

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

CORRIGENDUM - 6 to the RFP

for

Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions (Phase - I) in Amritsar City

The bidders / applicants are required to kindly consider the following corrigendum pertaining to the aforementioned RFP:

All the bidders / applicants are requested to thoroughly read the response to pre-bid queries and entire Corrigendum document including the following Annexures:

Annexure I: Eligibility Criteria

Annexure II: Technical Evaluation Criteria

Annexure III: Manpower Details

Annexure IV: Implementation Plan, Payment Schedule and Deliverables

Annexure V: Indicative Bill of Material

Annexure VI: Implementation SLA Matrix

Annexure VII: Operations and Maintenance SLAs

Annexure VIII: Water Quality Analyzer Locations

Annexure IX: Mode of Selection

Annexure X: Additional Scope of Work-Intelligent Traffic Management System (ITMS)

Annexure XI: 360 Degree Panoramic Camera

Annexure XII: Keyboard and Joystick

and shall submit the Proposals accordingly.

Note: Bidders may send their comments (if any) within seven (7) working days from the date of issue of this Corrigendum on the email ID: ceoasclsr@gmail.com

Chief Executive Officer
Amritsar Smarty City Limited
Amritsar

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
1.	Section 2 Fact Sheet	Fact Sheet	10	I	Method of Selection: Least Cost	Clause amended as: Please refer Annexure XI of this Corrigendum
2.	Section 6 Evaluation of Eligibility Criteria	Table 6-1 Eligibility Criteria - Point No. 2	31	I	The Sole Bidder or the Lead Bidder in case of a Consortium should have an average annual turnover of INR 300 Crores and positive net-worth for the last three financial years (FY 2015-16, 2016-17 and 2017-18) In case of Consortium, each member of the Consortium (other than the Lead Bidder) should have an average annual turnover of INR 30 crores and positive net-worth for the last three financial years (FY 2015-16, 2016-17 and 2017-18)	Clause amended as: Please refer Annexure I of this Corrigendum for the revised Eligibility Criteria
3.	Section 6 Evaluation of Eligibility Criteria	Table 6-1 Eligibility Criteria - Point No. 3	31	I	The Sole Bidder or any of Consortium members should have experience in India / Abroad of executing at least two (2) projects per business area in minimum of two (2) following "Specific Business Areas" out of which one (1) project should have been completed during the last 7 years as on bid submission date: a. Supply, Installation, Operations and Maintenance of City Wide video surveillance systems (including any two (2) out of the following sub-systems..... d. Leased Services of Network Bandwidth / Internet Connectivity (OFC network or Electronic components or both) for connecting different smart elements / smart solutions in city-wide / Campus-wide projects with minimum value of INR 5 Crores Note: The Lead Bidder (in case of consortium) should have experience in India / Abroad of executing at least two (2) projects in any one of the "Specific Business Areas" mentioned above at S. No. 1 and 2 out of which one (1) project should have been completed in the last 7 years as on bid submission date.	Clause amended as: Please refer Annexure I of this Corrigendum for the revised Eligibility Criteria
4.	Section 6 Evaluation of Eligibility Criteria	Documentary Evidence	31	I	i. Work order OR Contract clearly highlighting the Scope of Work, Bill of Material and value of the Contract/order OR Self-certificate from the Bidder mentioning the Scope of Work, Bill of Material and value of the Contract/order,	Clause amended as: Please refer Annexure I of this Corrigendum for the revised Eligibility Criteria

