireless based CCTV operating such as : Name of the unit / company, Name of the contact person; Address/ e-mail id, Mobile and Office phone of contact person, Month & year of commissioning of the CCTV System for verification by BHEL, Trichy.	



1.6	Bidder shall clearly mention all of their customer references with number of equipment's supplied and year of commissioning of any wireless based network system such as : Name of the unit / company, Name of the contact person; Address/ e-mail id, Mobile and Office phone of contact person, Month & year of commissioning of the System for verification by BHEL, Trichy directly. The purchase order should be on the name of the bidder/OEM. The purchase order copy of above mentioned projects and its performance certificate should be submitted along with the technical offer.	
1.7	The Bidder should have Registered and Incorporated office in India (Evidence should be submitted). Alliance/liaison office in India shall not be accepted.	
1.8	Bidder and OEM should have a clean track record, i.e. The bidder should not be under hold or blacklist by any of the BHEL units as on bid opening date. To this effect, a declaration should be given by the bidder.	
1.9	The Bidder shall submit the Product Catalogues, Data Sheets and complete technical details of 'Bought-Out-Items' for the quoted CCTV system along with the technical offer.	

The Bidder shall Provide informations for the below listed points along with the technical offer for verification & Confirmation

Sl.No	Description	Bidder's Response
i	Number of Years of Experience of the BIDDER in the field of design, supply, installation and commissioning of 'IP (server) based wired/wireless CCTV system' till date	
ii	'IP(server) based wired/wireless CCTV security surveillance system' supplied, installed and commissioned till date for the following category of CUSTOMERS	
	a) Heavy Industries such as Oil & Gas Refineries, Steel industries etc. ,	
	b) Powerplants or Processing Industries	
	c) Airports, Harbours etc. , c) Other areas.	
iii	BIDDER has to co-ordinate for the visit of BHEL Team (at BHEL Cost) to their Customer's Works, to witness the capability of an existing 'IP based wired/wireless CCTV system' if warranted.	
iv	Details on International Standards / Process Codes followed in Design of the IP (server) based wired /wireless CCTV system. [Copy of the English Version of relevant portion of the Standards / Codes followed, to be furnished with the Technical Offer]	
v	Details on Performance Testing of the IP (server) based wired/wireless CCTV system quoted to be given with the Technical Offer	
vi	The BIDDER shall assure a continuous support for SPARES and SERVICE for minimum TEN Years, from the date of commissioning of the IP(server) based wired/wireless CCTV system at BHEL Works.	
vii	Details on SERVICE-AFTER-SALES Set-Up in India including the addresses of agents in India	
viii	BIDDER has to indicate the Country of Origin for the supply of materials/ components/ accessories for the proposed Ip(server) based wired/wireless CCTV system.	

2.0 Financial Lease , Rental and Guarantee scheme:-

Financial Lease (Rental and guarantee) Period under the scheme shall be for 5 years and the Total Price shall be for the complete scope as per technical specifications, inclusive of comprehensive on-site maintenance including repair/replacement of parts during the entire Financial Lease(Rental and Guarantee) period, all taxes & duties, insurance, any other incidental charges, etc. Financial Lease(Rental and Guarantee) contract Period of five years shall start from the date of successful completion of installation and acceptance by BHEL. Details of acceptance procedure and requirement are enclosed separately along with technical specifications. Vendor shall be responsible for comprehensive on-site maintenance of the supplied equipments & services during the entire Financial Lease(Rental and Guarantee) period. Payments shall be released in quarterly installments, as per Payment Terms and other Commercial Terms & Conditions.

2.1 BHEL Trichy's Wireless based CCTV surveillance system

BHEL Trichy intends to install and commission campus wide CCTV cameras for continuous monitoring and surveillance at all areas of BHEL/Trichy and Thirumayam complex. The system shall be installed at various locations of factory premises, & other site locations. The locations where the CCTV cameras along with the type is listed in annexure-I. A dedicated networking system with a combination of wireless and wired network has to be established and the video data has to be continuously transmitted via the wireless network to the monitoring central control room. The 122 cameras needs to be online with the dedicated wired/wireless data communication network. 17 cameras has to be installed at BHEL Thirumayam complex and the the cameras has to be connected via wired/wireless based network and the video data has to be continuously transmitted via the wireless network to the monitoring central control room at BHEL/Thirumayam. The Total operation of the hardware & software items for the said system is to be executed by the vendor. The output of this system will be input for Security Department. The data's should be recorded in a DVD/pendrive as and when required by the security. Threats for hacking the data should be completely avoided. Any loss of video information recorded at the 122+17 cameras is the responsibility of the vendor. The infrastructure is proposed to be built in such a way that it is scalable and can take up emerging requirements in terms of camera's quantity in future. The vendor has to assess the site thoroughly and quote. Soil tests has to be taken up by the vendor and the lay-out drawings has to be approved by BHEL. The cameras locations will be provided by BHEL. Vendor is supposed to design a total solution of networking which involves wireless cum wired networking for interlinking the total subsystems including cameras, switches, etc for the total system

2.2 Expectations from Vendor

M/s BHEL has a massive area of about 10 square KM where the cameras are to be widely distributed.

Vendor is required to give a total solution & services as per specifications enclosed. The full working of the system from various shop floor areas gates, stores, open yards is to be implemented. All equipments and services is the responsibility of the Vendor. In case, any extra item is required for complete functioning of the system, the same must be included and shall be quoted as a package. Vendor is to give in detail the methodology for implementation of the proposed solution.

2.3 PAYMENT TERMS

Lease period will start after issue of Commissioning Certificate by BHEL Trichy. The payment of Financial Lease(Rental and Guarantee) contract charges will be made on quarterly basis after completion of each quarter and submission of invoice(s) in triplicate. Payment will be released after submission of verified invoices and on certification by BHEL. Uniform rental rate will be paid in all quarters.

Vendor has to complete the installation at the locations to be identified by BHEL along with LOI/ Order. The first quarter Financial Lease(Rental and Guarantee) payment will be due after completion of the quarter from the date of successful completion of installation & acceptance by BHEL (calendar quarterly basis). An installation certificate will be issued by BHEL after completing the Acceptance Test Procedure (ATP) terms. Thereafter, payment will be made at the end of each quarter

2.4 DEDUCTION FOR DOWNTIME

DOWNTIME CALCULATION FOR THE SUPPLIED EQUIPMENT & SERVICES

Vendor shall be responsible for running the system at the uptime of 98% per month or higher. The deduction for downtime will be as mentioned below.

Deduction from payments will be made for non-availability of any of the equipment for any downtime of 1 Hrs or more during the entire Financial Lease(Rental and Guarantee) contract period as detailed below. The downtime will be calculated on hourly basis per month on 24 hours basis



DOWNTIME CALCULATION

Deduction from payments will be made based on downtime of equipment(s) monitored on daily basis. The amount to be deducted will be calculated as per the deduction formula given below:

If equipment 'X' is down for > 1 Hours in a day: Say for 8 Hrs
Quarterly Financial Lease(Rental and Guarantee) amount of entire system is Rs. A
Then the deduction for an equipment will be : Rs. (A / 90) *(8/24)

At the end of the contract period if any equipment is found down, final payment for the contract will be made only after system is made up.

Downtime calculation will be applicable for non-availability of services arising because of malfunctioning of cameras, switches, network problem, PC, Servers etc..

Note:

If the uptime for any equipment falls below 98% continuously for 1 month, the equipment shall have to be replaced by the Vendor, without any extra charge.

2.5 General conditions

i	All the CCTV camera's offered by the Bidder shall be from single OEM only.
ii	A bidder shall submit only one bid of a single OEM for CCTV cameras.
iii	The quoted product should be in the production. OEM of Cameras, Servers, NAS box/Raid backup device, Workstations, Monitors, and Switches shall be ISO firms & the offered products must be UL/CE, FCC certified and ONVIF Complied. Vendor has to confirm
iv	The System integrator should have support infrastructure in spares for the OEM components stocking and Technical support. Specify the OEM Spares logistics locations in India with address.
v	Bidder should have professionals with expert level certification and also having experience of implementing / maintaining wireless networking solutions.
vi	Bidder should fulfill all statutory and safety requirements for personnel engaged while executing the contract. Due to non compliance of the applicable statutory provisions, if BHEL has to incur any expenditure in this regard the same will be compensated by the Bidder.
vii	The complete project mentioned should be of total solution and infrastructure setup, training and support.

(1) The Bidder shall sign all the pages of the Tender document and all the supporting documents. Signing of the document means that the Bidder has fully understood the Tender and complies with all the requirements. In case of any deviation, it has to be brought out explicitly.

(2) Bidder shall note that the lease rental contract will be on Bipartite agreement.

(3) BHEL reserves the full right to reject any bidder based on other reasons deemed fit but not mentioned above.

(4) BHEL has the right to cancel/re-float the Tender at its discretion.



3.TECHNO-COMMERCIAL TERMS AND CONDITIONS			
		Bidder's Compliance Yes / No	Bidder's Remarks
3.1	Financial Lease(Rental and Guarantee) contract quoted shall be inclusive of the following during the Financial Lease(Rental and Guarantee) period and shall remain FIRM without any variation till completion of the Financial Lease(Rental and Guarantee) contract: The project will be on Financial Lease(Rental and Guarantee) contract basis. All required hardware and software for the system shall be supplied, installed and commissioned by the vendor. It includes the following but not limited to -		
3.1.1	Installation of cameras with Power supply, switches, all wireless and wired networking components involved, Connectivity to the cameras including termination, data connectivity & configuration of cameras.		
3.1.2	Installation & configuration of Servers and Application software at central control room.		
3.1.3	Creation of analytics & Configuration on video management software.		
3.1.4	Integration of all the 122+17 cameras with the Video management software and proving out the control, monitoring of all the cameras from the application server and client workstation.		
3.1.5	Development & Customization of Application Software and reports as per BHEL requirements.		
3.1.6	Installation, commissioning, configuration, implementation & maintenance of the complete wireless CCTV system for the entire Financial Lease(Rental and Guarantee) period.		
3.1.7	To provide any extra report required by BHEL to carry out its day-to-day operations, during the implementation phase as well as for the complete Financial Lease(Rental and Guarantee) period, will be vendor's responsibility. However time frame to fulfill such requirements may be decided mutually by Vendor & BHEL.		
3.1.8	Resident engineer shall coordinate all activities related to the complete system operations & monitoring.		
3.1.9	122+17 cameras, all wired and wireless networking components involved in-between, application servers, L2 and L3 switches, Computer hardware, software installations and configuration. Minimum 7(5+2)Nos. of 46" inch LED monitors to monitor the continuous movements, and other analytics involved.		
3.1.10	All relevant software upgrades should be provided during the period of contract at free of cost and source code of all software packages shall be handed over to BHEL for future maintenance		
3.1.11	Any other items required/statutory requirements for wireless networking to complete the system in full is under vendor's scope.		
3.1.12	Freight, handling and packing charges, transit insurance, installation.		
3.1.13	On-site comprehensive maintenance		
3.1.14	On-site comprehensive Insurance covering total scope of supply and man power.		
3.1.15	Spares & Software/Firmware Updates		



3.1.16	All taxes & Duties.		
3.1.17	Comprehensive maintenance shall include the following :		
	a. Replacement of faulty component /equipment.		
	b. Installation charges		
	c. Site inspection charges		
	d. Cost of Maintenance Engineers and technicians		
	e. Financial Lease(Rental and Guarantee) tax/right to use tax / any other statutory levies including service tax.		
3.1.18	On-site Comprehensive insurance covering total scope of supply and man power during the currency of the contract. The beneficiary of the Insurance should be BHEL.		
3.2	Financial Lease(Rental and Guarantee) contract will commence only after successful supply, installation and commissioning of the entire equipments, its interconnectivity and the expected performance of the system in all respects to the satisfaction of BHEL Engineers as per the scope of the contract.		
	The completion of installation and commissioning shall be as per the mutually agreed ATP (Acceptance Test Plan) and shall be certified by BHEL.		
	The installation and commissioning shall be completed in all respects within 12 weeks from the date of placement of PO.		
3.3	Spares : The Bidder shall maintain required spares to maintain the specified uptime. An inventory of critical, non-critical and consumable spares shall be stored at BHEL to carry out the maintenance during the entire Financial Lease(Rental and Guarantee) period.		
3.4	BHEL reserves the right to retain the cameras, wired and wireless networking components, hardware, software and other items supplied in this procurement at the end of the lease period on payment of Re. 1/- (Rupee one only). On payment of terminal charges, the ownership of entire System including all the equipment, spares & software will get transferred to BHEL without any other payments. BHEL will claim depreciation from the date of commissioning.		
3.5	The Annual Maintenance Charges subsequent to completion of 5 years Financial Lease(Rental and Guarantee) contract period shall be quoted as a percentage of outright purchase value of each item. The scope of AMC after Financial Lease(Rental and Guarantee) contract period shall be comprehensive including spares & Services and shall be applicable for a period of 2 years and will be binding on the Bidder.		
3.6	Delivery & Project Implementation Schedule		
	The Bidder shall be responsible for timely delivery, installation & commissioning of all the Hardware/software given in the scope of supply/work at the BHEL's premises. All the Hardware/software shall be delivered within 8weeks from the date of placement of order and successfully installed and commissioned within 12weeks from the date of delivery of all hardware/software.		
	(Delivery of all the equipment shall be within 8 weeks from date of placement of PO. Penalty will be levied in case of delays @ ½ % per week of delay, of total outright value of all items ordered, subject to a maximum of 15%.)		