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
					<p>.... Note: In case of a turnkey project comprising of application development and IT Infrastructure, the Bidder is required to submit a certificate from Statutory Auditor/ Company Secretary specifying the value of the respective business area</p>	
5.		Consortium Criteria Point No 1	35	I	The Lead bidder cannot be a partner in more than one consortium. In case of consortium, no company shall be allowed to participate in more than one bid i.e. they should have exclusive partners (except for the Network Service Provider) in case it is observed that any consortium have a common partner then such consortiums shall stand disqualified and under no circumstances their bids shall be entertained.	<p>Clause Amended as:</p> <p>The Lead bidder cannot be a partner in more than one consortium. In case of consortium, no company shall be allowed to participate in more than one bid i.e. they should have exclusive partners (except for the Network Service Provider) in case it is observed that any consortium have a common partner then such consortiums shall stand disqualified and under no circumstances their bids shall be entertained. However, for leasing of the network bandwidth for ICCC project, an ISP/TSP/NSP will not be construed as a Consortium Partner and shall be treated as a subcontractor</p>
6.		Consortium Criteria Point No 4	35	I	The respective holding of each Consortium Member confirms to the response made by the Consortium and accepted by the Purchaser as part of the Proposal and that the Lead member shall not hold less than 51% of such equity and other members of the Consortium shall hold not less than 15% (Fifteen Per cent) of such Equity during the Contract Period	<p>Clause Amended as:</p> <p>The respective holding of each Consortium Member confirms to the response made by the Consortium and accepted by the Purchaser as part of the Proposal and that the Lead member shall not hold less than 51% of such equity and other members of the Consortium shall hold not less than 20% (Twenty Per cent) of such Equity for Three (3) member consortium or not less than 26% (Twenty-Six Per cent) of such Equity for Two (2) member consortium during the Contract Period.</p>
7.	Section 7 Evaluation of Technical Bids	Table 7 1 Technical Evaluation Criteria	38	I	<p>B Project Experience (Max Marks: 50 / 10 Projects)</p> <p>.....</p> <p>B1. The Sole Bidder or any of Consortium members should have experience in Supply, Installation, Operations and Maintenance of City Wide video surveillance systems (including any two (2) out of the following sub-systems connected by IP network) with minimum value of INR 10 Crores out of which one (1) project should have completed during last 7 years as on bid submission date</p> <ul style="list-style-type: none"> • Supply, Installation, Operations and Maintenance of City Wide video • • <p>B4. The Sole Bidder or any of Consortium members should have experience in leased services of Network Bandwidth / Internet Connectivity (OFC network or Electronic components or both) for connecting different smart</p>	<p>Clause amended as:</p> <p>Please refer Annexure II of this Corrigendum for the revised Technical Evaluation Criteria</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
					<p>elements / smart solutions in city-wide / Campus-wide projects with minimum value of INR 5 Crores out of which one project should have been completed during last 7 years as on bid submission date</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>D1. Resources (for evaluation purpose)</p> <p>Design, Development & Implementation Phase:</p> <p>1. Project Manager: 6 marks</p> <p>2. Technical Lead / Solution / Enterprise Architect: 3 marks</p> <p>3. Security Expert: 3 marks</p> <p>4. Video Analyst / IP Camera Surveillance Expert: 3 marks</p> <p>5. EMS Expert: 3 marks</p> <p>6. System Administrator: 3 marks</p> <p>7. Network Administrator: 3 marks</p> <p>8. Database Administrator: 3 marks</p> <p>9. Software Developer (Full Stack Developer): 3 marks</p> <p>Note: All the proposed resources shall be full time employee of the Bidder.</p>	
8.	Section 7 Evaluation of Technical Bids	Table 7 1 Technical Evaluation Criteria (Supporting Documents Required)	39	I	<p>i. Work order OR Contract clearly highlighting the Scope of Work, Bill of Material and value of the Contract/order OR Self-certificate from the Bidder mentioning the Scope of Work, Bill of Material and value of the Contract/order,</p> <p>... Note: <i>In case of a turnkey project comprising of application development and IT Infrastructure, the Bidder is required to submit a certificate from Statutory Auditor/ Company Secretary specifying the value of the respective business area</i></p>	<p>Clause amended as:</p> <p>Please refer Annexure II of this Corrigendum for the revised Technical Evaluation Criteria</p>
9.	Section 7 Evaluation of Technical Bids	Table 6-1 Technical Evaluation Criteria - Point No. C1	42	I	<p>Approach & Methodology: Demonstration of Bidder's understanding of the scope of work and all aspects of the Project</p>	<p>Clause amended as:</p> <p>Please refer Annexure II of this Corrigendum for the revised Technical Evaluation Criteria</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
10.	Section 7 Evaluation of Technical Bids	Table 6-1 Technical Evaluation Criteria - Point No. D	42	I	Resources (for evaluation purpose) (Max Marks: 30)	Clause amended as: Please refer Annexure II of this Corrigendum for the revised Technical Evaluation Criteria
11.	Section 7 Evaluation of Technical Bids	Table 7 3 Evaluation of resources	45	I	Additional point: Penalty on resource replacement	MSI shall ensure that none of the following Resources: <ul style="list-style-type: none"> • Project Manager - IT Infrastructure • Technical Lead - IT Infrastructure • System Admin- L2 • Network Admin- L2 • Security Specialist - L2 • DB Administrator exit from the Project during the first 6 (six) months of the Operations & Maintenance of Project. In cases where such exit is unavoidable, MSI shall replace such Personnel with an equivalent replacement with prior written approval from the ASCL. In case the ASCL is not satisfied with the replacement provided or MSI has not replaced Personal, compensation of INR 1 Lakhs per month per resource will be levied by ASCL. In case Key Personnel is not replaced within 4 months with the equivalent or better resource, it will constitute event of default on part of MSI.
12.	Section 9 Annexure I: Manpower Details	1. Project Manager - IT Infrastructure	48	I	1. Project Manager - IT Infrastructure 1. B.E./B, Tech. / M.Tech degree with MBA from a recognised university 2. Minimum 12 years of experience in IT infrastructure/ Data Centre / Smart City Solutions / Surveillance out of which at least 6 years of experience of leading large ICT implementation projects as a Project Manager 3. Should have experience of working in Government sector with minimum of 2 of leading large IT infrastructure / Data Centre / Smart City Solutions / Surveillance projects of similar scale. 4. Should possess Industry accredited certifications like PMP or Prince 2 certified	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details
13.	Section 9 Annexure I: Manpower Details	2. Technical Lead - IT Infrastructure	48	I	2. Technical Lead — IT Infrastructure 1. B.E./ B. Tech. / M. Tech with MBA degree from a recognised university 2. Minimum 10 years of experience in IT infrastructure out of which at least 5 years of experience in Data Centre / Smart City Solutions / Surveillance projects 3. Should have experience of working in Government sector as Technical lead in minimum 2 projects in IT infrastructure / Data Centre / Smart City Solutions / Surveillance 4. Industry accredited certifications like MCSE, MSCD, CCNA or certifications from OEM products	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details
14.	Section 9 Annexure I: Manpower Details	3. System Admin L2	48	I	3. System Admin- L2 B.E./B. Tech./ M.Tech degree from a recognized university Minimum 6 years of IT experience out of which 3 years of experience as System Administrator	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
15.	Section 9 Annexure I: Manpower Details	4. Network Administrator L2	49	I	4. Network Administrator - L2 B.E./B. Tech. / M. Tech degree from a recognized university Minimum 6 years of IT experience out of which 3 years of experience as Network Administrator	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details
16.	Section 9 Annexure I: Manpower Details	5. Security Specialist - L2	49	I	5. Security Specialist - L2 B.E./B. Tech./ M. Tech degree from a recognized university	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details
17.	Section 9 Annexure I: Manpower Details	6. DB Administrator - L2	50	I	6. DB Administrator - L2 B.E./B. Tech. / M. Tech degree from a recognized university	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details
18.	Section 9 Annexure I: Manpower Details	7. Video Analyst / IP camera Surveillance Expert - L3	50	I	7. Video Analyst / IP camera Surveillance Expert - L3 B.E./B. Tech. / M. Tech degree from a recognized university	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details
19.	Section 9 Annexure I: Manpower Details	8. Software Developer (Full Stack Developer) - L3	51	I	8. Software Developer (Full Stack Developer) - L3 B.E./B. Tech. / M. Tech degree from a recognized university Minimum 8 years' experience as a Full Stack Developer with experience in middleware, database integration and front-end development Industry accredited certifications like MCSD, Oracle Certified Expert/Professional Should have minimum 1-year experience on projects related to ICCC command control software Should have more than 3 years of experience in middleware integration projects and API based integration	Clause amended as: Please refer Annexure III of this Corrigendum for the revised Manpower Details
20.	Section 10.23 Commercial Bid Format	Commercial Bid Format	88	I	CAPEX and OPEX ratio shall be reasonable and realistic, a bid shall not be considered for Final Evaluation, if the total CAPEX value happens to be more than 50% of the overall bid value	Clause Amended as: CAPEX & OPEX ratio shall be reasonable and realistic, a bid shall not be considered for Final Evaluation if the total CAPEX value happens to be more than 60% of the overall bid value
21.	Section 11 Annexure III: Indicative bill of material	Indicative Bill of Material - Point No. A.4	102	I	NA	Clause Amended as: The specifications of "Industrial grade Field Layer-2 FE 8 port POE Switch" <u>stands deleted</u>
22.	Section 11 Annexure III: Indicative bill of material	Indicative Bill of Material Point No. A.4 - 2	103	I	16 Port PoE Industrial Grade Junction box	Clause Amended as: The specifications of "Industrial grade Field Layer-2 FE 8 port POE Switch" <u>stands deleted</u>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
23.	Section 11 Annexure III: Indicative bill of material	Annexure III: Indicative Bill of Material - Point No. D(D1) - 2	107	I	Document/Content Management System	Clause Amended as: The line item "Document/Content Management System" stands deleted from the Annexure III: Indicative Bill of Material in the RFP
24.	Section 11	Annexure III: Indicative Bill of Material - Point No. F (8)	110	I	DR Link Connectivity Charges	Clause Amended as: Indicative Quantity = 2 (implies redundant link)
25.	Section 12 Annexure IV: Key Requirements for OEMs/ Principals/Product Vendors	Annexure IV: Key Requirements for OEMs/ Principals/Product Vendors	113	I	The ICCC platform shall support integration with OPC UA/DA, IoT Protocols/Standards like MQTT, CoAP, LWM2M, LoRA, NBIoT, LTE CAT M1 etc.	Clause Amended as: The ICCC platform shall support integration with OPC UA/DA, IoT Protocols/Standards like MQTT, AMQP , CoAP, LWM2M, LoRA, NBIoT, LTE CAT M1 etc.
26.	Additional Clause	Additional Clause	NA	I	Tender should have a clause saying that GOI Preferential Market Access Policy to promote domestic manufacturing under Make in India is applicable in this project- as per the following notifications a. Notification No.8(78)/2010-IPHW dated 10 Feb 2012 b. DoT notification No.18-07/2010-IPdated 05 Oct 2012 c. Guidelines issued by DeitY vide No.8(78)/2010-IPHW dated 12Jun 2013. d. Notification issued by DeitY vide No.33(3)/2013-IPHW dated 23Dec 2013. e. Guidelines issued by DeitY vide No.33(7)/2015-IPHW dated 16th November,2015. <u>This PMA policy is made mandate by MoUD via notification D.O. No. K-14012/101(17)/2017-SC-III-A dated 27th April 2017. Please do confirm the implemetation of the policy.</u>	MSI shall adhere the Preferential Market Access (PMA) Guidelines/policy/notification issued by Ministry of Electronics and Information Technology and Department of Telecommunications, Ministry of Communications for the components, items, equipment, products notified under the respective guidelines/policy/notification.
27.	Section 3.1 General Scope of Work	General Scope of Work - Point No. IV	11	II	IV: Software	Clause Amended as: The OEM of proposed system software shall have presence in India and its own or their holding (parent) company or subsidiary company or Sister Concern India Support centre
28.	Section 4	Implementation Plan, Payment Schedule and Deliverables	35	II	CAPEX & OPEX ratio shall be reasonable and realistic, a bid shall not be considered for Final Evaluation if the total CAPEX value happens to be more than 50% of the overall bid value	Clause Amended as: CAPEX & OPEX ratio shall be reasonable and realistic, a bid shall not be considered for Final Evaluation if the total CAPEX value happens to be more than 60% of the overall bid value
29.	Section 4	Implementation Plan, Payment Schedule and Deliverables	35	II	Implementation Plan, Payment Schedule and Deliverables	Clause Amended as: Please refer Annexure IV of this Corrigendum for the revised Implementation Plan, Payment Schedule and Deliverables
30.	Section 5.3.2	Surveillance System Sub-Components - Point No. IV	41	II	The MSI shall provide both edge and server-side video analytics that can be applied to the video streams and alerts can be generated from it to escalate incidents in real-time for quick response	Clause Amended as: The MSI shall provide edge analytics for ANPR, FRS and analytics mentioned in the section 5. 3.5.2 (Built-in-Edge

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
						Analytics for the Cameras) of Vol-II of the RFP and server-side video analytics for the remaining analytics, video streams and alerts can be generated from it to escalate incidents in real-time for quick response. However, MSI shall design right analytics architecture to meet RFP requirements and minimum Service Level Agreement
31.	Section 5.3.4	Video Management & Recording System - Point No. 44	47	II	44. Video Stitching - The VMS should provide the ability for real-time video calibration tools providing stitched video view of areas that are covered by multiple cameras as a single image. The video stitching software module should provide the ability to "stitch" / integrate up to eight (8) cameras in any direction, horizontal, vertical and overlay to provide a single overlaid view of the selected cameras. It should also be possible to record such stitched view as one single video file for later retrieval.	The clause "Video Stitching - The VMS should provide the ability for real-time video calibration tools providing stitched video view of areas that are covered by multiple cameras as a single image. The video stitching software module should provide the ability to "stitch" / integrate up to eight (8) cameras in any direction, horizontal, vertical and overlay to provide a single overlaid view of the selected cameras. It should also be possible to record such stitched view as one single video file for later retrieval" <u>stands deleted</u>
32.	Section 5.3.5.1	. Video Analytics Functional Requirements - Point No. 1	51	II	Person of Interest Origin Search • Unattended Object detection • Object tracking underneath the camera • Traffic Congestion Detection (by Avg. Speed) • Wrong Direction Traffic Flow/ Congestion Detection • Wrong way driving • Indoor/ Outdoor Trip Wire	Clause Amended as: <ul style="list-style-type: none"> • Person of Interest Origin Search • Unattended Object detection • Object tracking • Traffic Congestion Detection • Wrong Direction Traffic Flow/Wrong way driving • Indoor/ Outdoor Trip Wire
33.	Section 5.3.5.1	Video Analytics Functional Requirements - Point No. 21	52	II	Enhanced Monitoring Features 21. Video Stitching with Object Tracking, Video Stabilization, Video Smoke Detection, Video Fire Detection etc.	The clause "Enhanced Monitoring Features 21. Video Stitching with Object Tracking, Video Stabilization, Video Smoke Detection, Video Fire Detection etc" <u>stands deleted</u>
34.	Section 5.3.5.1	Video Analytics Functional Requirements - Point No. 21	52	II	Person of Interest Origin Search• Unattended Object detection• Object tracking underneath the camera• Traffic Congestion Detection (by Avg. Speed)• Wrong Direction Traffic Flow/ Congestion Detection• Wrong way driving• Indoor/ Outdoor Trip Wire	Clause Amended as: <ul style="list-style-type: none"> • Person of Interest Origin Search • Unattended Object detection • Object tracking • Traffic Congestion Detection • Wrong Direction Traffic Flow/Wrong way driving • Indoor/ Outdoor Trip Wire
35.	Section 5.3.5.2	Built in Edge Analytics for the cameras - Point No I to VIII	54	II	The surveillance system shall support following Built-in-Edge Analytics for the Cameras: I. Auto Tracker: To detect and track movement in the field of view. II.Adaptive Motion Detection: To detect and track object that enter a scene and then triggers an alarm when the object enter a user-defined zone. III. Abandoned Object: To detect objects placed within a defined zone and triggers an alarm if the object remains in the zone longer than the user-defined time allows. IV. Camera Sabotage: Triggers an alarm if the lens is obstructed spray paint, a cloth or a lens cap. V. Directional Motion: Generates an alarm in a high traffic area when a person or object moves in specific direction. VI. Object Removal: To triggers an alarm if the object is removed from a	Clause Amended as: The surveillance system shall support following Built-in-Edge Analytics for the Cameras or should be VMS server based I. Auto Tracker: To detect and track movement in the field of view. II. Adaptive Motion Detection: To detect and track object that enter a scene and then triggers an alarm when the object enters a user-defined zone.

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
					user-defined zone. VII. Stopped Vehicle: - To detect vehicles stopped near a sensitive area longer than the user-defined time allows. VIII. Intrusion Detection: Detect intrusion	III. Abandoned Object: To detect objects placed within a defined zone and triggers an alarm if the object remains in the zone longer than the user-defined time allows. IV. Camera Sabotage: Triggers an alarm if the lens is obstructed by spray paint, a cloth or a lens cap. V. Directional Motion: Generates an alarm in a high traffic area when a person or object moves in a specified direction. VI. Object Removal: To trigger an alarm if the object is removed from a user-defined zone. VII. Stopped Vehicle: To detect vehicles stopped near a sensitive area longer than the user-defined time allows. VIII. Intrusion Detection – Detect intrusion
36.	Section 5.3.6	Body Cameras - Point No. 9	55	II	Shall support MP3 audio format	Clause Amended as: Shall support MP3 / MP4 audio format
37.	Section 5.3.6	Body Camera - Point No. 11	55	II	Shall be able to export video format and be compatible with the following. MP4, AVI, WMV, WAV, MOV, H.264/ H.265, MPEG, DIVX	Clause Amended as: Shall be able to export video format and be compatible with the following: MP4, AVI, WAV, MOV, H.264/ H.265, MPEG, DIVX
38.	Section 5.9	Data Centre On Premise - Point No. (c)	64	II	Internet firewall shall be proposed with Next Generation Firewall including IPS & Anti- Malware Protection and Anti-APT functionality to protect the data centre network from internet born threats and shall be placed at perimeter level.	Clause Amended as: Internet firewall shall be proposed with Next Generation Firewall including IPS to protect the data centre network from internet born threats and shall be placed at perimeter level.
39.	Section 5.10.2	Availability and SLAs - Point No. II	65	II	II. Minimum 99.5% up time measured monthly for availability of the virtual machines at the respective Data Centre site.	The clause "II. Minimum 99.5% up time measured monthly for availability of the virtual machines at the respective Data Centre site" <u>stands deleted</u>
40.	Section 5.10.2	Availability and SLAs - Point No. IV	65	II	The cloud provider should have the ability to automatically make multiple redundant copies of user data in primary as well as disaster recovery Data Centre.	The clause "The cloud provider should have the ability to automatically make multiple redundant copies of user data in primary as well as disaster recovery Data Centre" <u>stands deleted</u>
41.	Section 5.10.2	Availability and SLAs - Point No. I	65	II	The Primary and Disaster Recovery cloud services shall be hosted by CSP's as per MEITY approved guidelines.	Clause Amended as: The Disaster Recovery cloud services shall be hosted by CSP's as per MEITY approved guidelines.
42.	Section 5.10.3	Cloud: Functional Requirements - Point No. III	65	II	It should be possible at any time to move the cloud virtual machine to ASCL's DC'S running industry leading hypervisors. The mechanism and technical requirements for achieving this should be well documented	The clause "It should be possible at any time to move the cloud virtual machine to ASCL's DC'S running industry leading hypervisors. The mechanism and technical requirements for achieving this should be well documented" <u>stands deleted</u>
43.	Section 5.10.2	Availability & SLAs- Point no V	65	II	The integrated minimum SLA of 99.9 availability shall be provided for database and other service components.	The clause "The integrated minimum SLA of 99.9 availability shall be provided for database and other service components" <u>stands deleted</u>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
44.	Section 5.10.2	Availability & SLAs - Point No. 1	65	II	The Primary and Disaster Recovery cloud services shall be hosted by CSP's as per MEITY approved guidelines.	Clause Amended as: The Disaster Recovery cloud services shall be hosted by CSP's as per MEITY approved guidelines.
45.	Section 5.12	Disaster Recovery on Cloud - Point No. 13	69	II	Point 13: The design ensure redundancy at each level	The clause "The design ensure redundancy at each level" <u>stands deleted</u>
46.	Section 5.12	Disaster Recovery on Cloud- Point No. I	69	II	I. There should be logical separation (of space, servers, storage, network infrastructure and networks) to protect data, applications and servers on Private cloud.	Clause Amended as: There should be logical separation (of space, servers, storage, network infrastructure and networks) to protect data, applications and servers on Private / Public cloud.
47.	Section 5.12	Disaster Recovery on Cloud - Point No. X	70	II	X. The system shall be hosted in the site identified by the MSI and as agreed by the ASCL for DR in a different seismic zone	Clause Amended as: X. The system shall be hosted in the site for DR in a different seismic zone
48.	Section 5.12	Disaster Recovery on Cloud - Point No. XV	70	II	Provide a robust, fault tolerant infrastructure with enterprise grade SLAs with an assured uptime of 99.999%, SLA measured at the VM Level & SLA measured at the Storage Levels	Clause Amended as: Provide a robust, fault tolerant infrastructure with enterprise grade SLAs with an assured uptime of 99.9%, SLA measured at the VM Level & SLA measured at the Storage Levels
49.	Section 5.13.3.3	Internal and Internet Firewalls - Point No. III	79	II	III. Support for access-rules for both IPv4 & IPv6 objects simultaneously with detecting & blocking malware and sandboxing , as per the guidelines defined in the section Protection against Advanced Malware and have a rich set of Northbound APIs for it to be integrated into a SIEM system.	Clause Amended as: Support for access-rules for both IPv4 & IPv6 objects simultaneously with detecting & blocking malware and sandboxing and have a rich set of Northbound APIs for it to be integrated into a SIEM system.
50.	Section 5.13.3.6	Anti-APT - Last Paragraph	81	II	"Advanced Threat Protection should provide a single console showing all suspicious events and attacks across the organization, allowing all data and intelligence about any attack, across endpoint, network, and email, to be shown in one place. Solution shall be capable of working in Inline Blocking mode without depending on other network components like a separate FW, IPS or Web Security Appliance."	Clause Amended as: Advanced Threat Protection should provide a single console showing all suspicious events and attacks across the organization, allowing all data and intelligence about any attack, across endpoint, network, and email, to be shown in one place
51.	Section 6.1.3	Fixed Box Outdoor Camera - Face recognition, and General Surveillance - Point No. 6	99	II	Lens 5-50/9-40mm IR Correct , CS-mount /built in lens,P-iris	Clause Amended as: 5-50/9-40 mm IR corrected, CS-mount/Built-in lens, P-Iris/ s/ Auto Iris / DC-Iris
52.	Section 6.1.4	Fixed Box Outdoor Camera - Face recognition, and General	99	II	25/30 FPS at all resolutions with Controllable Bit Rate/Bandwidth and Frame Rate. In CBR Priority to be defined for Video quality or frame rate and the bandwidth upper limit shall not exceed the defined limit	Clause Amended as: For General Surveillance: 25/30 FPS at all resolutions with Controllable Bit