3.7	Ordered items shall be offered for pre-dispatch inspection before shipment. BHEL reserves the right to inspect the components or give dispatch clearance based on Bidder's inspection and other reports.		
3.8	All equipment supplied and installed at the stipulated locations shall be new and conforming to the contract technical specifications. Relevant test certificates, certificate of newness of equipment and any other statutory documents should be furnished.		
	The Vendor has also to produce a certificate from his principal OEM for back to back support as per enclosed format (Annexure-A).		
3.9	Complete technical literature including specification, catalogue pertaining to the products as required, and any relevant bench mark		
	Results/test results are to be submitted along with technical offer.		
3.10	SHIFTING OF EQUIPMENT FROM A LOCATION TO OTHER:		
	BHEL reserves the right to relocate the equipment(5% of the inatalled equipments). Supplier is responsible for Shifting of equipment from one location to another within BHEL campus and to integrate the system. However the relocation shall be done on mutually agreed basis between BHEL and the vendor		
3.11	Uptime of 98% shall be guaranteed for the system on monthly basis. Any down time greater than equal to 2% will result in the reduction of Financial Lease(Rental and Guarantee) contract rentals on Pro rata basis		
3.12	Bidder should arrange a system for registration, monitoring and redress of all complaints during the contract period.		
3.13	Hardware upgrades during rental contract period shall provide upward compatibility at mutually agreed prices.		
3.14	The Bidder shall submit the proposed plan of execution and the methodology along with bar chart to execute the plan at the time of bid submission.		
3.15	The offers shall be evaluated based on the total Financial Lease(Rental and Guarantee) contract for 5 years for the entire scope of the tender. The total Financial Lease(Rental and Guarantee) contract are calculated based on the offered charges per Unit per Quarter. AMC charges quoted after Financial Lease(Rental and Guarantee) period will not be considered for evaluation.		



3.16	<p>MAINTENANCE</p> <p>At least 2 qualified Engineers (preferably 1 software cum Networking and 1 hardware) and 3 technicians (1 technician inclusively for Thirumayam plant) shall be stationed at BHEL site. Networking engr. Should have min. technical qualification and experience in wireless networking. The resident engineers and technicians should ensure 98% uptime and to coordinate daily operations including monitoring, maintenance of the CCTV cameras, all wired and wireless networking components, all switches, PC's, servers, Maintaining the Video management software, and Management Information Reports generation. These engineers and technicians shall have expertise in managing the system under the contract. Documentary proof of certification and experience of the engineers shall be provided. These engineers and technicians shall be available on-site between 7.00 AM to 5.00 PM during all working days of BHEL, Trichy and & support for 24 hrs x 7 Days working shall be available on call basis, to meet any exigency. Accommodation for the above engineers and technicians should be arranged by vendor. The salaries of man power provided by the vendor shall not be quoted separately, but shall be a part of the maintenance and service cost to be quoted for those equipments.</p>		
	<p>Maintenance service shall cover services, repairs and replacements necessary to keep the equipments in good working condition during the Financial Lease(Rental and Guarantee) period. However in case of any defect or sabotage or damage due to any reason whatsoever, the same equipment should be rectified/replaced by the vendor within 24 hrs (24x7 manner) of reporting of such incident. Vendor shall maintain sufficient equipment inventory onsite to rectify/replace the damaged/defective/non-functioning equipments. Vendor has to submit the monthly inventory status to BHEL in a prescribed format. Periodic maintenance check should be carried out to keep the equipments in good working conditions. Maintenance will include all components, back up batteries, lens, DSP processors etc. The details of maintenance and other activities are given at Sl.No. 18 related to Maintenance</p>		
3.17	<p>TRAINING</p> <p>Training of BHEL personnel shall be part of the contract.</p> <p>During installation at BHEL, the associated BHEL coordinators shall be guided on the system usage. Exhaustive and detailed maintenance training shall be provided to BHEL personnels to enable BHEL to carry out maintenance after the expiry of the Financial Lease(Rental and Guarantee) period.</p>		
3.18	<p>INSTALLATION AND COMMISSIONING:</p> <p>The installation and commissioning will be in the scope of bidder. After commissioning, education and training should be provided to all the employees. Minimum required number of people should be arranged by the vendor for successful commissioning and smooth establishment of the system.</p>		
3.19	<p>Bidders whoever does the site survey shall only submit their technical bid</p>		
3.20	<p>Bidder shall submit their offer for BHEL Trichy and Thirumayam separately</p>		



SL.NO	DESCRIPTION	Bidder's compliance YES/NO	BIDDER'S OFFER (With Complete Technical Details)
4.0	SCOPE OF WORK:		
	<p>Total Installation and maintenance of the wireless based CCTV surveillance system on 5 year lease Rental & Guarantee (R&G) contract basis, consisting of the following:</p> <ul style="list-style-type: none"> • Design, development, manufacture, supply, assemble, transport, install all the hardware & software, configuring, testing, commissioning of wireless based CCTV surveillance system as per specifications enclosed and prove the performance of complete system. The system should be able to meet the following requirements (but not limited to): <ol style="list-style-type: none"> 1.Complete wired/Wireless integration of 122+17 cameras through Wireless technology. Complete design,development,installation,commissioning of the networking components involved in the total system,bandwidth calculation,all statutory requirements for setting up the wireless networking is under vendor's scope 2. Integration of all the cameras with the Video management software and continuous transfer of the videos recorded is completely under vendor's scope. All the software requirements as per BHEL's requirements and proving out the analytics and other features as per BHEL's requirements. 3. Integration of the cameras with the application server and the storage server and proving out the capacity of the storage server for 1 month continuous recording. 4.Proving out the total performance of the system from the cameras till the storage server. 5.The system should comply with ISMS (Information security management system) 6.Comprehensive Maintenance of entire system for a period of 5 years and maintaining 98% uptime. 		
4.1	All the 36x IP PTZ Speed dome cameras are mounted on the top of 8 meter GI poles.Light will be available during night time.		
4.2	All the IP Fixed box type cameras are mounted on the pole or wall of gates with suitable fixtures to monitor vehicle movements and Person movements.		
4.3	Poles for the cameras,towers for CPE and BTS is under vendor's scope. All the related civil works is under vendor's scope.		
4.4	The vendor has to assess the site thoroughly and quote. Soil tests has to be taken up by the vendor and the lay-out drawings has to be approved by BHEL.		
4.5	3-Phase 415V(± 10%), 50 Hz, (± 10%) and Single Phase 230V(± 3%), 50 Hz (± 3%) power for equipments supply will be provided by BHEL at the nearest place for each location mentioned in the annexure-I. Vendor has to distribute the power wherever needed for the devices.		
4.6	Supply and laying of all the Cables on the wall/pole/Tower/ground (Power, Data and Video) will be under the Supplier's Scope. The cable shall be laid underground at a depth of 0.8metre, in 1.5" diameter HDPE (High density polyethylene) pipe. Each run of cable shall be run through separate HDPE pipe. The pipes shall be covered with half round concrete trough of 4" dia, and the soil shall be refilled. Cable route markers shall be used at intervals of 50 meters and at turning points. Underground cable laying involves laying in soft soil, hard soil, road and along cable trenches. Road cutting should be refilled and finished by cementing.		



4.Scope of Work

ANNEXURE-G

4.7	Supply and Erecting 8 Mtr .height of GI poles, with surge protection to mount the cameras		
4.8	Supplier should submit the catalogues and technical details for all the items for pre-evaluation.		
4.9	Erection of entire system should be carried out with the guidance of Area Maintenance Executives.		
4.10	Supply and installation of required capacity of UPS(with minimum 3 hrs backup) are under supplier's scope.		
4.11	Type of Alert and options should be mentioned by the vendor. BHEL requires e-mail alert for video loss and motion detection.		
4.12	The 'Maintenance Manual' to be supplied by the Vendor (3 sets of Hard & Soft copies) shall include: a) Methods of tracing and rectifying common service troubles. b) Method of dismantling and re-assembling of various components and parts. c) A complete comprehensive parts list with exploded views of the different Assemblies & Sub-assemblies		
4.13	Details of all critical spares should be furnished. Supplier's address to be contacted in case of procurement of those spares should also be given.		
4.14	Manufacturer products shall have quality system in compliance with the CE/UL/FCC Quality system is preferable .		
4.15	After commissioning, the supplier should confirm the performance of the whole system for at least 1 month both in day and night for consistency.		
4.16	Vendor should give their offers in two-bid system as technical and price bids.		
4.17	Camera make preference will be SONY/ HONEYWELL / PELCO/BOSCH / INFINOVA / AXIS / PANASONIC only.		
4.18	Vendor should attach authorization certificate from the manufacturers of Camera, software, wireless components like base stations, switches, servers and storage systems for supply and support .		
4.19	Vendors are advised to visit the site before quoting for the proposed system.		
4.20	Wherever applicable, proper lightning arrestors, surge protection devices and proper earthing to be provided to ensure the safety of the devices.		



SL.NO	DESCRIPTION	SPECIFICATION	Bidder's compliance YES/NO	BIDDER'S OFFER (With Complete Technical Details)
5	IP Camera: Fixed Box type Indoor Camera)	Quantity - 20 Nos.		
5.1	Description:	IP based Fixed In door,day/night Camera		
5.2	Plane of installation	Vendor to specify		
5.3	Make& Model	Vendor has to specify		
5.4	Type	In door, Day/Night functionality to cover fixed direction for capturing any movements and close up views of person /object. Light will be available during night.		
5.5	Power supply Mode	Vendor to specify.		
5.6	Power supply kit	Should be OEM make		
5.7	Covering area	Not less than 30Mtrs		
5.8	Image device	1/3" Progressive Scan Megapixel CMOS or better		
5.9	Lens size	Lens size From 3.1 to 46mm, Mega-pixel compatible,		
5.10	Aperture	Vendor to specify		
5.11	Type of lens	Vari -focal with auto- iris lens		
5.12	Automatic lens control	Vendor to specify		
5.13	Total Pixels	Not less than 1.3 Megapixels		
5.14	Shutter speed	Vendor to specify		
5.15	S/N Ratio	>50 dB		
5.16	Communication	10/100 Base-T Ethernet, RJ-45 connector		
5.17	protocol support	IPv4, TCP/IP, UDP/IP, RTP(UDP), RTSP, NTP, HTTP,HTTPS, SSL, DNS, DHCP, FTP, SMTP, ICMP, SNMPv1/v2c/v3(MIB-2)		
5.18	Camera Features	Configuration, control command including clock synchronisation,Digital Zoom, firmware up gradation , Auto/ manual mode selection for Automatic Gain Control(AGC), back light compensation (BLC) ,etc through network video recording and management software		
5.19	Local Memory in camera	Capable to store 72 Hrs at a resolution of 640 X 480 continuous recording in case of network failure and automatic push through to server, when network is ready		
5.20	Minimum illumination handling capacity	0.07 lux for color and 0.01 lux for B/W 30 IRE		
5.21	Type of video compression (Dual streaming in both primary and secondary)	H.264, MPEG-4, JPEG (combination selectable)		
5.22	Aspect ratio	HD: 16:9 SD: 4:3		
5.23	Video resolution	Not less than HD:1280 x 720 & SD:640 x 480		
5.24	Frame rate per second	25fps (configurable in increment of 1 frame.)		
5.25	Video motion detection	Notification: FTP, e-mail,Alarm out		
5.26	Active tampering alarm and list of other related features	Vendor to specify		
5.27	Security	Password Protection, IP address filtering, User Access Log		
5.28	Audio support	Single/Two way audio function support		
5.29	Access level of cameras	To be provided for Administrator, Operator and viewers.		
5.30	Ambient condition	5 to 50 deg C @0 - 90% non-condensing		
5.31	Ingress protection	Minimum IP54 rated.		
5.32	Housing	Vandal Proof Structure		
5.33	Service facility	Should be available in India		
5.34	Video Recording	Day and night for all days.		
5.35	Mounting	Column /Channel with proper fixtures		
5.36	Open Standard Support	ONVIF conformance to ensure greater interoperability and more flexibility in building multiple-vendor systems.		



6.Outdoor Camera

ANNEXURE-G

SL.NO	DESCRIPTION	SPECIFICATION	Bidder's compliance YES/NO	BIDDER'S OFFER (With Complete Technical Details)
6.0	IP Camera: Fixed Box out door,day/night Camera)	Quantity - 1 No.		
6.1	Description:	IP based Fixed out door,day/night Camera		
6.2	Plane of installation	Vendor to specify		
6.3	Make& Model	Vendor has to specify		
6.4	Type	Out door, Day/Night functionality to cover fixed direction for capturing any movements and close up views of person /vehicle. Light will be available during night.		
6.5	Power supply	Vendor to specify.		
6.6	Power supply kit	Should be OEM make		
6.7	Covering area	Not less than 30Mtrs		
6.8	Image device	1/3" Progressive Scan Megapixel CMOS or better		
6.9	Lens size	From 3.1 - 46mm , Mega-pixel compatible,		
6.10	Aperture	Vendor to specify		
6.11	Type of lens	Vari -focal with auto- iris lens		
6.12	Automatic lens control	Vendor to specify		
6.13	Shutter speed	Vendor to specify		
6.14	Wide Dynamic Range	ON/ OFF		
6.15	Total Pixels	Not less than 1.3 Megapixels		
6.16	S/N Ratio	>50 dB		
6.17	Communication	10/100 Base-T Ethernet, RJ-45 connector		
6.18	protocol support	IPv4, TCP/IP, UDP/IP, RTP(UDP), RTSP, NTP, HTTP,HTTPS, SSL, DNS, DHCP, FTP, SMTP, ICMP, SNMPv1/v2c/v3(MIB-2)		
6.19	Camera Features	Configuration, control command including clock synchronisation,Digital Zoom, firmware up gradation , Auto/ manual mode selection for Automatic Gain Control(AGC), back light compensation (BLC) ,etc through network video recording and management software		
6.20	Local Memory in camera	Capable to store 72 Hrs continuous recording in case of network failure and automatically push through to server ,when network is ready.		
6.21	Minimum illumination handling capacity	0.07 lux for color and 0.01 lux for B/W 30 IRE		
6.22	Type of video compression (Dual streaming in both primary and secondary)	H.264, MPEG-4, JPEG (combination selectable)		
6.23	Aspect ratio	HD: 16:9 SD: 4:3		
6.24	Video resolution	Not less than HD:1280 x 720 & SD:640 x 480		
6.25	Frame rate per second	25fps (configurable in increment of 1 frame.)		
6.26	Video motion detection,	Notification: FTP, e-mail,Alarm out		
6.27	Active tampering alarm and list of other related features	Vendor to specify		
6.28	Security	Password Protection, IP address filtering, User Access Log		
6.29	Audio support	Single/Two way audio function support		
6.3	Access level of cameras	To be provided for Administrator, Operator and viewer		
6.31	Ambient condition	5 to 50 deg C @0 - 90% non-condensing		
6.32	Ingress protection	IP 66 / NEMA 4X rated protection against dust & heavy rain.		
6.33	Housing	Vandal Proof Structure, Outdoor pendant with heater and blower.		
6.34	Service facility	Should be available in India		
6.35	Video Recording	Day and night for all days.		
6.36	Mounting	8 Mtr. GI Pole or wall/column with proper fixtures		
6.37	Open Standard Support	ONVIF conformance to ensure greater interoperability and more flexibility in building multiple-vendor systems.		



SPECIFICATION FOR 36X IP PTZ SPEED DOME CAMERA

SL.NO	DESCRIPTION	SPECIFICATION	Bidder's compliance YES/NO	BIDDER'S OFFER (With Complete Technical Details)
8	Camera:(36x PTZ Dome Speed Camera)	Quantity - 73 Nos.		
8.1	Description:	IP based 36xPTZ Speed Dome Camera		
8.2	Make& Model	Vendor has to specify		
8.3	Plane of installation	Vendor to specify		
8.4	Type	Out door, Day/Night functionality to cover specified area by enabling in pan, tilt and zoom (PTZ) functions with motion detection, allowing user to monitor only areas where there is movement and to automatically track moving objects within the camera's field of view.		
8.5	Power supply	Vendor to specify.		
8.6	Power supply kit	Should be OEM make		
8.7	Kind of image want to capture	Continuous recording of full over view image , any object crossing over the compound walls in day & night . Automatic optical/Digital zooming as per pre-fixed time intervals.		
8.8	Distance to be covered	Vendor to specify.		
8.9	Pan and tilt covering area	Pan travel 360 deg and tilt travel 180 deg. Continuous.		
8.10	Maximum optical & Digital Zooming range	Optical Zooming 36X and Digital Zooming 12X		
8.11	Pan Speed	0.1 - 80 deg/ sec		
8.12	Tilt Speed	0.1 - 60 deg/ sec		
8.13	Preset Positions	128 minimum		
8.14	Accuracy	0.1 deg		
8.15	Auto Scan	ON/ OFF		
8.16	Image Flip	Required		
8.17	PTZ Tours (Patterns)	3 Programmable, 120 seconds each		
8.18	Wide Dynamic Range	ON/ OFF		
8.19	Protocol support	IPv4, TCP/IP, UDP/IP, RTP(UDP), RTSP, NTP, HTTP,HTTPS, SSL, DNS, DHCP, FTP, SMTP, ICMP, SNMPv1/v2c/v3(MIB-2)		
8.20	Communication	10/100 Base-T Ethernet, RJ-45 connector		
8.21	Camera Features	Configuration, control command including clock synchronisation,Digital Zoom, firmware up gradation , Auto/ manual mode selection for Automatic Gain Control(AGC), back light compensation (BLC),etc through network video recording and management software		
8.22	Image device	1/3 or 1/4" CCD (Charge -coupled device) for good light sensitive		
8.23	Lens size	Not less than 3.4 - 119mm		
8.24	Progressive scan technology	To be provided		
8.25	Type of lens	Vari -focal lens		
8.26	Shutter speed	Vendor to specify		
8.27	Minimum illumination handling capacity	0.07 lux for color and 0.01 lux for B/W @30 IRE		
8.28	Type of video compression (Dual streaming in both primary and secondary)	H.264, MPEG-4, JPEG (combination selectable)		
8.29	Effective Pixels	Not less than 640 X 480		
8.3	S/N Ratio	>50 dB		
8.31	Video resolution	640 X 480		
8.32	Frame rate per second	25fps (configurable in increment of 1 frame.)		
8.33	Video motion detection,	Notification: FTP, e-mail,Alarm out, ,Goto preset position, Goto a tour etc.		
8.34	Active tampering alarm and list of other related features	Vendor to specify		
8.35	Security	Password Protection, IP address filtering, User Access Log		
8.36	Speed Control of the PAN/ Tilt as per the Zoom ratio	To be provided.		
8.37	Local Memory in camera	Capable to store 72 Hrs continuous recording in case of network failure and automatically push through to server ,when network is ready.		
8.38	Access level of cameras	To be provided for Administrator, Operator and viewers.		
8.39	Audio support	Single/Two way audio function support.		
8.40	Ambient condition	5 to 55 deg C @0 - 90% non-condensing		
8.41	Environment protection	IP 66 rated protection against dust & heavy rain.		
8.42	Housing	Vandal Proof Structure, Outdoor pendant with heater and blower.		
8.43	Service facility	Should be available in India		
8.44	Video Recording	Day and night for all days.		
8.45	Mounting	To be mounted on the 8 Mtr. GI Pole		
8.46	Open Standard Support	ONVIF conformance to ensure greater interoperability and more flexibility in building multiple-vendor systems.		



SL.NO	DESCRIPTION	SPECIFICATION	Bidder's compliance YES/NO	BIDDER'S OFFER (With Complete Technical Details)
9	IP Camera: Fixed Box out door,day/night IR explosion proof Camera)	Quantity - 13		
9.1	Description:	IP based Fixed out door IR explosion proof day/night Camera		
9.2	Plane of installation	Vendor has to specify		
9.3	Make& Model	Vendor has to specify		
9.4	Type	out door, Day/Night functionality to cover fixed direction for capturing any movements and close up views of person /vehicle. Light will not be available during night.		
9.5	Power supply	Vendor to specify.		
9.6	Power supply kit	Should be OEM make		
9.7	Covering area	Not less than 20Mtrs		
9.8	Image device	1/3" Progressive Scan Megapixel CMOS or better		
9.9	Lens size	From 3.1 - 46mm , Mega-pixel compatible,		
9.10	Aperture	Vendor to specify		
9.11	Type of lens	Vari focal with Auto-Iris IR Corrective;		
9.12	Automatic lens control	Vendor to specify		
9.13	Shutter speed	Vendor to specify		
9.14	Day & Night	IR corrected lens		
9.15	IR Illuminator	≥ 20 Metres, wavelength: 850nm		
9.16	Total Pixels	Not less than 1.3 Megapixels		
9.17	S/N Ratio	>50 dB		
9.18	Communication	10/100 Base-T Ethernet, RJ-45 connector		
9.19	Protocol support	IPv4, TCP/IP, UDP/IP, RTP(UDP), RTSP, NTP, HTTP,HTTPS, SSL, DNS, DHCP, FTP, SMTP, ICMP, SNMPv1/v2c/v3(MIB-2).		
9.20	Camera Features	Configuration, control command including clock synchronisation,Digital Zoom, firmware up gradation , Auto/ manual mode selection for Automatic Gain Control(AGC), back light compensation (BLC),etc through network video recording and management software		
9.21	Local Memory in camera	Capable to store 72 Hrs continious recording in case of network failure and automatically push through to server ,when network is ready.		
9.22	Minimum illumination handling capacity	0.68 Lux @F1.4 (Without IR LED), 0 Lux @ F1.4 (With IR LED)		
9.23	Type of video compression (Dual streaming in both primary and secondary)	H.264, MPEG-4, JPEG (combination selectable)		
9.24	Aspect ratio	HD: 16:9 SD: 4:3		
9.25	Video resolution	Not less than HD:1280 x 720 & SD:640 x 480		
9.26	Frame rate per second	25fps (configurable in increment of 1 frame.)		
9.27	Video motion detection,	Notification: FTP, e-mail,Alarm out, JPEG Recording on SD		
9.28	Active tampering alarm and list of other related features	Vendor to specify		
9.29	Security	Password Protection, IP address filtering, User Access Log		
9.30	Audio support	Two way audio function support		
9.31	Access level of cameras	To be provided for Administrator, Operator and viewer		
9.32	Ambient condition	5 to 50 deg C @0 - 90% non-condensing		
9.33	Environment protection	IP 66 / NEMA 4X rated protection against dust & heavy rain.Flame proof enclosures required,Enclosure : Weather proof to IS:13947; IP66 : Flame proof to IS:2148,zone 1&2,: Gas Group IIA & IIB,T6. Certifications : CMRI+CCOE		
9.34	Housing	Vandal Proof and flame proof structure		
9.35	Service facility	Should be available in India		
9.36	Video Recording	Day and night for all days.		
9.37	Mounting	To be mounted on the 8 Mtr. GI Pole		
9.38	Open Standard Support for Network Video interface.	ONVIF conformance to ensure greater interoperability and more flexibility in building multiple-vendor systems.		



10	Standalone Networking System for BHEL Trichy & Thirumayam	Bidder's compliance YES/NO	BIDDER'S OFFER (With Complete Technical Details)
10.1	TCP/IP network protocol based With combination of wired and wireless networking to be used for BHEL Tirchy and Thirumayam.		
10.2	All the Network components, Client workstation PC, Servers, Storage units shall be OEM make only and approved by BHEL.		
10.3	All the wireless modems shall be of same make and same range(distance coverage)		
10.4	For BHEL Trichy,the 122 cameras in the 42 locations in annexure-I shall be connected to minimum 33 CPE's(PTP/PTMP wireless bridges). 33 CPE's(PTP/PTMP wireless bridges) shall be installed based on the cameras distribution in various areas. The nearby cameras shall be connected via wired and shall be brought to each CPE(PTP/PTMP wireless bridges). CPE's(PTP/PTMP wireless bridges) shall include the switches, Wireless Access points(indoor/outdoor),the field modems,antennas and what so ever in between required for transmission. Each CPE(PTP/PTMP wireless bridges) shall be capable to handle a suitable bandwidth in duplex transmission based on the types cameras located in the areas. (Consider Fixed cameras consume minimum 5 Mbps data since they are HD cameras and PTZ cameras consume minimum 2 Mbps data since they are SD cameras).		
10.5	Wired/Wireless networking has to be deployed for interconnecting the 17 cameras for BHEL Thirumayam. From the cameras, data shall flow through the necessary components and intermediate switches to the servers and storage devices.		
10.6	Wireless technology both point to point (PTP) and point to multi-point (PTMP) has to be deployed extensively to establish the network. From each CPE,PTP connections should be established through wireless technology to at least 2 Base Transmitting Stations (BTS) for redundancy.Redundancy should be ensured between Base Transmitting Stations (BTS) and the central monitoring station.Frequencies used for transmission and reception shall be 5.8 GHZ.		
10.7	BTS shall also include the switches, wireless access points, field modems, antennas and what so ever in between required for transmission. All devices in the BTS shall be capable of handling the suitable bandwidth. There should be at least 3 BTS in the network from where redundant fibre optic paths will be available to the central monitoring station.		
10.8	Vendor has to provide the total bandwidth calculation required at each level from the camera to the server in the technical bid.		
10.9	Each CPE(PTP/PTMP wireless bridges),switch and all networking components should be tested and approved by WPC/Telecom Research Centre for using the frequency 5.8 GHZ with a capacity bandwidth mentioned by the vendor in the technical bid.		
10.10	Supplier shall use unlicensed frequencies for data transmission.		
10.11	From the Base stations, the data's shall be transmitted through OFC cable to the required switches(with redunancy). Each switch and Central manageable switch shall be capable to handle the total video data bandwidth of all the cameras continuously.		
10.12	While designing,the actual bandwidth of the system for the wired and wireless networking components should be atleast 30% greater than the actual bandwidth usages of all the networking components of the system.		
10.13	Vendor has to give the complete networking lay out with the components involved in the network for BHEL-Tiruchy and BHEL-Thirumayam separately.		
10.14	Uplink port should have sufficient speed to avoid network congestion, preferably network should not be loaded more than 70% at any stage		
10.15	All networking switches shall be manageable Layer-2 or Layer-3 switches.All Layer-2 switches must finally be brought together using 1000baseT/1000BASE-TX ports to central manageable switch. Connection to the servers and workstations must be 1000baseT/1000BASE-TX from 100/1000baseT or 100/1000baseTX ports.		
10.16	Network monitoring software should be used to monitor the networking devices, CPU usage, memory usage, interface bandwidth usage, troubleshooting etc. for both BHEL Trichy and BHEL Thirumayam.		
10.17	Vendor to ensure that Control of function of the camera By Clicking on the key pad , mouse and joy stick.		