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
		Surveillance - Point No. 10				<p>Rate/Bandwidth and Frame Rate. In CBR Priority to be defined for Video quality or frame rate and the bandwidth upper limit shall not exceed the defined limit</p> <p>For ANPR</p> <p>Refer to Annexure X of this Corrigendum for the ANPR Camera specifications</p> <p>For Face recognition</p> <p>25/30 FPS with min 5 MP at all resolutions with Controllable Bit Rate/Bandwidth and Frame Rate. In CBR Priority to be defined for Video quality or frame rate and the bandwidth upper limit shall not exceed the defined limit</p>
53.	Section 6.1.4	Fixed Box Outdoor Camera - Face recognition and General Surveillance - Point No. 11	99	II	The camera shall be able to setup and stream out minimum two (2) stream profiles. It should be possible to set each stream profile independently for compression, resolution, frame rate and quality up to Full camera resolution of Full HD @ 30 FPS	<p>Clause Amended as:</p> <p>The camera shall be able to setup and stream out minimum three (3) stream profiles. It should be possible to set each stream profile independently for compression, resolution, frame rate and quality up to Full camera resolution of Full HD @ 30 FPS</p>
54.	Section 6.1.3	Fixed Box Outdoor Camera - Face recognition and General Surveillance - Point No. 1	99	II	Image Sensor Minimum 1/2.8" progressive scan RGB CMOS	Minimum 1/2.8" progressive scan CMOS
55.	Section 6.1.3	Bullet Indoor Camera- Face Recognition - Point No. 6	99	II	Lens 5-50/9-40mm IR Correct, CS-mount /built in lens,P-iris	<p>Clause Amended as:</p> <p>5-50/9-40 mm IR corrected, CS-mount/Built-in lens, P-Iris/ s/ Auto Iris / DC-Iris</p>
56.	Section 6.1.4	Fixed Box Outdoor Camera - Face recognition and General Surveillance - Point No. 14	100	II	Wide Dynamic=90 dB or better Range	<p>Clause Amended as:</p> <p>Wide Dynamic= 120 dB or better Range</p>
57.	Section 6.1.4	Bullet Indoor Camera - Face Recognition - Point No. 6	101	II	Lens 3-9mm, IR corrected, P-iris, Megapixel lens with remote zoom and focus	<p>Clause Amended as:</p> <p>3 - 9 mm, IR corrected, P-Iris/ s/ Auto Iris / DC-Iris, Megapixel Lens with remote zoom and focus</p>
58.	Section 6.1.4	Bullet Indoor Camera - Face Recognition - Point No. 10	101	II	Frame Rate and Bit rate =Up to 25/30 FPS at all resolutions with Controllable Bit Rate/ Bandwidth and Frame Rate. In CBR Priority to be defined for Video quality or frame rate and the bandwidth upper limit shall not exceed the defined limit	<p>Clause Amended as:</p> <p>For General Surveillance:</p> <p>25/30 FPS at all resolutions with Controllable Bit Rate/Bandwidth and Frame Rate. In CBR Priority to be</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
						defined for Video quality or frame rate and the bandwidth upper limit shall not exceed the defined limit For Face recognition 25/30 FPS with min 5 MP at all resolutions with Controllable Bit Rate/Bandwidth and Frame Rate. In CBR Priority to be defined for Video quality or frame rate and the bandwidth upper limit shall not exceed the defined limit
59.	Section 6.1.4	Bullet Indoor Camera - Face Recognition - Point No. 11	101	II	The camera shall be able to setup and stream out minimum two (2) stream profiles. It should be possible to set each stream profile independently for compression,	Clause Amended as: The camera shall be able to setup and stream out minimum three (3) stream profiles. It should be possible to set each stream profile independently for compression, resolution, frame rate and quality up to Full camera resolution of Full HD @ 30 FPS
60.	Section 6.1.4	Bullet Indoor Camera - Face recognition - Point No 1	101	II	1: Image Sensor Minimum 1/3" progressive scan RGB CMOS or better	Clause Amended as: Minimum 1/2.8" progressive scan CMOS
61.	Section 6.1.4	Bullet Indoor Camera - Face Recognition - Point No. 14	102	II	Wide Dynamic Range=90 db or better	Clause Amended as: Wide Dynamic= 120 dB or better Range
62.	Section 6.1.4	Bullet Indoor Camera - Face Recognition - Point No. 20	102	II	IPv4/V6,HTTP,HTTPS,SSL/TLS,QOS layer 3 differServ, FTP, SMTP, Bonjour,UPnP,SNMPv1/v2/v3,(MIB-II),DNS,NTP,RTSP,RTP,TCP,UDP,IGMP,RTCP,ICMP,DHCP,ARP,SSH	Clause Amended as: IPv4/v6, HTTP, HTTPS, SSL/TLS, QoS Layer 3 DiffServ, FTP SMTP, Bonjour / RTCP / ICMP/ SSH, UPnP, SNMPv1/v2c/v3 (MIB - II), DNS, NTP, RTSP, RTP, TCP, UDP, IGMP, DHCP, ARP
63.	Section 6.1.4	Bullet Indoor camera-Face Recognition - Point No. 31	102	II	Embedded application: The camera shall provide a platform allowing the upload of third party applications into the camera	Clause Amended as: The camera shall support integration with third party applications
64.	Section 6.1.4	Bullet Indoor Camera - Face recognition - Point No 14	102	II	14: Wide Dynamic Range 90 dB or better	Clause Amended as: Wide Dynamic= 120 dB or better Range
65.	Section 6.1.4	Bullet Indoor Camera - Face recognition - Point No 31	102	II	31. Embedded Applications The camera shall provide a platform allowing the upload of third party applications into the camera	Clause Amended as: The camera shall support integration with third party applications
66.	Section 6.1.4	Bullet Indoor Camera- Face Recognition - Point No. 31	102	II	Embedded Applications: The Camera shall provide a platform allowing the upload of third party application into the camera	Clause Amended as: The camera shall support integration with third party applications