10.18	Wireless specification		
10.18.1	License Free Spectrum : 5.8Ghz		
10.18.2	Technology : Confirming to IEEE 802.11n wireless standards		
10.18.3	Data Rate : 300 Mbps or higher		
10.18.4	Performance (Throughputs) : 100 Mbps or better		
10.18.5	MIMO : 2 X 2 or better		
10.18.6	Antenna : Integrated Dual Polarised (beamwidth: 30 deg or more) or provision to connect external antennas		
10.18.7	Channel Width : 10 / 20 / 40 MHz		
10.18.8	Automatic Interference Detection & Avoidance : should support interference detection and avoidance		
10.18.9	Controller base: Wireless network should be managed by a SNMP enabled central management software		
10.18.10	IPV6 Ready : The wireless network support for IPV4 and IPV6		
10.18.11	PoE Support : Standard IEEE 802.3af / 802.3at support		
10.18.12	VLAN Support : 802.1Q pass through		
10.18.13	Configuration : Web user interface GUI, Telnet, SSH, HTTP/S/XML/SOAP		
10.18.14	Wireless Security : WPA2 AES, 802.11i		
10.18.15	Ruggedized outdoor : IP65 or better		
10.18.16	Operating Temp range : 5 to 65deg C		
10.18.17	Humidity : 15 to 95% condensing		
10.18.18	Link Distance Support : Up to 10km (in PTP) without external antennas		
10.18.19	Point-to-MultiPoint Capability : 3 or more Remotes per Central radio		
10.18.20	Wired Ports :10/100/1000 TX		
10.18.21	Qos Support for Voice, Video and Data : The wireless system should support QoS for Voice, Video and data		
10.18.22	Advanced Replacement Warranty : Local (India) service delivery centre		
10.18.23	ETA Approval (India Type approval) : Submit ETA approval for the radius.		
11.0	Client Work station :		
11.1	The client Work Station shall have the necessary hardware and software to integrate all the cameras of CCTV system with all required features and view real time pictures from number of cameras at a time. The licensed client software for the workstations minimum 10 nos should be supplied with its product key.		
11.2	Industrial grade LED Monitor: 46 Inches or above colour LED monitor with wall mounting facility. 5 Nos. for BHEL Trichy and 2nos for BHEL Thirumayam for Monitoring & Viewing in different ways to view live images like Split view, Single camera view, Full screen and automatically switches to all of the cameras.		
11.3	It shall provide live video view, various video playback support, historical video search and playback, PTZ Controls, alarm management, and front end control features to an operator. Client Application shall also able to manage & control all devices depending on the user access privileges. System should support virtually unlimited VNMS Clients.		
11.4	Network video management system shall support web based remote Recording and monitoring from PC Based centralized 7 nos of Workstations (4+1 for BHEL trichy and 1+1 for BHEL Thirumayam) Vendor to specify the specification, Model & Make.		
11.5	5(4+1)client work stations with accessories to control the 122 cameras for BHEL Trichy. Out of 5 workstations,1 Workstation has to control all the 122 cameras and has to be placed in CSO room for special monitoring and controlling		
11.6	2 client work stations with accessories. Each should be capable to control the 17 cameras for BHEL thirumayam.		
11.7	Vendor to ensure that Control of function of the camera By Clicking on the key pad , mouse and joy stick.		



11.8	Technical Specification For Client Work Station : VNMS-Client shall operate with no performance degradation using the following minimum hardware and operating system configuration:		
	i. Processor: Intel @ i5 750 2.66 GHz		
	ii. System Memory (RAM): 4 GB		
	iii. Optical Drive: DVD-R		
	iv. Hard Disk Drives: 500GB		
	v. Network Interface Card (NIC): Dual or compatible pair of NICs, 1 Gbps		
	vi. Human Interface: 102-key keyboard , mouse & Joystick(USB 2.0 Supported)		
	vii. Graphics Adapter: NVIDIA 1GB Independent Graphic Card		
	viii. Operating System: Original software CDs and startup installation diskettes for:		
	a. Windows® 7 Professional 64-bit or Higher end b. Net Framework 4.0		
11.9	Vendor has to provide the necessary fixtures, furnitures for the control room. Vendor has to provide the necessary fixtures, wall mountings, racks for the Servers, LED monitor, switches and other hardware items to establish the system in full.		
11.10	Control room will be provided by BHEL. Vendor has to mention the exact dimensions of the control room required to accommodate all the necessary equipments including the servers, storage devices, switches, client workstations, furnitures, LED monitors for both BHEL Trichy and BHEL Thirumayam. Control room layout displaying the distribution of all the devices should be provided by the vendor.		
12.0	APPLICATION SERVER :		
12.1	The application server contains a Network Video Data management center which includes user management, facility management system logs etc. and event & control service which receives and controls events and commands of various formats via different communication modes, and shall be able to support either upto 122 cameras. However the system should be capable to expand virtually upto unlimited number of cameras by incorporating multiple servers to make a complete Video Management System. The (4+1) application servers shall be used for BHEL Trichy and each server shall be capable to handle 32 channel data. Clustering of (4+1) application server shall be done for redundancy. For BHEL Thirumayam (1+1) redundant application server shall be used.		
12.2	The server management software shall be loaded for redundancy of servers and Virtual Management.		
12.3	TECHNICAL SPECIFICATION FOR SERVER : The Technical Specification of the Application Server mentioning the below listed details shall be provided by the vendor in technical bid:-		
	i. Processor Details :		
	ii. System Memory (RAM) : minimum 16GB		
	iii. HARD Disc drive : minimum 2 X 500GB		
	iv. RAID configuration : RAID 10		
	v. DVD - RW		
	vi. Server Operating System:		
	vii. Anti-Virus Software:		
	viii. Network Intruder shield:		
	ix. Network Interface Card (NIC): Dual or compatible pair of NICs, 1 Gbps		
	x. Human Interface: 102-key keyboard and a mouse pointing device		
	xii. Health monitoring: Failure/ Error/ Overload		
	xii. Storage Management: Hot swappable Module, Easy for cluster expansion, Multi-tiered architecture, Supports quota management, Multiple protocol support: iSCSI, CIFS, NFS, Mixture of SAS/ SATA hard drives in enclosure, Volume snapshot with rollback and copy, SNMP/ email alert		
	xiii. Power Input: 100 ~ 240 VAC		
	xiv. Power Consumption:		
	xv. Temperature: 20 to 40 deg C		
	xvi. Humidity: 95% non-condensing		
xvii. Other related requirements for server operations:			



13.0	NAS Server Technical Specification: Server shall operate with no performance degradation using the following minimum hardware and operating system configuration but not limited to;		
13.1	System Memory (RAM): minimum 16 GB and expandable upto 64 GB		
13.2	Internal Disk Drive : 2 X 1TB		
13.3	Network Interface Card (NIC): Dual or compatible pair of NICs, 1 Gbps		
13.4	Human Interface: 102-key keyboard and a mouse pointing device		
13.5	Operating System: Original software CDs and startup installation diskettes for: a. Windows Server 2008 R2 Standard 64-bit b. .Net Framework 4.0 c. Microsoft VC 2010 runtime library		
13.6	STORAGE : One Storage server shall able to receive and store videos from various front end devices and forward to various decoders, clients applications connected to the VNMS ensuring a smooth transmission when transmitting mass videos in various bandwidth levels. The Storage server shall able to support 30% more then the storing the data from 122 cameras for a period of 30 days(24 * 7) recording rate at 25 fps with 4 CIF resolution at H.264 format for BHEL Trichy.		
13.7	One Storage Server shall be provided for storing the data from 17 cameras for a period of 30 days(24 * 7) recording rate at 25 fps with 4 CIF resolution at H.264 format for BHEL Thirumayam and can be expanded further for future requirements by incorporating the additional storage chassis.		
13.8	Minimum 10% of HOT Spare disk should be provided in addition to the number of disks provided for BHEL Trichy and Thirumayam		
13.9	Hard Disk: All Hard disks shall be of minimum 1TB, 10,000RPM, SATA Disks		
13.10	The storage Server Specifications as recommended by OEM as per site configuration and total camera bandwidth and storage sizing as per BHEL requirements.		
13.11	The storage device management software shall provide facility to add or remove a hard disk without shutting down both the storage and application server.		
13.12	The storage device management software shall provide method to recover or manage failure hard disk in the storage volume		
13.13	The storage device management shall provide hard disk repair method or management for failure hard disk		
13.14	RAID Controller: Redundant RAID controller should be given and it should support RAID 0,1,5,6, 10, 50,60		
13.15	Health monitoring: Failure/ Error/ Overload		
13.16	Storage Management: Hot swappable Module, Easy for cluster expansion, Multi-tiered architecture, Supports quota management, Multiple protocol support: iSCSI, CIFS, NFS, Mixture of SAS/ SATA hard drives in enclosure, Volume snapshot with rollback and copy, SNMP/ email alert		
13.17	Power Input: 100 ~ 240 VAC		
13.18	Power Consumption: 2 x 300W		
13.19	Temperature: -30 to 65 deg C		
13.20	Humidity: 95% non-condensing		
13.21	BACKUP Device: The Backup device should come with LT 05 Ultrium drive with 5nos of 1.6TB Tape and necessary backup software to be provided to connect with server. Cleaning cartridges -2nos to be provided.		
13.22	All the servers and storages should of be rack mountable with mounting kits.One rack mountable KVM switch should be provided to connect and manage the servers locally.		
14.0	SOFTWARE SPECIFICATIONS & FEATURES : The licensed Network Video management software with Video Analytics and the required client software for servers and work stations should be supplied with its product key. The software should support & compatible of multi branded cameras for viewing, recording, controlling & analysing the entire IP based wireless CCTV system. Also the software should support future versions of Windows Operating Systems. Internet option should be provided for future requirements. The necessary antivirus packages for all the hardwares is under the scope of the vendor. The anti-virus package should support for 5 years.		



14.1	The software shall be capable to integrate/operate all 5 Nos of work stations,122 cameras and the entire IP based wireless CCTV system for BHEL Tiruchy and 2 Nos of work stations,17 cameras and the entire IP based wireless CCTV system for BHEL Thirumayam		
14.2	SOFTWARE FEATURES: Vendor has to specify the features Video analytic of available in the Video analytic software with trigger an alert .The following Video analytic are preferred.		
	i. Missing object detection		
	ii. Left object detection		
	iii.Virtual fence detection		
	iv. Secure zone detection		
	v. Behavioral analysis like detection on fall, running , loitering etc.		
14.3	The NVMS client shall consist of administrator Tool application, a monitoring application, an Archive player application, a web monitoring access, a web Archive player access and a mobile monitor application.		
	The NVMS client shall perform the following applications simultaneously without interfering with any of the application and storage servers operations		
14.4	i. Live display of cameras		
	ii. Live display of camera sequences		
	iii. Control of PTZ cameras		
	iv. Playback of archived video		
	v. Retrieval of archived video		
	vi. Instant replay of live video		
	vii.Use of replay of live video		
	viii.Use of graphical controls (maps)		
	ix. Use of procedures (macros)		
	x. Configuration of system setting		
14.5	The NVMS client applications shall support any form of IP network connectivity, including : LAN, WAN, VPN, internet, and wireless (Wi-Fi and cellular) technologies.		
14.6	The NVMS client application shall automatically adapt to the network topology and use the best available method to receive streaming video.		
14.7	The NVMS client applications shall provide an authentication mechanism, which verifies the validity of the user.		
	NVMS client monitor application		
	i. The client monitor application shall allow for live monitoring of video		
	ii. The monitor shall enable view of 1 to 16 video tiles simultaneously on a single SVGA/VGA (monitor at 25fps per camera.)		
	iii. The NVMS monitor application shall allow operators to view an instant replay of any camera.		
	iv. The operator shall be able to define the amount of time he wishes to go back from a predefine list or through a custom setup period.		
14.8	v. The operator shall be able to control the playback with play, pause, forward, and speed buttons.		
	vi. The NVMS monitor application shall allow operators to add bookmarks or to switch their instant replay view into the Archive player application, for advanced operations, by clicking on a single button in the instant replay tab.		
	The operator shall be able to choose and trigger an action from a list of available actions included but are not limited to:		
	i. View camera in a video file		
	ii. Starting/ stopping PTZ pre set pattern		
	iii. Sending alert messages & E-mails.		
14.9	The VNMS monitor application shall provide management and control over the system using a standard PC mouse, keyboard and Suitable joystick to be provided for each client, as necessary.		
14.10	The VNMS monitor application shall support Graphical site representation (maps) functionality, where digital maps are used to represent the physical location of cameras and other devices .		



15.0	General System Overview :		
15.1	All cameras should be of same make. All the networking components involved should be of same make.		
15.2	System should operate in both Day & Night in Auto and manual mode. Recording and viewing should be done simultaneously		
15.3	Incase of power failure ,system in central monitoring station and control room should work on its power backup mode for minimum 3 Hrs.		
15.4	All equipments should be capable of operation for 24 X 7 hours unmonitored surveillance recording with remote viewing and control		
15.5	Video records search function by camera, date, event type and time segments including advanced motion search, missing and left object search etc. shall be provided.		
15.6	Backup facility shall be provided for video recordingsandsnapshots(stills), manually or by schedule directly to CD/DVD. It should be able to export the selected images and videos to external storage device according to user needs.		
15.7	The system shall have joystick, keyboard and mouse to operate monitor selection, viewer selection, IP camera video stream selection, stored display pattern selection, start/stop tour, video playback, manual recording, PTZ camera PTZ function control and PTZ save and recall functions.		
15.8	The system should provide network health monitor with alarm for any link failure, camera fault, light fault, extra delay, delay loss, power loss, signal loss etc. It shall facilitate on screen display to log all type offaults and alert alarms to the operator with day, date and time.		
16.0	Network and Video Management System (NVMS) :		
16.1	SCALABILITY & REDUNANCY: The System shall be scalable to enterprise level system so that increase in the number of cameras; number of servers & number of Clients to the network shall not affect the currently running system operations & functionality and this procedure does not require any system down time. The server components of the system shall be fully redundant with no single point of failure. The system shall be able to perform an automatic switch over to a backup server if the primary server fails.		
16.2	Open Standard Support: VNMS Software shall be ONVIF compliant so that it can integrate with multiple digital IP cameras, multiple digital and network video recording devices, multiple video matrix switchers and matrix keyboards.		
16.3	The NVMS software should be capable to display & manage the entire surveillance system. It should be capable to support ONVIF compliant devices such as multi branded cameras, media-converto, PTZ controller, storage and backup devices etc. The Network management software should be capable to display & manage the entire network system. It should support SNMP compliant devices such as switches, routers, wireless access points, modems etc.		
16.4	Network video recording and Network video management system with video analytic software shall support 122-network camera & should be expandable to minimum up to 150 cameras in future if required for Triuchy and 17-network camera & should be expandable minimum up to 25 cameras in future if required for Thirumayam .		
16.5	Network video recording and Network video management system shall support time stamped comment during recording monitoring and these comments shall be linked with camera for easy logging. It shall support recording of H.264, MPEG-4, JPEG (selectable).		
16.6	The NVMS software shall support dual streaming function (User selectable)		
16.7	The NVMS software shall provide Mail Setting tab for SMTP setting and Alarm Mail Default Setting and shall preferably be able to send Email/SMS notification with image data as a attachment on one or more than one email address when alarm occurs.		
16.8	NVMS software shall support application programming interface for further customized application development.		
16.9	NVMS software shall support customized viewing layouts to create customized site layout all allow to insert backgrounds, icons and logos.		
16.10	NVMS software shall support customized logging reports.		