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
67.	Section 6.1.5	360 Degree Panoramic Multi-Sensor Camera	103	II	Specifications of “ Degree Panoramic Multi-Sensor Camera ”	Clause Amended as: Please refer revised specification "360 Degree Panoramic Camera" at Annexure XI
68.	Section 6.1.6	PTZ Camera - Point No. 8	105	II	PTZ: Pan: 0 to 360° endless/continuous, 0.2 to 300°/s(auto) , 0.2 to 100°/s (Manual) Tilt: 90°, 0.2 to 100°/s (Auto), 0.2 to 40°/s (Manual) 20x optical zoom and 10x digital zoom	Clause Amended as: Pan: 0 to 360° endless/continuous, 0.2°/s to 300°/s (auto), 0.2°/s to 100°/s (Manual) Tilt: 90°, 0.2°/s to 100°/s (Auto), 0.2°/s to 40°/s (Manual) 20x optical zoom or better and 10x digital zoom or better
69.	Section 6.1.6	PTZ Camera - Point No. 9	105	II	General =The camera shall be able to setup and stream out minimum two (2) stream profiles. Each stream profile can have its own compression, resolution, frame rate and quality independently	Clause Amended as: General =The camera shall be able to setup and stream out minimum three (3) stream profiles. Each stream profile can have its own compression, resolution, frame rate and quality independently
70.	Section 6.1.6	PTZ Camera - Point No 6	105	II	6. Minimum illumination Colour: 0.5 lux, B/W: 0.1 lux (at 30 IRE) or better	Clause Amended as: Minimum illumination-Colour: 0 lux with IR, B/W: 0.1 lux (at 30 IRE) or better
71.	Section 6.1.6	PTZ Camera - Point No 8	105	II	8. PTZ Pan: 0 to 360° endless/continuous, 0.2 to 300°/s (auto), 0.2 to 100°/s (Manual) Tilt: 90°, 0.2 to 100°/s (Auto), 0.2 to 40°/s (Manual) 20x optical zoom and 10x digital zoom	Clause Amended as: Pan: 0 to 360° endless/continuous, 0.2°/s to 300°/s (auto), 0.2°/s to 100°/s (Manual) Tilt: 90°, 0.2°/s to 100°/s (Auto), 0.2°/s to 40°/s (Manual) 20x optical zoom or better and 10x digital zoom or better
72.	Section 6.1.7	Public Address System - Point No. 12	107	II	Language=The horn speaker shall provide a function for altering the language of the user interface, and shall include support for at least English and Hindi	The clause "The horn speaker shall provide a function for altering the language of the user interface, and shall include support for at least English and Hindi" stands deleted
73.	Section 6.1.8	Public Address System - Point No. 10	107	II	Supported protocols: DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, TCP, UDP, IGMP, ICMP, DHCP, ARP, SOCKS, SSH	Clause Amended as: Supported protocols: DiffServ, FTP, SMTP, Bonjour / ICMP / SSH, UPnP, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, TCP, UDP, IGMP, DHCP, ARP, SOCKS
74.	Section 6.1.8	IR Illuminator - Point No. 5	108	II	Operating Condition= -5° to 55°C or better	Clause Amended as: Operating Condition -5° to 50°C or better
75.	Section 6.1.9	Emergency Call Boxes - Point No. 4	108	II	Speaker & Microphone=VOIP Phone, Hands-free calling, Watertight and industrial grade equipment, Built-In minimum 8 Ohm Speaker with minimum 20W Class D amplifier	Clause Amended as: Speaker & Microphone=VOIP Phone, Hands-free calling,

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
						Watertight and industrial grade equipment, Built-In amplifier & speaker with minimum 10W RMS Power
76.	Section 6.1.9	Emergency Call Boxes - Point No. 6	108	II	CCTV Camera= IP based, Color camera with minimum D1 resolution, Day/Night mode operations	Clause Amended as: IP based, Color camera with minimum 1280x960 (1.3 MP) resolution, Day/Night mode operations
77.	Section 6.1.11	Body Camera with Docking System - Point No. 22	110	II	Capacity of Docking Station: Min 10 slot chassis with battery charging	Clause Amended as: Capacity of Docking Station: Min 8 or above slot chassis with battery charging
78.	Section 6.4	Industrial grade Field Layer-2 FE 8 port POE Switch	125	II	Specification of "Industrial grade Field Layer-2 FE 8 port POE Switch"	The specifications of "Industrial grade Field Layer-2 FE 8 port POE Switch" <u>stands deleted</u>
79.	Section 6.5.1	VMD board including VMD controller and Cabinet IP66 Compliant	130	II	VMD Board including VMD Controller and Cabinet IP66 Compliant	Clause Amended as: VMD Board including VMD Controller and Cabinet IP65 / IP 66 Compliant
80.	Section 6.5.2	VMD Board including VMD Controller and Cabinet IP66 Complaints - Point No. 8	130	II	Viewing angle Horizontal -110 degree – 140 degree Vertical -50 degree – 70 degree (Viewing angle shall ensure message readability for motorists in all lanes of the approach road)	Clause Amended as: Viewing angle As per IRC/EN12966 standard (Viewing angle shall ensure message readability for motorists in all lanes of the approach road)
81.	Section 6.5.1	VMD board including VMD controller and Cabinet IP66 Compliant Point No. 16	131	II	Complete VMS should be of IP 65 protection level. As per EN60529 or equivalent Standard.	Clause Amended as: Complete VMS should be of IP 65 / IP 66 protection level. As per EN60529 or equivalent Standard
82.	Section 6.5	Variable Message Display (VMD) Board Point No 6	131	II	Variable Message Display	Following two parameters added for VMD specification Dimensions: 3.0 mtr length X 1.8 mtr height X 0.2 mtr depth. (3000mm x 1800mm X 200mm) Full Matrix: Number of lines & characters adjustable, active area: 2.88m X 1.6m at least
83.	Section 6.7.1	Surveillance Storage (1300 TB NL SAS Drives Usable Capacity) - Point No. 1	133	II	Proposed make of Storage Optimized Server with Virtualization Software should be from reputed brands of Storage System's OEM. For investment rationalization, the proposed Storage Optimized Servers should be modular & scalable in nature wherein the Storage can be scaled by adding capacity to the Servers and Servers to the Video Recording Server Cluster.	Clause Amended as: Storage with Virtualization Software: Proposed make of Storage Server with Virtualization Software should be from reputed brands of Storage / Server System's OEM. The proposed Storage should be modular & scalable in nature wherein the Storage can be scaled by

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
						adding capacity to the Servers and Servers to the Video Recording Server Cluster.
84.	Section 6.7.1	Surveillance Storage (1300 TB NL SAS Drives Usable Capacity) - Option 1: Storage Optimized Server with Virtualization Software - Point No. 1	133	II	Storage optimized Server with Virtualization software	Clause Amended as: Option 1: Storage Server with Virtualization Software
85.	Section 6.7.8	Internet Router - Point No. 2	145	II	The router shall support following interface: Gigabit Ethernet, STM1, STM16, STM64, 10G Ethernet, POS, E1, Channelized E1,	Clause Amended as: The router shall support Gigabit Ethernet interface
86.	Section 6.7.9	Core Router - Point No. 5	147	II	The router shall support following type of interfaces – 10GE and 1GE interfaces.	Clause Amended as: The router shall support Gigabit Ethernet interface
87.	Section 6.7.9	Core Router - Point No. 1	147	II	Router should have redundant controller cards (redundant control plane) and should support stateful switchover, non-stop forwarding, Non-stop routing and Graceful restart.	Clause Amended as: Router should have redundant controller cards (redundant Control / Data plane) and should support stateful switchover, non-stop forwarding, Non-stop routing and Graceful restart.
88.	Section 6.7.9	Core Router - Point No. 18	148	II	Router shall support IPV4 and IPV6, IGMP V2/V3, Multicast Listener Discovery, IGMP and PIM, 6PE and 6VPE mode for IPV6 transport over IPV4, ECMP, LDP, BGP Prefix independent control (EDGE and Core) for IPV4 and IPV6, BGP, ISIS, OSPFv2 and V3, RSVP, VRRP and Traffic Engineering	Clause Amended as: Router shall support IPV4 and IPV6, IGMP V2/V3, Multicast Listener Discovery, IGMP and PIM, 6PE and 6VPE mode for IPV6 transport over IPV4, ECMP, LDP, BGP Prefix independent control (EDGE and Core) for IPV4 and IPV6, BGP, ISIS, OSPFv2 and V3, RSVP, VRRP and Traffic Engineering
89.	Section 6.7.9	Core Router - Point No. 19	148	II	Router shall support IPV4 and IPV6, IGMP V2/V3, Multicast Listener Discovery, IGMP and PIM, 6PE and 6VPE mode for IPV6 transport over IPV4, ECMP, LDP, BGP Prefix independent control (EDGE and Core) for IPV4 and IPV6, BGP, ISIS, OSPFv2 and V3, RSVP, VRRP and Traffic Engineering	Clause Amended as: Router shall support IPV4 and IPV6, IGMP V2/V3, Multicast Listener Discovery, IGMP and PIM, 6PE and 6VPE mode for IPV6 transport over IPV4, ECMP, LDP, BGP Prefix independent control (EDGE and Core) for IPV4 and IPV6, BGP, ISIS, OSPFv2 and V3, RSVP, VRRP and Traffic Engineering
90.	Section 6.7.9	Core Router - Point No. 30	149	II	Interfaces: 4x10G ports populated with minimum 2 X multimode transceiver and 1x10G SM transceiver	Clause Amended as: 4x10G ports populated with minimum 2 X 10G multimode transceiver and 1x10G SM transceiver
91.	Section 6.7.10	Spine Switch	149	II	Switch should support for different logical interface types like loopback, VLAN, SVI, Port Channel, multi chassis port channel/LAG etc.	Clause Amended as: Switch should support for different logical interface types like

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
						loopback, VLAN, SVI / RVI or equivalent, Port Channel, multi chassis port channel/Link Aggregation Group (LAG) etc.
92.	Section 6.7.10	Spine Switch	149	II	The switch should support 768K IPv4 routes or above	Clause Amended as: The switch should support 256K IPv4 routes or above
93.	Section 6.7.10	Spine Switch	149	II	Switch should support total aggregate minimum 8Tbps minimum of switching capacity considering future scalability	Clause Amended as: Switch should support total aggregate minimum 6.4 Tbps minimum of switching capacity considering future scalability
94.	Section 6.7.10	Spine Switch	149	II	Switch should have min buffer of 80MB	Clause Amended as: Switch should have minimum buffer of 40 MB
95.	Section 6.7.10	Spine Switch - Point No. 12	150	II	The switch should support 768KIPv4 routes or above	Clause Amended as: The switch should support 256K IPv4 routes or above
96.	Section 6.7.12	Fabric Manager - Point No. 9	153	II	Fabric: In the fabric the oversubscription ration of the connectivity between each leaf to SPINE switches should not be less than 4:1	Clause Amended as: In the fabric the oversubscription ration of the connectivity between each leaf to SPINE switches should not be less than 2.5:1
97.	Section 6.7.12	Fabric Manager	153	II	Fabric is the Clos Architecture defined using Spine, Leaf and VXLAN + ISIS or VXLAN + EVPN Protocol.	Clause Amended as: Fabric is the Clos Architecture defined using Spine, Leaf and VXLAN + ISIS or VXLAN + EVPN / equivalent protocol
98.	Section 6.7.13	Internet Firewall - Point No. 7	155	II	Firewall should support at least 25,000 connections per second with application visibility turned on	Clause Amended as: Firewall should support at least 25,000 connections sessions
99.	Section 6.7.13	Internet Firewall - Point No. 4	155	II	Proposed Firewall should not be proprietary ASIC based in nature & should be open architecture based on multi-core Cpu's to protect & scale against dynamic latest security threats.	Clause Amended as: Proposed Firewall should be open architecture based on multi-core CPU's to protect & scale against dynamic latest security threats.
100.	Section 6.7.13	Internet Firewall - Point No. 6	155	II	Firewall should support at least 18,00,000 concurrent sessions with application visibility turned on	Clause Amended as: Firewall should support at least 18,00,000 concurrent sessions
101.	Section 6.7.13	Internet Firewall - Point No.24	156	II	Solution shall have capability to analyse and block TCP/UDP protocol to identify attacks and malware communications. At minimum, the following protocols are supported for real-time inspection, blocking and control of download files: HTTP, SMTP, POP3, IMAP, and FTP	Clause Amended as: Solution shall have capability to analyse and block TCP/UDP protocol to identify attacks and malware communications. At minimum, the following protocols are supported for real-time inspection, blocking and control of download files: HTTP, HTTPs, SMTP, SMTPs, POP3, POP3s, IMAP, IMAPs, FTP and FTPs

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
102.	Section 6.7.13	Internet Firewall - Point No.27	156	II	Should support Open based Application ID for access to community resources and ability to easily customize security to address new and specific threats and applications quickly	Clause Amended as: Should support Open based Application ID / Custom Application Signature and ability to easily customize security to address new and specific threats and applications quickly
103.	Section 6.7.14	Internal Firewall - Point No. 5	157	II	Firewall should support at least 25,00,000 concurrent sessions with application visibility turned on	Clause Amended as: Firewall should support at least 25,00,000 connections sessions
104.	Section 6.7.14	Internal Firewall - Point No. 6	157	II	Firewall should support at least 35,000 connections per second with application visibility turned on	Clause Amended as: Firewall should support at least 35,000 connections sessions
105.	Section 6.7.15	Server & Link Load balancer and Web application firewall and DDoS - Point No. 1	159	II	The proposed appliance should provide integrated functionalities of Server Load balancer, Intelligent DNS, Link Load Balancing, SSL Offloading, WAF and Fraud Protection (Application Layer Encryption).	Clause Amended as: The proposed appliance should provide integrated functionalities of Server Load balancer, Intelligent DNS, Link Load Balancing, SSL Offloading, WAF
106.	Section 6.7.14	Internal Firewall - Point No. 30	159	II	The Management platform must domain multi domain management	The clause "The Management platform must domain multi domain management" stands deleted
107.	Section 6.7.15	Server & Link Load balancer and Web application firewall and DDoS - Point No. 9	160	II	The proposed solution must be able to load balance both TCP and UDP based application from L2 to L7 including lightweight IoT protocols like MQTT and CoAP protocol for machine to machine connectivity between IoT appliances such as small sensors, mobile devices etc.	Clause Amended as: The proposed solution must be able to load balance both TCP and UDP based application from L2 to L7 including lightweight IoT protocols
108.	Section 6.7.15	Server & Link Load balancer and Web application firewall and DDoS - Point No. 11	160	II	The proposed solution must offer out of band programming for control plane along with data plane scripting for functional like content inspection and traffic management	Clause Amended as: The proposed solution must offer out of band programming for control plane / data plane scripting for functional like content inspection and traffic management
109.	Section 6.8.16	Web Security Appliances - Point No. 11	162	II	The web proxy solution should be capable of executing the web sessions from un categorized in a local container away from the endpoint thereby preventing any website delivered zero day from reaching the endpoint	The clause "The web proxy solution should be capable of executing the web sessions from un categorized in a local container away from the endpoint thereby preventing any website delivered zero day from reaching the endpoint" stands deleted
110.	Section 6.7.17	Network Behaviour Analysis - Point No. 1	165	II	Solution should be capable of performing network behaviour analysis along with continuous full packet capture and forensics capabilities. Should capture all packets from network in real-time and be able to classify, extract and analytics, reconstructs network activity and forensics over IPv4 and, IPv6	Clause Amended as: Solution should be capable of performing network behaviour analysis and should capture all packets from network in real-time and be able to classify, extract and analytics, reconstructs network activity and forensics over IPv4 and, IPv6
111.	Section 6.7.17	Network Behaviour Analysis - Point No. 2	165	II	Ability to import PCAP & PCAPNG files simultaneously while the live capture is going on. making it easy to analyze historical data or, captures from other sources. The solution should also include a packet viewer that is capable of following TCP streams.	The clause "Ability to import PCAP & PCAPNG files simultaneously while the live capture is going on. making it easy to analyze historical data or, captures from other sources. The solution should also include a packet viewer that is capable of following TCP streams." stands deleted