16.11	NVMS software shall support multiple user accounts with various security privileges/ access such as access to only specific camera groups		
16.12	NVMS software shall support dynamic masking function to prevent to viewing on prohibited or unwanted area.		
16.13	Network video management system shall support play/back during recording without any interruption.		
16.14	Network video management system shall support AVI file export function.		
16.15	NVMS software shall support automatic layout function to automatic switch between multiple network cameras. It shall operate on open architecture.		
16.16	The NVMS software should have in-built facility to store configuration of cameras.		
16.17	The software should support split screen display mode, scroll mode on the workstation monitor and LED monitor as per our requirement.		
16.18	Network video management system shall able to control all cameras ie.mouse controllable PTZ controls, presets, Selection of Video tour, Iris control auto/manual focus, color balance of camera & also having capacity for recording, pre alarm/ alarm etc.		
16.19	The NVMS software should be able to display camera current status and relevant information including camera name, time/date, network status, recording, storage,video loss and event and fault alarm status.		
16.20	The software shall provide the display viewer with capability to display the camera name, record status, sub-camera frame, date, time stamp, time slider interface and alarm blinking frame indication on the display viewer. It also provide optional color setting for selected name and time stamp on the display viewer		
16.21	The Network video management system should generate reports of stored device configuration, to provide alarm & alarm log and take regular backup.		
16.22	The NVMS software should have user access authority configurable on per device or per device group basis.		
16.23	It should have facility to request the access of any camera and also control the camera for a specific period.		
16.24	The administrator only should be able to add, edit & delete user with rights. 2 level security protection should be provided to add/modify/delete the videos. Reset provision for the 2 level security passwords should be provided.		
16.25	Users should be possible to view the cameras and control them as per the permission assigned by the administrator.		
16.26	It should have recording modes for continuous, manual or programmed on dates, time and camera wise.		
16.27	It should provide on screen controls for remote operation of all cameras, it should have the facility for scheduled recording.		
16.28	Programmable recording for motion detection to be provided .		
16.29	System must be able to support video motion detection algorithms to detect and track object.		
16.30	The software shall provide specific alarm mode display with relevant alarm function included. It includes alarm event list, alarm video play, alarm event searching function, missing object and foreign object function. The permission of alarm setting including alarm acknowledge and alarm search should be provided.		
16.31	The missing object search function and foreign object search function shall provide optional relevant parameter including object area define frame, camera selection, video sampling interval, consecutive time hits. It shall provide start /stop searching and stop when found function. When the search is complete, the search result are shown in the list or video clip and available to drag to spooler area for video export		
16.32	The software shall support synchronized audio/voice received by microphone during the real-time video display. It shall provide audio on/off option on the display window for user to select according to individual need.		
16.33	Network video management system software shall provide system self-diagnostic mechanism and provide the hard disk and relevant hardware status information including CPU operating temperature, fan speed, hard disk operating temperature and power supply information.		
16.34	The software shall provide multiple and flexible recording mode. The user is able to set the full time schedule recording or event trigger recording.		
16.35	The CCTV Network video management system application software should allow retrieval of data instantaneously at any date/time interval chosen through search functionality of the application software. The data's should be automatically overwritten once the data storage for 30 days is over.		



16.36	Vendor shall quote only the below makes for Switches : Cisco / Juniper / HP/Ruggedcom Wireless networking components: Cisco / Aruba / Ruckus /Motorola/Masket		
16.37	Network video management system software shall provide system report of healthiness of camera, wireless network, wireless network components, utilization of the network components (like processor usage, memory usage etc.),Interference to the network and details of the same (frequency, band etc.)		
16.38	Network video management system software shall provide Bandwidth usage at each backbone and wireless network.		
16.39	The NVMS system should support and capable of encrypting the data from end to end.		
16.40	The system should support and capable of encryption during wireless transmission.		
16.41	UPS : Minimum 3 hours backup for the connecting loads. Vendor to specify design calculation along with connected load to meet the power requirement of the system . The UPS units at all the locations shall be the part of bidders scope.		
16.42	Power input: 230 V AC/50 Hz. Vendor to specify for locations of UPS, capacity, numbers, Housing etc.		
16.43	All the cameras should have a power backup of 3 hours.		
16.44	Vendor to provide the UPS for the Servers, Storage device & Client workstations. Vendor to specify the capacity.		
16.45	CABLE ,CONDUITS & ACCESSORIES		
16.46	OFC cable for long distance and CAT – 6 cable to provided for short distance for BHEL Trichy(wherever required) and Thirumayam. Vendor to specify for Model, make, size, single core/Multi core, suitable conduit, accessories for wiring at the under ground, wall & Post		
16.47	Multicore fibre optic cable, suitable for outdoor deployment in Ethernet (up to 10Gbps) data network. The fibres shall be in a central tube filled with water-blocking compound and with standard colour code index. The cable shall have steel armour to provide rodent and lightning protection. The outer sheath shall be water-resistant, UV-resistant and Fungus-resistant and shall provide maximum environmental protection. The cable shall conform to TIA / EIA-568B standard. The minimum bending radius of the cable shall be 20 x cable diameter under load.		
16.48	Power Cable (Copper Flexible) : Vendor has to specify type required size & length for whole system.		
16.49	Single line diagram of proposed system : Vendor to provide		
16.50	Cabling between camera to Control : Supplier has to measure the cabling length that is required and quote.		



17	ACCEPTANCE TEST PROCEDURE FOR THE PROJECT	Bidder's Compliance Yes / No	Bidder's Remarks
17.1	Complete system supply, installation and running of system as per requirements and technical specifications must be completed for proceeding with ATP.		
17.2	Soft copy and hard copy of complete system documentation, technical literature including the technical catalogues, maintenance and service manual, user manual of all the components like the cameras, switches, all the wired and wireless networking components, base stations, servers, client workstations, application servers, storage servers, softwares, details of configuration, various wiring diagrams, layout, Marking and labeling of all cameras, switches, all networking components involved, cables, ports, terminations, running instructions etc to be submitted. This will serve as reference document in case of any problem/ system augmentation etc. (3 sets)		
17.3	Vendor should provide the complete technical specification and the supplier address for all the brought-out components including cameras, switches, all the wired and wireless networking components, cables, base stations, servers, client workstations, application servers, storage servers, softwares.		
17.4	Complete lay-out of the network architecture of the total system should be submitted by the vendor		
17.5	Newness certificate: The Vendor has to submit the newness certificate of all the equipments supplied.		
17.6	OEM support: The Vendor has to submit the certificate from the Original equipment manufacturer of the all the system components for their back to back support for entire contract period.		
17.7	After the installation and commissioning of the system as per the technical specification following are to be done		
17.7.1	Demonstration of 122+17 cameras in on line mode to prove the camera's performance during day and night. Demonstration of cameras working on battery in case of power failure. Demonstration of the cameras in case of network failure.		
17.7.2	Online report for all the above movements.		
17.7.3	Demonstration of smooth working of all software modules as per specifications from the work station, central application servers and from storage server.		
17.7.4	Demonstration of all the analytics and other features controlled in each camera is to be proved through the video management and recording software.		
17.7.5	Storage capacity of the servers for a period of 30 days for continuous recording of all the 122+17 cameras should be proved.		
17.7.6	Storage capacity of the cameras for 72 Hrs continuous recording should be proved		
17.7.7	Demonstration of the total system in online mode for 1 day continuously to prove the maximum transmission and reception data rate. During the demonstration, ensuring that the bandwidth of the system is 30% higher than the actual required bandwidth during continuous movements in all the cameras		
17.7.8	Ensuring the network healthiness in all the cameras 24 * 7 and during the online mode, continuous video data transmission from all the cameras without any delay in the screen to be monitored for a day		



18	MAINTENANCE & BACKUP	Bidder's Compliance Yes / No	Bidder's Remarks
18.1	Vendor shall be responsible for the continuous and smooth operation of the wired , wireless network components , CCTV cameras and related hardware , software of the entire system for the lease rental period.		
18.2	Vendor shall have back up support with Original Equipment Manufacturer (OEM) during contract period for wired , wireless network components , CCTV cameras and related hardware , software of the entire system to ensure availability of spares and services.		
18.3	Vendor shall arrange to have a service facility in BHEL/TIRUCHIRAPPALLI. They have to post their Maintenance engineers during day time. Any failure in this system shall be attended immediately and the system availability shall be more than 98 %		
18.4	Vendor needs to maintain critical spares for immediate replacement pertaining to this system.		
18.5	Vendor shall have adequate tools and test equipments for regular work at BHEL Trichy and Thirumayam. BHEL shall arrange Movement pass for men and materials to attend work outside the campus of all the installations .		
18.6	Required Back up of useful data and handing over of the media to security department .		
18.7	Daily checking of the status of all the CCTV cameras , Check for Healthiness of Networking, date, time , and the performance status of the entire system should be completed before 8.00 AM.		
18.8	On Sundays and Holidays , on-line status check shall be done		
18.9	Power supply to POE/PTZ Cameras to be ensured every month		
18.10	Daily log for monitoring of complaints of all field equipments, software, networking and Immediate action taken for rectification should be maintained.		
18.11	Weekly meet with BHEL security department with log book regarding the Status of CCTV System , complaints and and rectifications .		
18.12	Regular Monthly checking of softwares of PCs , server system and storage devices to ensure smooth recovery and business continuity in case of system failure.		
18.13	Monthly battery check up for UPS to ensure backup time.		
18.14	All the cameras should be cleaned every month.		
18.15	Monthly and Quarterly Preventive maintenance schedule shall be given to have a complete checking of all the CCTV System components and Battery backup, Power check, networking, connectivity and Wired/wireless communication systems.		
18.16	1 Month data have to be maintained for verification.		
18.18	It is the responsibility of the vendor to take back the used batteries every month. It should not be stored in BHEL complex.		
18.19	Backup, operating system of PCs ,server, storage device and battery for real time clock shall be checked atleast every six month.		
18.2	Weekly Virus checks should be done and it should be cleaned on the PC's, servers and storage devices. Antivirus support should be ensured every month.		



5 Year Finance Lease Option (Quarterly Rental)

	Slno	Item Description PART-A (Quarterly payment in arrear)	Item Qty QTY/SET
		BHEL-TRICHY	
PART-A	1	Supply and installation of Fixed box type indoor cameras with accessories	16
	2	Supply and installation of Fixed box type outdoor cameras with accessories	1
	3	Supply and installation of Fixed box type outdoor IR cameras with accessories	32
	4	Supply and installation of Fixed box type outdoor flame proof cameras with accessories	13
	5	Supply and installation of PTZ cameras with accessories	60
	6	Supply and installation of Wireless bridges,Access points, antennas,CPE's,Base stations,switches and other related networking components	1 lot
	7	Supply and installation of RF towers with lightning arrestors and surge protection	1 lot
	8	Supply and installations of application servers	5
	9	Supply and installations of storage servers	2
	10	Supply and installation of Video management and analytics software	1
	11	Supply and installation of Client workstations with accessories	5
	12	Supply and installation of LCD monitors	5
	13	Supply and installation of UPS and batteries for powering the cameras	1 lot
	14	Supply and installation of UPS and batteries for powering the servers	1 lot
	15	GI poles for mounting the Cameras with surge protection.	1 lot
	16	Supply and installation of CAT-6 cables	1 lot
	17	Supply and installation of Fibre optic cables with conduits	1 lot
	18	Supply and installation of Patch cables	1 lot
	19	Supply and installation of required PVC pipes with accessories	1 lot
	20	Other related passive accessories for the cameras and networking components	1 lot
	21	All Civil works	1 lot
	22	If any other items is required to complete the system, that may be specified by vendor with quantity	1 lot



BHEL THIRUMAYAM			
PART-B	1	Supply and installation of Fixed box type indoor cameras with accessories	4
	2	Supply and installation of PTZ cameras with accessories	13
	3	Supply and installation of Wireless bridges,Access points, antennas,CPE's,Base stations,switches and other related networking components	1 lot
	4	Supply and installation of RF towers with lightning arrestors and surge protection	1 lot
	5	Supply and installations of application servers	2
	6	Supply and installations of storage servers	2
	7	Supply and installation of Video management and analytics software	1
	8	Supply and installation of Client workstations with accessories	2
	9	Supply and installation of LCD monitors	2
	10	Supply and installation of UPS and batteries for powering the cameras	1 lot
	11	Supply and installation of UPS and batteries for powering the servers	1 lot
	12	GI poles for mounting the Cameras with surge protection.	1 lot
	13	Supply and installation of CAT-6 cables	1 lot
	14	Supply and installation of Fibre optic cables with conduits	1 lot
	15	Supply and installation of Patch cables	1 lot
	16	Supply and installation of required PVC pipes with accessories	1 lot
	17	Other related passive accessories for the cameras and networking components	1 lot
	18	All Civil works	1 lot
	19	If any other items is required to complete the system, that may be specified by vendor with quantity	1 lot