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
112.	Section 6.7.17	Network Behaviour Analysis - Point No. 6	165	II	Solution should perform lossless packet capture at rate of 1 Gbps of network traffic	Clause Amended as: Solution should perform packet capture at rate of 1 Gbps of network traffic
113.	Section 6.7.17	Network Behaviour Analysis - Point No. 9	165	II	3rd Party Threat Feed integration – add live-feeds, like Snort, quickly and easily. Reputation Services provide added value and threat intelligence	Clause Amended as: OEM own / 3rd Party Threat Feed integration – add live-feeds, like Snort, quickly and easily. Reputation Services provide added value and threat intelligence
114.	Section 6.7.17	Network Behaviour Analysis - Point No. 22	166	II	Root Cause Explorer Features - Automates tracing of HTTP referrer chains that can significantly reduce time to search for related preceding sessions.	The clause "Root Cause Explorer Features - Automates tracing of HTTP referrer chains that can significantly reduce time to search for related preceding sessions." stands deleted
115.	Section 6.7.18	12-Port Layer 3 10G Switch (For Interconnecting) - Point No. 6	168	II	Should have at least 4GB of Flash for storing OS and other Logs and 4GB DRAM	Clause Amended as: Should have at least 2GB of Flash for storing OS and other Logs and 2GB DRAM
116.	Section 6.7.18	12-Port Layer 3 10G Switch (For Interconnecting)	168	II	Switch should be EAL3/NDPP certified	The clause "Switch should be EAL3/NDPP certified" stands deleted
117.	Section 6.7.19	24-Port PoE GE layer 2 Switch	168	II	switch shall have minimum 216Gbps of switching fabric and 70Mpps of forwarding rate	Clause Amended as: Switch shall have minimum 208 Gbps of switching fabric and 70 Million Packets Per Second of forwarding rate.
118.	Section 6.7.18	12-Port Layer 3 10G Switch (For Interconnecting) - Point No. 28	169	II	The Switch should support flexible & multiple authentication mechanism, including 802.1X, MAC authentication bypass, and web authentication using a single, consistent configuration.	Clause Amended as: The Switch should support flexible & multiple authentication mechanism, including 802.1X, MAC authentication bypass /equivalent, and web authentication using a single, consistent configuration.
119.	Section 6.7.18	12-Port Layer 3 10G Switch (For Interconnecting) - Point No. 32	169	II	The Switch should support IP SLA feature set to verify services guarantee based on business-critical IP Applications.	Clause Amended as: The Switch should support IP SLA or equivalent feature set to verify services guarantee based on business-critical IP Applications.
120.	Section 6.7.18	12-Port Layer 3 10G Switch (For Interconnecting) - Point No. 35	169	II	The Switch should support at-least 24000 Flows per switch	Clause Amended as: The Switch should support Sflows/ NetFlow/Jflow / equivalent per switch
121.	Section 6.7.19	24 Port PoE GE layer 2 Switch - Point No. 1	170	II	Switch should have minimum 24x10/100/1000Mbps PoE/PoE+ Ethernet Ports and 4x1G/10G SFP uplink ports.	Clause Amended as: Switch should have minimum 24x10/100/1000Mbps PoE/PoE+ Ethernet Ports and 4x1G/10G SFP or 2x10G SFP+ uplink ports

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
122.	Section 6.7.19	24-Port PoE GE layer 2 Switch - Point No. 2	170	II	Switch shall support minimum 80 Gbps of stacking bandwidth and stacking port should be dedicate port not uplink port	Clause Amended as: Switch shall support minimum 60 Gbps of stacking bandwidth and stacking port should be dedicate port not uplink port
123.	Section 6.7.19	24-Port PoE GE layer 2 Switch - Point No. 5	170	II	Switch shall have minimum 216 Gbps of switching fabric and 70 Mbps of forwarding rate.	Clause Amended as: Switch shall have minimum 208 Gbps of switching fabric and 70 Million Packets Per Second of forwarding rate.
124.	Section 6.7.19	24-Port PoE GE layer 2 Switch - Point No. 16	170	II	Switch should support SSHv2, SNMPv2c, SNMPv3, NTPv3 and NTPv4.	Clause Amended as: Switch should support SSHv2, SNMPv2c, SNMPv3, NTPv3/ NTPv4
125.	Section 6.7.19	24-Port PoE GE layer 2 Switch - Point No. 18	171	II	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard and IPv6 First Hop Security.	Switch should support port security, DHCP snooping, Dynamic ARP inspection, IP Source guard, BPDU Guard, Spanning tree root guard and IPv6 First Hop Security / equivalent
126.	Section 6.8.1	Keyboards & Joysticks - Point No.	175	II	Specification of “ Keyboard and Joystick ”	Clause Amended as: Please refer revised specification for " 6.8.1 Keyboard and Joystick" at Annexure – XII
127.	Section 6.8.2	Video Wall - Point No. 13	176	II	Light Source: System should also automatically switch back to primary dvi input from hdmi input as soon as the primary dvi input is available again	The Clause "Light Source: System should also automatically switch back to primary DVI input from HDMI input as soon as the primary dvi input is available again" stands deleted
128.	Section 6.8.2	Video Wall - Point No. 17	176	II	Control BD input terminals Input 2 X Digital DVI Input 1 X hdmi Input 1X HD-Base T Input 1X Display Port Output 1 X Digital DVI	Clause Amended as: Input: 2 x Digital / Dual link DVI Input: 1 x HDMI Input: 1 x HD-BaseT Input: 1 xDisplay Port Output: 1 X Digital / Dual link DVI
129.	Section 6.8.2	Video Wall - Point No. 5	176	II	On Screen Contrast: 12,00,000:1 or better	The clause "On Screen Contrast: 12,00,000:1 or better" stands deleted
130.	Section 6.8.2	Video Wall - Point No. 20	176	II	Signal Input/Output: Single I link DVI In / Single link DVI Out	The clause "Signal Input/Output: Single I link DVI In / Single link DVI Out" stands deleted
131.	Section 6.8.3	Video Wall Controller - Point No. 13	177	II	Form Factor: 3U 1/2 19" Rack mount housing	Clause Amended as: 3U / 4U 1/2 19" Rack mount housing
132.	Section 6.8.3	Video Wall Controller - Point No. 6	177	II	System backplane: PCI express 3.0 backplane (min 10 slots)	System backplane: PCI express 3.0 backplane (min 4 slots) or above
133.	Section 6.8.9	IP Dome Camera for DC	180	II	Compatible to image sensor, focal length 8-50mm or better, full hd 1080p, Auto IRIS, Corrected IR CS mount with IR cut filter	Clause Amended as: Compatible to image sensor, Focal length 2.8-12 mm or

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
		Surveillance - Point No.3				better, Full HD (1080P), Auto IRIS / P IRIS, Corrected IR, CS Mount with IR cut filter
134.	Section 6.8.9	IP Dome Camera for DC surveillance Point No. 2	180	II	Image Sensor with WDR: 1/3.2" with True WDR, Progressive CMOS Sensor or better	Clause Amended as: Image Sensor: Minimum 1/2.8" with WDR, Progressive CMOS Sensor or better
135.	Section 6.8.9	IP Dome Camera for DC Surveillance - Point No.22	181	II	Security: Vandal and impact resistant housing, IK10 ,IP66 NEMA 4x	Clause Amended as: Security =Vandal and impact resistant housing, IK 08/ IK 10, IP52/IP66/NEMA4X
136.	Section 6.8.9	IP Dome Camera for DC Surveillance - Point No.26	181	II	IR Illuminator: External/ Build in IR Illuminator with minimum 50 meters.	Clause Amended as: External / build-in IR Illuminator with minimum 30 meters. In case of external, "IR Illuminator" section to be referred
137.	Section 6.8.9	IP Dome Camera for DC Surveillance - Point No.16	181	II	Certifications:UL,CE, C83FCC,ONVIF 2.X/S	Clause Amended as: UL, CE, FCC, ONVIF 2.X/S
138.	Section 6.8.9	IP Dome Camera for DC Surveillance - Point No.14	181	II	Operating Humidity=0% to 90% for cameras	Clause Amended as: Operating Humidity=10% to 85% for cameras
139.	Section 6.8.9	IP Dome Camera for DC Surveillance - Point No.18	181	II	Streaming =The camera shall be able to setup and stream out minimum two (2) stream profiles. Each stream profile can have its own compression, resolution, frame rate and quality independently.	Clause Amended as: General =The camera shall be able to setup and stream out minimum three (3) stream profiles. Each stream profile can have its own compression, resolution, frame rate and quality independently
140.	Section 6.9.10	Online UPS 60 KVA and 20 KVA - Point No. 20	202	II	Temperature range	Clause Amended as: Operating Temperature range - 0 to 50 Celsius
141.	Section 6.9.10	Online UPS 60 KVA and 20 KVA - Point No. 31	203	II	O/p Power factor	Clause Amended as: The power factor of the UPS system shall be at 0.85 or above at all load conditions
142.	Section 6.10.2	IP PBX & Voice Router - Point No. 9	205	II	Should support signalling standards/ Protocols – SIP, MGCP, H.323, Q.Sig	Clause Amended as: Should support signalling standards/Protocols– SIP, H.323, Q.Sig
143.	Section 6.10.3	IVR & ACD - Point No. 4	206	II	ACD should support call routing based on longest available agent, circular agent selection algorithms.	Clause Amended as: ACD should support call routing based on longest available agent / circular agent selection algorithms