LOCATIONS

ANNEXURE-I

ANNEXURE-I

BHEL TRICHY COMPLEX

S.NO	LOCATION	CCTV					REMARKS	
		FIXED BOX CAMERAS - Qty			PTZ CAMERAS Qty	Wired		Wireless Tower
		Indoor	Outdoor	Outdoor with IR				
1	Main Gate			3	2	5		
2	EDP Gate/I&C	3			4	7		
3	Building no: 24	2			1	3		
4	WRI Gate			1				
5	WRI WorkShop				1		1	
6	Coal Research Centre				1		1	
7	CCDP Gate			1			1	
8	CCDP Yard				1		1	
9	MHD R&D Gate			1				
10	MHD Gas plant			4	1		1	All Fixed cameras with Flame Proof
11	MHD Gate			1	1		1	
12	SSTP Gate			2	1		1	
13	SSTP Stores Rear Side				1		1	
14	SSTP - LPG yard , Fuel tank & oxygen tank			9	1		1	All Fixed cameras with Flame Proof Enclosures
15	HPBP TPS/YARD/STORES				3		1	
16	HPBP Disposal Yard/Stores				2		1	
17	Ward 11,18,75	4			1		1	
18	East Gate			2	1		1	
19	Sub Delivery Stores				3		1	Two nos Indoor+1 Outdoor
20	Ward 42/ SS Stores			1			1	
21	Ward 10 : Stores	7		3			1	
22	North East Watch Tower				1		1	
23	Building no: 1				6		1	
24	Building No: 5			2	1		1	
25	Building No:6			2	1		1	
26	Building no: 50			2	4		1	
27	Tube Store			1	1		1	
28	HRDC Gate			1				
29	HRDC spring shop			1			2	
30	Ganesa Gate & Town Ship				2			
31	Building no: 79		1		1		1	
32	Building no: 53 R&D			1	1		1	
33	WRI north Gate			1			1	
34	OHS model centre gate			1			1	
35	Shipping IN gate			1			1	
36	Shipping IN Yard -1				5		1	
37	Shipping IN Yard -2				2		1	
38	Shipping OUT gate			1				
39	Shipping OUT Gate Yard				2		1	
40	RPS Outgate			1				
41	RPS Maingate and stores			2	6		1	
42	Ganesa point - 79 Bldg. arch and Township Gate				2			
Total		16	1	45	60	15	33	

PPPU THIRUMAYAM

S.NO	LOCATION	CCTV					REMARKS	
		FIXED BOX CAMERAS - Qty			PTZ CAMERAS Qty	Wired		Wireless Tower
		Indoor	Outdoor	Outdoor -IR				
1	PPPU Thirumayam	4	0	0	13	17	0	

No Deviation Certificate


(To be given in bidders letter head)

Ref: BHEL's Enquiry No. _____ Dated _____

It is Certified that the offered solution vide Enquiry No. _____ dated _____ in response to BHEL's enquiry mentioned under reference has no Technical deviation from the requirement of BHEL, Trichy given vide the Technical Specification (Requirement).

Date:

Bidder's Signature with seal

 BHEL - TRICHY	THIRD PARTY NON-DISCLOSURE AGREEMENT		Doc.No. : ISMS-04/TP/011
			Ver. No: 2.0
	Date : 01 - 10 - 09		

Anexure-III

THIRD PARTY NON-DISCLOSURE AGREEMENT

I, _____, on behalf of the _____ (Name of Company), acknowledge that the information received or generated, directly or indirectly, while working with BHEL, Trichy on contract is confidential and that the nature of the business of the BHEL, Trichy is such that the following conditions are reasonable, and therefore:

I warrant and agree as follows:

I, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to the BHEL, Trichy Without restricting the generality of the foregoing, it is agreed that we will not disclose such information consisting but not necessarily limited to:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer programs/data/configuration and research projects.
- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data,

On conclusion of contract, I, or any other personnel employed or engaged by our company shall return to BHEL, Trichy all documents and property of BHEL, Trichy, including: drawings, blueprints, reports, manuals, computer programs/data/configuration, and all other materials and all copies thereof relating in any way to BHEL, Trichy 's business, or in any way obtained by me during the course of contract. I further agree that I, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

This obligation of confidence shall continue after the conclusion of the contract also.

I acknowledge that the aforesaid restrictions are necessary and fundamental to the business of the BHEL, Trichy and are reasonable given the nature of the business carried on by the BHEL, Trichy I agree that this agreement shall be governed by and construed in accordance with the laws of country.

I enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

Dated at _____, this ____ day of _____, 20__.

Name

Company

Signature



ANNEXURE A

**FORMAT FOR
“LETTER OF AUTHORITY”**

Tender Enquiry No. :

Date : --/--/----

To,

Date:

Subject: **Letter of Authority**

Tender Ref. No.:, **dated** --/--/----

Dear Sir,

We hereby authorize _____ who will fulfill the requirements of the tender enquiry ref. no., dated --/--/----to quote/ negotiate and service the equipment as required in the above tender enquiry.

This authorization is valid only for the following equipment for which we are the OEM:

1. _____
2. _____
3. _____
4. _____
5. _____

The authorized agency would ensure reliable service during complete R&G period. In case of any default alternative arrangement would be done by us on the same terms and conditions as negotiated and finalized in this tender enquiry.

(Authorized Signatory)

For _____

Place

Note: This ‘Letter of Authority’ should be issued on the letterhead of OEM and enclosed in Part-II.

ACCEPTANCE OF COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS.

(This should be essentially filled in and sent along with the techno-commercial offer without fail. If this check list is not filled and submitted along with techno-commercial offer (Part I) or if the bidder does not confirm acceptance to the terms and conditions proposed, BHEL reserves the right to reject such offer)

CHECK-LIST FOR BIDDERS

SI No	DESCRIPTION
1.	<p>The Bidders shall submit the offer in single stage with TWO INNER ENVELOPES as indicated below which shall be sealed in one outer envelope.</p> <p><u>ENVELOPE-I: "PART-I: TECHNO - COMMERCIAL PART"</u></p> <p>The following details are to be written on the top of the envelope:</p> <p>NAME OF WORK:</p> <p>Enq. NO.:</p> <p>Due Dt:</p> <p>FROM : [NAME & ADDRESS OF BIDDER]</p> <p>This envelope shall contain (i) Techno-Commercial (Part-I) of Bidding Document in original duly stamped and signed on each page along with un priced bid with indicating applicable taxes & duties, (ii) Techno-Commercial details including all supporting documents and duly signed and stamped in each page.</p> <p><u>ENVELOPE-II: "PART- II: PRICE PART".</u></p> <p>This part should contain the schedule of price particulars and must be correlated to the technical details provided in Part I</p> <p>The following details are to be written on the top of the envelope:</p> <p>NAME OF WORK:</p> <p>Enq. NO.:</p> <p>Due Dt:</p> <p>PRICE PART (DO NOT OPEN)</p> <p>FROM: [NAME & ADDRESS OF BIDDER]</p> <p>The Bidder shall submit only price/ Rates as per Schedule of Rates without any condition. Condition indicated, if any, in the Price part shall not be taken cognizance of and such bid may be rejected without assigning any reasons thereof.</p> <p>The prices shall be filled up both in figure and in words and rounded off to the nearest rupee. No overwriting or use of correction fluid shall be accepted. Any correction shall be signed by the authorised signatory.</p> <p>All the two envelopes (Part I&II) shall be put in one cover, duly sealed, superscribing as Part I and Part II of Enquiry No., due date of opening and the address and reference of the Bidder.</p> <p>The above offer should reach this office on or before the due date by 14.00 Hrs (IST). Late offers will not be considered.</p> <p>Tender should not be addressed to any Individual's name but only by designation to:</p> <p style="text-align: center;">Sr.MGR/ CAPITAL PURCHASE / MFG BHARAT HEAVY ELECTRICALS LIMITED HIGH PRESSURE BOILER PLANT TIRUCHIRAPPALLI - 620 014 TAMIL NADU, INDIA</p> <p>Tenders should be free from CORRECTION AND ERASURES, Corrections if any, must be attested. All amounts shall be indicated both in words as well as in figures. In case of any difference between amount quoted in words and figures, amount quoted in words shall prevail.</p> <p>Offers should be in ENGLISH and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in ENGLISH or otherwise, the offers will not be considered.</p>

(AFFIX OFFICIAL SEAL HERE)

Signature with date:

<p>2.</p>	<p><u>OPENING OF TENDERS</u></p> <p>The Part I- Technical & commercial bid would be opened on the Tender opening date. The Part II - Price bid of Technically suitable Bidders alone would be opened. The Technically suitable Bidders would be informed about the tender opening date. Clarifications if any required by BHEL for Technical evaluation would be sought from bidders before opening of Part II - price bid.</p>
<p>3.</p>	<p><u>Stage-I: Evaluation of Technical & Un-priced Commercial Bids</u></p> <ul style="list-style-type: none"> ➤ Only those Bidders who meet all the requirements as per Qualification Criteria (Annexure-G, point no.1.1 to 1.9) for Bidders will be considered for further evaluation. ➤ Technical and un-priced commercial bid of the bidder shall be opened and evaluated for acceptability of Technical offer, technical suitability, acceptance of technical and commercial terms. BHEL Trichy will evaluate the Technical bid submitted by the Bidders. ➤ During the Technical Evaluation of the bid, BHEL Trichy may ask for additional information / resources to validate the bid. These may include technical documents / white papers from OEM or third party, references, demonstration of a proof of concept or solution, visit to OEM's lab or their clients reference site, etc.Failure to furnish information as required or to submit a bid not substantially responsive to the bidding documents may result in rejection of the bid. ➤ There shall be no deviation from the technical specification. "No Deviation Certificate"as per the format shall be submitted (Annexure-II). <p><u>Stage –II: Evaluation of the Price Bid:</u></p> <p>.The evaluation of tenders will be as follows:</p> <ul style="list-style-type: none"> ➤ Technically cleared offers will be considered for price evaluation ➤ Evaluation of the offer will be based on L1 of the total value for the entire scope of work (delivered cost (or) Net cash outflow to BHEL). The Total Price shall be for the complete scope as per technical specifications, inclusive of comprehensive on-site maintenance including repair/replacement of parts during the entire Financial Lease(Rental and Guarantee) period, all taxes & duties, insurance, Freight & insurance charges, Packing & forwarding charges,any other incidental charges, etc. Applicable % of taxes& duties should be clearly indicated the model price bid format ➤ The contract will be awarded to a single party for the total scope (BHEL Trichy & BHEL Thirumayam), based on the above evaluation.If some discrepancies are found between the rate given in words and figures, the rate in words shall be taken as correct. ➤ The bidder shall quote the quarterly rental charges/machine (including principal repayment, tax, interest, AMC charges, etc.) for 5 years as per Annexure D1 & D2. And also bidder shall indicate the outright purchase value as per Annexure E1 & E2. ➤ BHEL reserves the right to go for a Reverse Auction (RA) instead of opening the submitted sealed price bid, which will be decided after techno-commercial evaluation. Information and general terms and conditions governing RA as per point 16.
<p>4</p>	<p>Taxes and Duties :</p> <p>All Taxes and Duties payable as extra to the quoted price should be specifically stated in offers along with CST & TIN No / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties. Our TIN No. 33243560005, TNGST No. 3560005, CST. No. 239383 Dt. 11-06-1991 & BHEL ECC No. AAACB4146PXM012, Service Tax Reg No (STC)- AAACB4146PST006. Assessment circle Tiruverambur.</p> <p>Income Tax applicable Any service charges payable towards supervision of E&C, training, performance prove-out etc., will be released after deduction of Income Tax as per Indian Income Tax Act / as per the Govt. of India rules and TDS certificate will be issued by BHEL for such deductions. Applicable service tax on E&C charges will be payable extra. The liability of depositing the same to the Govt. will be of the bidder. Income tax depreciation will be claimed by BHEL</p>
	<p>Amendment of bidding documents</p> <p>BHEL Trichy may at its sole discretion amend the Bidding Documents at any time prior to the deadline for submission of bids. However in case of such amendment, the bid submission date may be extended at the discretion of BHEL Trichy.</p> <p>Amendments made prior to submission of bid will be provided in the form of addenda / corrigendum to the bidding documents and will be posted only on the BHEL website (http://www.bhel.com&http://www.tenders.gov.in) in tender notification section. Hence the bidders are requested to visit the web pages regularly for updates.</p>

No row shall be left blank. Please indicate NA, in case the item is "not applicable"		Vendor's confirmation
4.	Maintenance during the lease period shall not be sub-contracted. The maintenance engineers posted at site shall be direct employees of the bidder.	
5.	Validity: Validity of the offer should be 180 days from the date of tender opening. BHEL reserves the right not to consider offers from bidders with validity less than 180 days from the date of tender opening.	
6.	Terms of Payment: <ul style="list-style-type: none"> ➤ Purchase Order will be released on the successful bidder. ➤ Separate order will be released for BHEL Trichy & BHEL Thirumayam ➤ Successful bidder shall sign Bipartite Lease Agreement as per BHEL format. ➤ Lease period will start after issue of Commissioning Certificate by BHEL Trichy. The payment of Financial Lease(Rental and Guarantee) contract charges will be made on calendar quarterly basis after completion of each quarter and submission of invoice(s) in triplicate. Payment will be released after submission of verified invoices and on certification by BHEL. Uniform rental rate will be paid in all quarters. ➤ Vendor has to complete the installation at the locations to be identified by BHEL along with LOI/ Order. The first quarter Financial Lease(Rental and Guarantee) payment will be due after completion of the quarter from the date of successful completion of installation & acceptance by BHEL (calendar quarterly basis). An installation certificate will be issued by BHEL after completing the Acceptance Test Procedure (ATP) terms. Thereafter, payment will be made at the end of each quarter 	
7.	Delivery & Project Implementation Schedule. The Bidder shall be responsible for timely delivery, installation & commissioning of all the Hardware/software given in the scope of supply/work at the BHEL's premises. All the Hardware/software shall be delivered within 8weeks from the date of placement of order and successfully installed and commissioned within 12weeks from the date of delivery of all hardware/software.	
8.	Liquidated damages (LD): It is clearly understood among the parties to the contract that " Time is the essence of the contract ". Therefore, the delivery/commissioning of the goods specified in the purchase order should be made within the time prescribed. Where the seller supplies or despatches the goods, beyond the delivery period specified the purchaser will have no obligation to accept the goods. If accepted liquidated damages at the rate of 1/2% of the value of goods delayed for each week of delay subject to a maximum of 15% of the order value will be levied. Liquidated damages @ ½% per week subject to a maximum of 15% shall be applicable for delay in the Period for completion of the Installation & Commissioning work <u>For the purpose of Imposing LD, the FOB delivery (B/L date) shall be considered. BHEL reserves the right to reject offers from bidders not accepting the above LD clause, with maximum LD as 15%.</u>	
9.	Delivery Schedule: The Bidder shall be responsible for timely delivery, installation & commissioning of all the Hardware / software given in the scope of supply / work at the BHEL's premises. All the Hardware / software shall be delivered within 8 weeks from the date of placement of order and successfully installed and commissioned within 12weeks from the date of delivery of Hardware/software	

No row shall be left blank. Please indicate NA, in case the item is "not applicable"		Vendor's confirmation
10.	<p>Risk Purchase:</p> <p>Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the bidder has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available from the best and the nearest available substitute. The bidder shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.</p>	
11.	<p>Force Majeure clause:</p> <p>If at any time during the continuance of this contract the performance in whole or in part by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events) then provided notice of happening of any such events is given by either party to other within twenty one days from the date of occurrence thereof neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist. If the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial instalment shall not be deemed to be a waiver of time in respect of remaining deliveries.</p>	
12.	<p>Guarantee:</p> <p>(1) During the period of lease rental / AMC all defective parts / modules shall be replaced / rectified free of cost without any cost implication on BHEL.</p> <p>(2) Any part / module that becomes faulty shall not be blamed to be the fault of BHEL. The faulty parts/modules shall be repaired within the scope of lease rental / AMC.</p> <p><u>Offers from bidders not accepting the requested guarantee period/Warranty will be rejected.</u></p>	
13.	<p>Short shipment / Warranty replacement:</p> <p>In case of any short shipment in the main equipment / spares, customs duty levied on such supplies, shall be borne by the bidder. Any warranty replacement during the lease period shall be on FOR/ BHEL-Destination basis.</p>	
14.	<p>Inspection & Testing:</p> <p>All goods shall be subject to inspection by BHEL or its authorized representatives at bidder's works (or) at BHEL destination or at any other place in India indicated by BHEL as the case may be. The bidder will not charge for the facilities provided for inspection of goods. The final inspection and acceptance of the project will be carried after installation of the equipment at BHEL, Destination.</p>	
15.	<p>Test certificates / Operating and Maintenance manuals :</p> <p>The Bidders shall clearly mention in their offer, that Test Certificates and Operating Maintenance Manuals, etc., as called for in the Technical Specification, in the required number of copies will be provided at no extra cost</p>	
16.	<p>Reverse Auction (RA):</p> <p>BHEL reserves the right to conduct on-line internet Reverse Auction for finalizing the Tender. This decision will be communicated to the technically qualified bidders after technical evaluation. Details / General terms / guidelines for conduct of RA are shown below</p> <p>Bidders are requested to confirm their acceptance for BHEL proceeding with RA route for finalization of the enquiry.</p> <ol style="list-style-type: none"> For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet. BHEL will inform the bidder in writing in case of reverse auction, the details of Service Provider to enable them to contact & get trained. Business rules like event date, time, Start price, bid decrement, extensions etc. also will be communicated through service provider for compliance. Bidders have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the bidder will not be eligible to Participate in the event. BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL/NET CASH outflow to BHEL Trichy" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction. Reverse auction will be conducted on scheduled date & time. At the end of Reverse Auction event, the lowest bidder value will be known on the network. The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail. Any variation between the on-line bid value and the signed document will be considered as 	

(AFFIX OFFICIAL SEAL HERE)

Signature with date:

	<p>sabotaging the tender process and will invite disqualification of bidder to conduct business with BHEL as per prevailing procedure.</p> <p>11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.</p> <p>12. BHEL reserves the right to negotiate if need be, with the "L1" bidder of the Reverse Auction</p> <p><u>BHEL reserves the right not to consider offers from bidders not complying with the RA process for finalization of the enquiry.</u></p>	
17.	<p>Ethical Standard</p> <p>Bidders are expected to observe the highest standard of ethics during the procurement and execution of this contract. In pursuit of this policy, BHEL will reject a proposal for award if it determines that the bidder being considered for award has engaged in corrupt or fraudulent practices in competing for the contract. For the purposes of this provision, the terms set forth below are defined as follows:</p> <p>a) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action in the procurement process or in contract execution; and</p> <p>b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process including collusive practices designed to establish bid prices at artificial, non-competitive levels to deprive the benefits of competition to BHEL.</p> <p>By signing the bid forwarding letter, the bidder represents that for the software it supplies, it is the owner of the intellectual property rights. Willful misrepresentation of these facts shall be considered a fraudulent practice without prejudice to other remedies that BHEL take.</p>	
18.	<p>Non Disclosure Agreement</p> <p>The bidder shall sign a Non Disclosure Agreement (NDA) with BHEL. By signing the NDA, the bidder agrees not to disclose any confidential information, business or proprietary, as covered by the agreement. The proforma for the Non Disclosure Agreement is attached as Annexure-III.</p>	
19.	<p>INDEMNITY</p> <p>The contractor hereby undertakes to indemnify BHEL against all actions, suits, proceedings, claims, losses, damages etc., which may arise under Minimum Wages Act, Fatal Accident Act, Workmen Compensation Act, Shops & Establishment Act, Family Pension & Deposit Linked Insurance scheme or any other Act or statutes not herein specifically mentioned but having any direct or indirect application for the person(s) engaged under this contract by him.</p> <p>The Contractor shall defend, indemnify and hold BHEL harmless from any liability, which may be imposed by the Central, State or local authorities and also from all claims, suits arising out of or by reason of the work provided by this contract including any liability that may arise out of accident, whether brought by the employees/ labourers of the Contractor or by the third parties or by the Central or State Government authority or any sub-division thereof.</p> <p>BHEL shall not be responsible for any claim/compensation that may arise due to damages/injuries/pilferage to the contractor's employee(s)/ staff/labourers under any circumstances while an employee(s) / labourer is engaged in the BHEL's duty under the contract.</p> <p>The contractor shall make regular and full payment of wages/salaries including overtime/night halt allowance etc. as applicable as per rules in force and any other payments due to his employees/labourers and furnish necessary proof whenever required by BHEL.</p>	
20.	<p>INSURANCE POLICIES</p> <p>The Contractor shall at his own cost take insurance and maintain at all times until the close out of the Contract, insurance policies in respect of equipment and workmen engaged by him for providing services under this Contract.</p>	
21.	<p>TERMINATION OF THE CONTRACT</p> <p>BHEL reserves the right to terminate the Contract, at any stage during the period of the Contract based on the contractor's performance, by giving 30 days notice in writing.</p> <p>BHEL shall have the right to terminate this contract if:</p> <ol style="list-style-type: none"> 1. The contractor fails to provide services or contractual obligations in accordance with the below SLA (Point No.23) & Annexure-G (Point No. 3.16) 2. The contractor suspends the performance of all or part of these services, or 3. The contractor abandons the services, or 4. The contractor becomes bankrupt or goes into receivership (or) liquidation or makes an assignment for the benefit of his creditors. <p>In the event of termination of contract, the amount due to the Contractor as per contractual provisions after recovery of dues (from Contractor's pending invoices/ Security Deposit, as the case may be), shall be released to them.</p>	
22.	<p>ARBITRATION</p> <p>All disputes or differences whatsoever which may arise at any time during execution of the Contract shall be mutually settled by BHEL and Contractor as per provision of the Contract. However, in the event such disputes cannot be settled mutually, such disputes shall be settled as per the Arbitration and Reconciliation Act, 1996 of the Govt. of India and its subsequent</p>	

(AFFIX OFFICIAL SEAL HERE)

Signature with date:

	<p>amendments. In case of disputes with the Central PSUs, the same shall be settled at Tiruchirapalli as per the Guidelines of the Govt. of India. However, during the period such disputes are settled either by mutual discussions between the parties or by legal means, Contractor shall continue to do the work as per terms & conditions of Contract.</p>	
23.	<p>Service Level Agreement</p> <ul style="list-style-type: none"> a) Bidder shall be responsible for continuous and smooth operations for the entire lease period. b) The vendor shall post required number of Service Engineers at BHEL premises to ensure for running the system at the uptime of 98% per month or higher. Any downtime beyond 2% will result in the reduction of Financial Lease (Rental and Guarantee) contract rentals on Pro-rata basis. c) Downtime calculation will be applicable for non-availability of service arising because of malfunctioning of cameras, switches, network problem, PC, Servers etc. d) If the uptime for any equipments falls below 98% continuously for 1 month, the equipment shall have to be replaced by vendor, without any extra cost. e) Maintenance and service shall cover services, repairs and replacements necessary to keep the hardware and software in good working conditions. f) Bidder shall maintain sufficient spares, in BHEL Trichy to ensure immediate attention in case of break down. g) As the vendor is responsible for the supply of spares and non-availability due to want of spares will be treated as downtime. h) Any complaint shall be resolved immediately and that at any point of time if any machine is down and a delay is anticipated in repairing, suitable temporary replacement shall be provided for continuity of the service. 	
24.	<p>Confidentiality:</p> <ul style="list-style-type: none"> ➤ Vendor shall at all times undertake to maintain complete confidentiality of all information. Resident engineers and other connected people shall sign non-disclosure agreement format as specified in BHEL ISMS procedures. ➤ Successful bidder shall sign Bipartite Lease Agreement as per BHEL format. 	
25.	<p>General Conditions</p> <ol style="list-style-type: none"> 1. Point by point confirmation for the Technical Specification enclosed to be provided. Offers received without confirmation to our specification will be liable for rejection. If needed additional sheets shall be used. 2. The vendor shall supply, install, commission and maintain the equipment/system as per requirement, including supply of spares for a period of five years. 3. The vendor shall ensure the equipment for any accidental damages caused or incidents happened during the period of lease and BHEL will not bear any cost in case of any damages of missing. 4. The Income tax depreciation will be claimed by BHEL 5. BHEL reserves the right to retain the cameras, wired and wireless networking components, hardware, software and other items supplied in this procurement at the end of the lease period on payment of Re.1/- (Rupee one only). On payment of terminal charges, the ownership of entire System including all the equipment, spares & software will get transferred to BHEL without any other payments. BHEL will claim depreciation from the date of commissioning. 6. If vendor is not OEM, suitable back to back service agreement with OEM / Authorized service Dealer shall be entered by Vendor for the maintenance accordingly for the entire rental period and copy of the same shall be submitted to BHEL. Rental will start only after verification of the same. 7. All equipments shall be from the same OEM for ease of operation. 8. Vendor has to specifically verify that the offered products have no deviations from BHEL technical specification (As per Annexure-II). 9. The first Lease rental invoice shall be raised after completion of 3 months or calendar quarter from the date of installation and commissioning of the systems at the designated location in BHEL, Tiruchy & Thirumayam. The installation and commissioning certificate shall be jointly signed by the User Department's representative and the Vendor's representative. 10. Separate PO will be released for BHEL, Trichy & BHEL Thirumayam 11. Equipment offered shall be "New". Re-built / Re-conditioned / Used equipments will not be accepted. "Newness" certificate from OEM shall be furnished for all items. 12. Prices shall be quoted item wise only as per the model format enclosed. An unpriced copy shall be submitted along with technical bid where in the applicable Taxes and Duties shall be clearly specified 13. Insurance documents for all the items. 14. Insurance for the complete Systems/Goods shall be arranged by the Vendor at his own risk and cost throughout the period of lease. Purchaser/Lessee, under any circumstances, 	

	<p>will not be responsible for any loss/damage/theft of any Systems/goods, due to any reasons, whatsoever. Claim(s) etc., if any, will be dealt with the underwriters directly by the Vendor . Evidence of insurance policy shall be submitted to BHEL. If the Vendor fails to renew the policy before the expiry, BHEL will effect the insurance from the lease rental.</p> <p>15. Incomplete offers will not be considered for further processing</p> <p>16. Fixed price:Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order. A bid submitted with an adjustable price will be treated as non - responsive and rejected. Prices shall be written in words and figures. In the event of difference, the price in words shall be valid and binding. Unit prices shall be considered correct in the event of any discrepancy with regard to total price.</p> <p>17. The Bidder shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.</p> <p>18. BHEL reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at any of BHEL projects / units.</p> <p>19. BHEL shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against BHEL.</p> <p>20. All Equipments / Services including Personnel for carrying out the installation and commissioning of the Equipment shall be arranged by the bidder. If any Services is availed from BHEL, it is only on chargeable basis unless otherwise specified.</p> <p>21. The bidder shall provide necessary Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost.</p> <p>22. The Bidder shall arrange for boarding, lodging and logistics of onsite commissioning engineer and operations engineers at their own cost.</p> <p>23. The quarterly leased rental payment will commence only after:</p> <ul style="list-style-type: none"> ➤ Signing of Bipartite Lease Agreement ➤ Proof of maintenance contract with OEM for the total duration of 5 years. 	
26.	Company Details & Contact	
	Full Address of the company for further communication (Enquiry & PO)	
	Company Email ID:	Phone No.:
	Pan No	Fax No
	CST /TIN No	Service Tax No.
	Name of the contact person:	Mobile No.:
	e-mail ID	
<p>For any queries / clarifications the bidders may contact us through our FAX NO. +91 431 2520719 or through e-mail<pgavictor@bheltry.co.in></p>		

NOTE:-

- a) Your specific acceptance to our Payment terms, LD, Risk Purchase Clause & Submission of PBG for 10% of the order value are essential for consideration of your offer. Otherwise your offer is liable for rejection.
- b) No row shall be left blank. Please indicate NA, in case the item is "not applicable"

Declaration:-

We have gone through and understood the 'General guidelines & instructions to bidders for submitting offer' enclosed as a part of the Tender and confirm that our offer has been made in line with the same.

(AFFIX OFFICIAL SEAL HERE)

Signature with date:

Name:

Designation:

Department:

(PLEASE AFFIX YOUR SIGNATURE WITH SEAL ON EACH PAGE)

(AFFIX OFFICIAL SEAL HERE)

Signature with date:

INTEGRITY PACT

ANNEXURE-C

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at “BHEL House”, Siri Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal”, which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

ANNEXURE-C

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in

order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidders(s)/ Contractor(s) from the tender process or take action as per the separate “Guidelines on Banning of Business dealings with Suppliers/ Contractors” framed by the Principal.

Section 4 – Compensation for Damages

ANNEXURE-C

- 4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all sub-contractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or

take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.10 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

- 9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

ANNEXURE-C

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those bidders/ contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

 For & On behalf of the Principal
 (Office Seal)

 For & On behalf of the Bidder/ Contractor
 (Office Seal)

Place-----

Date-----

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address) _____

5YEARS FINANCE LEASE FOR ENQ.No.			Vendor Name:								
PRICE BID FORMAT FOR 5 YEARS FINANCIAL LEASE FOR BHEL TIRUCHIRAPPALI											
Sino	Item Description	Item Qty	Quarterly Principal value for TOTAL Qty.	Quarterly Interest %.	Quarterly Interest for TOTAL Qty in Value	Quarterly Maintenance Charges for TOTAL Qty	% Lease Tax	% Service tax	Quarterly Lease tax for TOTAL Qty.	Service tax on Maintenance charge + 10% of Qtrly interestValue *	Total Quarterly Rental charge including Tax
			A	B	C=B x A	D	E	F	G=E x (A+C)	H=((10%*C)+ D)*F	I=A+C+D+G+H
1	Supply and installation of Fixed box type indoor cameras with accessories	16									
2	Supply and installation of Fixed box type outdoor cameras with accessories	1									
3	Supply and installation of Fixed box type outdoor IR cameras with accessories	32									
4	Supply and installation of Fixed box type outdoor flame proof cameras with accessories	13									
5	Supply and installation of PTZ cameras with accessories	60									
6	Supply and installation of Wireless bridges,Access points, antennas,CPE's,Base stations,switches and other related networking components	1 lot									
7	Supply and installation of RF towers with lightning arrestors and surge protection	1 lot									
8	Supply and installations of application servers	5									
9	Supply and installations of storage servers	2									
10	Supply and installation of Video management and analytics software	1									
11	Supply and installation of Client workstations with accessories	5									
12	Supply and installation of LCD monitors	5									
13	Supply and installation of UPS and batteries for powering the cameras	1 lot									
14	Supply and installation of UPS and batteries for powering the servers	1 lot									
15	GI poles for mounting the Cameras with surge protection.	1 lot									
16	Supply and installation of CAT-6 cables	1 lot									
17	Supply and installation of Fibre optic cables with conduits	1 lot									
18	Supply and installation of Patch cables	1 lot									
19	Supply and installation of required PVC pipes with accessories	1 lot									
20	Other related passive accessories for the cameras and networking components	1 lot									
21	All Civil works	1 lot									
22	If any other items is required to complete the system, that may be specified by vendor with quantity	1 lot									
	Total	xxxx		xxxx			xxxx	xxxx	xxxx	0.00	0.00
							Total Rental Charge for 6 years including all taxes (J) =Ix6 x4				0.00
							Less Service Tax (K) =sum of Hx24				0.00
							Total Netcash outflow =J-K				0.00
Sl.no.	Quarterly AMC charges from 6th year onwards, valid for 2 years	Amount(Rs.) excluding taxes & duties									
*	Service tax@12.36% is mandatorily applicable on 10% of quarterly interest value										
Part-I, Technical bid shall be submit along with unpriced price bid format (both-Lease & outright purchase) with indicating % of all taxes & duties (Cell shaded in yellow colour only fill up vendor and submit along with technical bid. And also take care the following point, while entering the taxes& duties..) <ol style="list-style-type: none"> 1. Indicate the quarterly interest in % 2.Mention the type of taxes & duties (Whether CST/VAT & Service taxes) 3.In columns, wherever CST/VAT & service tax both are applicable, split up of the the tax structure and should be given in separate row. 											

Price bid format for Supply of CCTV under 5 yeras Financial Lease for BHEL, Thirumayam-14

ANNEXURE-D2

YEARS FINANCE LEASE FOR ENQ.No.		Vendor Name:									
PRICE BID FORMAT FOR 5 YEARS FINANCIAL LEASE FOR BHEL THIRUMAYAM											
Sino	Item Description	Item Qty	Quarterly Principal value for TOTAL Qty.	Quarterly Interest %.	Quarterly Interest for TOTAL Qty in Value	Quarterly Maintenance Charges for TOTAL Qty	% Lease Tax	% Service tax	Quarterly Lease tax for TOTAL Qty.	Service tax on Maintenance charge + 10% of Qtrly interestValue *	Total Quarterly Rental charge including Tax
			A	B	C=B x A	D	E	F	G=E x (A+C)	H=((10%*C)+ D)*F	I=A+C+D+G+H
1	Supply and installation of Fixed box type indoor cameras with accessories	4									
2	Supply and installation of PTZ cameras with accessories	13									
3	Supply and installation of Wireless bridges,Access points, antennas,CPE's,Base stations,switches and other related networking components	1 lot									
4	Supply and installation of RF towers with lightning arrestors and surge protection	1 lot									
5	Supply and installations of application servers	2									
6	Supply and installations of storage servers	2									
7	Supply and installation of Video management and analytics software	1									
8	Supply and installation of Client workstations with accessories	2									
9	Supply and installation of LCD monitors	2									
10	Supply and installation of UPS and batteries for powering the cameras	1 lot									
11	Supply and installation of UPS and batteries for powering the servers	1 lot									
12	GI poles for mounting the Cameras with surge protection.	1 lot									
13	Supply and installation of CAT-6 cables	1 lot									
14	Supply and installation of Fibre optic cables with conduits	1 lot									
15	Supply and installation of Patch cables	1 lot									
16	Supply and installation of required PVC pipes with accessories	1 lot									
17	Other related passive accessories for the cameras and networking components	1 lot									
18	All Civil works	1 lot									
19	If any other items is required to complete the system, that may be specified by vendor with quantity	1 lot									
	Total	xxxx		xxxx			xxxx	xxxx	xxxx	0.00	0.00
							Total Rental Charge for 6 years including all taxes (J) =Ix6 x4				0.00
							Less Service Tax (K) =sum of Hx24				0.00
							Total Netcash outflow =J-K				0.00
Sl.no.	Quarterly AMC charges from 6th year onwards, valid for 2 years	Amount(Rs.) excluding taxes & duties									
*	Service tax@12.36% is mandatorily applicable on 10% of quarterly interest value										
Part-I, Technical bid shall be submit along with unpriced price bid format (both-Lease & outright purchase) with indicating % of all taxes & duties (Cell shaded in yellow colour only fill up vendor and submit along with technical bid. And also take care the following point, while entering the taxes& duties..) <ol style="list-style-type: none"> 1. Indicate the quarterly interest in % 2.Mention the type of taxes & duties (Whether CST/VAT & Service taxes) 3.In columns, wherever CST/VAT & service tax both are applicable, split up of the the tax structure and should be given in separate row. 											

OUTRIGHT PURCHASE FOR ENQ.No.			Vendor Name:							
PRICE BID FORMAT FOR OUTRIGHT PURCHASE _FOR B HEL TIRUCHIRAPPALLI										
S/No	Item Description	Item Qty	Price for total qty. with standard warranty excluding taxes	Std.Warranty period in no. of years	% Tax & Duties	Tax Value for total quantity	AMC value for total qty. after warranty period upto end of sixth year including taxes	% Service Tax	Total Tax value for AMC	Total Price including Taxes, Duties and AMC for total qty
			A	B	C	D=AxC	E	F	G=Fx E	H=(A+D+E+G)
1	Supply and installation of Fixed box type indoor cameras with accessories	16								
2	Supply and installation of Fixed box type outdoor cameras with accessories	1								
3	Supply and installation of Fixed box type outdoor IR cameras with accessories	32								
4	Supply and installation of Fixed box type outdoor flame proof cameras with accessories	13								
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6	Supply and installation of Wireless bridges,Access points, antennas,CPE's,Base stations,switches and other related networking components	1 lot								
7	Supply and installation of RF towers with lightning arrestors and surge protection	1 lot								
8	Supply and installations of application servers	5								
9	Supply and installations of storage servers	2								
10	Supply and installation of Video management and analytics software	1								
11	Supply and installation of Client workstations with accessories	5								
12	Supply and installation of LCD monitors	5								
13	Supply and installation of UPS and batteries for powering the cameras	1 lot								
14	Supply and installation of UPS and batteries for powering the servers	1 lot								
15	GI poles for mounting the Cameras with surge protection.	1 lot								
16	Supply and installation of CAT-6 cables	1 lot								
17	Supply and installation of Fibre optic cables with conduits	1 lot								
18	Supply and installation of Patch cables	1 lot								
19	Supply and installation of required PVC pipes with accessories	1 lot								
20	Other related passive accessories for the cameras and networking components	1 lot								
21	All Civil works	1 lot								
22	If any other items is required to complete the system, that may be specified by vendor with quantity	1 lot								
	Total	xxx		xxx	xxx			xxx	0.00	
										TOTAL OUTRIGHT VALUE INCLUDING ALL TAXES (J) =sum of H
										0.00
										LESS SERVICE TAX (K) =Sum of G
										0.00
										TOTAL NETCASH OUTFLOW=J-K
										0.00
S/No.	Quarterly AMC charges from 6th year onwards, valid for 2 years		Amount(Rs.) excluding taxes & duties							

Part-I, Technical bid shall be submit along with unpriced price bid format (both-Lease & outright purchase) with indicating % of all taxes & duties
 (Cell shaded in yellow colour only fill up vendor and submit along with technical bid. And also take care the following point, while entering the taxes& duties.)
 1. Indicate the quarterly interest in %
 2.Mention the type of taxes & duties (Whether CST/VAT & Service taxes)
 3.In columns, wherever CST/VAT & service tax both are applicable, split up of the the tax structure and should be given in separate row.

OUTRIGHT PURCHASE FOR ENQ.No.			Vendor Name:							
PRICE BID FORMAT FOR OUTRIGHT PURCHASE _FOR BHEL THIRUMAYAM										
Sino	Item Description	Item Qty	Price for total qty. with standard warranty excluding taxes	Std.Warranty period in no. of years	% Tax & Duties	Tax Value for total quantity	AMC value for total qty. after warranty period upto end of sixth year including taxes	% Service Tax	Total Tax value for AMC	Total Price including Taxes, Duties and AMC for total qty
			A	B	C	D=AxC	E	F	G=FxE	H=(A+D+E+G)
1	Supply and installation of Fixed box type indoor cameras with accessories	4								
2	Supply and installation of PTZ cameras with accessories	13								
3	Supply and installation of Wireless bridges,Access points, antennas,CPE's,Base stations,switches and other related networking components	1 lot								
4	Supply and installation of RF towers with lightning arrestors and surge protection	1 lot								
5	Supply and installations of application servers	2								
6	Supply and installations of storage servers	2								
7	Supply and installation of Video management and analytics software	1								
8	Supply and installation of Client workstations with accessories	2								
9	Supply and installation of LCD monitors	2								
10	Supply and installation of UPS and batteries for powering the cameras	1 lot								
11	Supply and installation of UPS and batteries for powering the servers	1 lot								
12	GI poles for mounting the Cameras with surge protection.	1 lot								
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16	Supply and installation of required PVC pipes with accessories	1 lot								
17	Other related passive accessories for the cameras and networking components	1 lot								
18	All Civil works	1 lot								
19	If any other items is required to complete the system, that may be specified by vendor with quantity	1 lot								
	Total	xxx		xxx	xxx			xxx	0.00	
										TOTAL OUTRIGHT VALUE INCLUDING ALL TAXES (I) =sum of H
										0.00
										LESS SERVICE TAX (K) =Sum of G
										0.00
										TOTAL NETCASH OUTFLOW=J-K
										0.00
Sl.no.	Quarterly AMC charges from 6th year onwards, valid for 2 years		Amount(Rs.) excluding taxes & duties							
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