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
144.	Section 6.10.3	IVR & ACD - Point No. 9	206	II	In future if required, the ACD should support active and standby server mode, where the server can be put in DC and DR. ACD solution should support placing of Main and Standby Server in DC and DR respectively.	Clause Amended as: In future if required, the solution should support active and standby server mode, where the server can be put in DC and DR. The solution should support placing of Main and Standby server in DC and DR respectively.
145.	Section 6.10.3	IVR & ACD - Point No. 12	206	II	IVR should support VoiceXML for ASR, TTS, and DTMF call flows	Clause Amended as: IVR should support Voice XML for ASR / TTS, and DTMF call flows
146.	Section 6.10.3	IVR & ACD - Point No. 16	207	II	Reporting platform to support custom reports using a combination of the Crystal Reports Developer's Toolkit and SQL stored procedures.	Clause Amended as: Reporting platform to support custom reports using COTS based reporting tools
147.	Section 7	Integrated Command Control Centre (ICCC) Platform - Point No. 1	208	II	<ul style="list-style-type: none"> It is envisaged that the city shall implement multiple Smart City use cases over a period of time. The potential example Smart City use cases are Smart Traffic, Smart Parking, Smart Lighting, Energy Metering, Water Metering, CCTV, Public Transport and other integrations as per defined scope. The platform shall also allow the manufacturers of the sensors to develop integrations themselves using SDKs without affecting the northbound applications and existing integration. The platform shall be able to normalize the data coming from different devices of same type (i.e. Different lighting sensor from different OEMs, different energy meters from different OEMs etc.) and provide secure access to that data using data API(s) to application developers. The platform shall support distributed deployment of functions (workflows & policies) across city's network and compute infrastructure with centralized management and control. 	Clause Amended as: <ul style="list-style-type: none"> It is envisaged that the city shall implement multiple Smart City use cases over a period of time. The potential example Smart City use cases are Smart Traffic, Smart Parking, Smart Lighting, Energy Metering, Water Metering, CCTV, Public Transport and other integrations as per defined scope. The platform shall also allow the manufacturers of the sensors to develop integrations themselves using SDKs without affecting the northbound applications and existing integration. The platform shall be able to normalize the data coming from different devices of same type (i.e. Different lighting sensor from different OEMs, different energy meters from different OEMs etc.) and provide secure access to that data using data API(s) to application developers. The platform shall support distributed / across multiple system deployment of functions (workflows, policies and SOPs) across city's network and compute infrastructure with centralized management and control.
148.	Section 7.1.1	Integrated Command Control Centre (ICCC) Platform - Point No. 40	212	II	Smart City Platform/Software provider shall be global Member of Smart Cities Council & Navigant Research Report for Smart Cities Suppliers.	The clause "Smart City Platform/Software provider shall be global Member of Smart Cities Council & Navigant Research Report for Smart Cities Suppliers." stands deleted
149.	Section 7.1.2	Enterprise Content & Document management System	215	II	Specifications of " Enterprise content and document management system "	The specification of "Enterprise Content & Document Management System " in the Section 7.1.2 in Vol - II of RFP <u>stands deleted</u>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
150.	Section 7.1.3	Enterprise Management Solution (EMS) - Point No. 20	222	II	Point 20 - Should support compliance and cost trending to assist in identifying areas for process and operational improvements	The clause "Should support cross platform and reusable packaging with built-in rollback support" stands deleted
151.	Section 7.1.3	Enterprise Management Solution (EMS) - Point No. 25	222	II	Point 25 - Should support cross platform and reusable packaging with built-in rollback support	The clause "Should support cross platform and reusable packaging with built-in rollback support" stands deleted
152.	Section 7.1.6	Backup Solution - Point No. 13	236	II	The Proposed Backup Software must allow to configure the maximum acceptable I/O Latency level for production data stores to ensure backup and replication activities donot impact storage availability to production workload.	Clause Amended as: The proposed Backup software must allow the maximum acceptable I/O latency level for production data stores to ensure backup and replication activities do not impact storage Availability to production workloads
153.	Section 7.1.6	Backup Solution - Point No. 15	236	II	License supplied should have support for Backup, Replication to DR site and backup to minimum five MIETY approved cloud service provider platform	Clause Amended as: License supplied should have support for Backup, Replication to DR site and backup to cloud service provider platform The clause "Solution should use a stateful attack analysis to detect the entire infection lifecycle. It should trace the stage by stage analysis of an advanced attack from system exploitation to outbound malware communication protocol, leading to data exfiltration" stands deleted
154.	Section 7.2	Antivirus - Point No. 9	237	II	Solution should use a stateful attack analysis to detect the entire infection lifecycle. It should trace the stage by stage analysis of an advanced attack from system exploitation to outbond malware communication protocol, leading to data exfiltration	The clause "Solution should use a stateful attack analysis to detect the entire infection lifecycle. It should trace the stage by stage analysis of an advanced attack from system exploitation to outbound malware communication protocol, leading to data exfiltration" stands deleted
155.	Section 7.2	Antivirus - Point No. 10	237	II	The solution should utilize multiple detection approach by commbining virtualaization and emulation to capture more malicious behaviour across a wider range of customer environmennts	The clause "The solution should utilize multiple detection approach by combining virtualization and emulation to capture more malicious behaviour across a wider range of customer environments" stands deleted
156.	Section 7.2	Antivirus - Point No. 13	237	II	The Proposed solution should support hybrid sandboxing (VM-Based and Emulated)	The clause "The Proposed solution should support hybrid sandboxing (VM-Based and Emulated)" stands deleted
157.	Section 7.2	Antivirus - Point No. 8	237	II	Solution's on-premise sandbx must offer malware detection by static analysis. Dynamic emulation,dynamic sandboxing using full (Complte OS) virtual machine and through online retational techniques.	The clause " Solution's on-premise sandbox must offer malware detection by static analysis. Dynamic emulation, dynamic sandboxing using full (Complete OS) virtual machine and through online reputational techniques " stands deleted
158.	Section 7.3.2	Compute Virtualization and Management Solution (Compute)	238	II	Computer Virtualization	The line items at S.No. 9, 11, 14 and 15 of the Section 7.3.2 (Compute Virtualization and Management Solution (Compute) in the Vol - II of RFP stands deleted.

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
159.	Section 7.3.2	Compute Virtualization and Management Solution (Compute) - Point No. 11	239	II	<ul style="list-style-type: none"> Span across a virtual datacentre and multiple hosts should be able to connect to it. This shall simplify and enhance virtual-machine networking in virtualized environments and enables those environments to use third-party distributed virtual switches. In-built enhanced host-level packet capture tool which shall provide functionalities like SPAN, RSPAN, and ERSPAN and shall capture traffic at uplink, virtual switch port and virtual NIC level. It should also be able to capture dropped packets and trace the path of a packet with time stamp details 	The line items at S.No. 9, 11, 14 and 15 of the Section 7.3.2 (Compute Virtualization and Management Solution (Compute) in the Vol - II of RFP stands deleted.
160.	Section 7.3.2	Compute Virtualization and Management Solution (Compute) - Point No. 13	240	II	<p>Solution should provide DR automation solution delivered from virtualization manager console for automated failover, failback and recovery of application VMs in proper sequence to other data centre with single click</p> <p>Solution should provide solution to perform nondisruptive DR drill/testing of recovery plan for full and selected applications every six months without impacting production applications running in primary environment.</p>	<p>Clause Amended as:</p> <ul style="list-style-type: none"> Solution should provide DR automation solution delivered from virtualization manager console for automated failover, failback and recovery of application VMs in proper sequence to other data centre Solution should provide solution to perform non-disruptive DR drill/testing of recovery plan for full and selected applications every six months without impacting production applications running in primary environment
161.	Section 7.3.2	Compute Virtualization and Management Solution (Compute) - Point No. 15	240	II	<p>It should include proactive smart alerts with self-learning performance analytics Capabilities with Prebuilt and configurable operations dashboards to provide real-time insight into infrastructure behaviour, upcoming problems, and opportunities for efficiency improvements.</p> <ul style="list-style-type: none"> Capacity analytics which can identify over-provisioned resources so that they can be right-sized and "What If" scenarios to eliminate the need for spreadsheets, scripts and rules of thumb, as well as Real-time, integrated dashboards of performance and capacity to enable a proactive management approach and help ensure SLAs are met Automated workflow triggers which would let admins associate workflows created in Orchestrator layer with Operations alerts. For example, these workflows can automatically delete old VM snapshots when available capacity falls below a critical threshold or add resources when workload demands are rising above normal 	The line items at S.No. 9, 11, 14 and 15 of the Section 7.3.2 (Compute Virtualization and Management Solution (Compute) in the Vol - II of RFP stands deleted.
162.	Section 7.3.3	Network and Security Virtualization - Point No. 1	240	II	Use hardware/software fabric manager /software Network Virtualization in complementary manner for providing secure and seamless underlay and overlay networking within the IT infrastructure as per their solution design.	The clause "Use hardware/software fabric manager /software Network Virtualization in complementary manner for providing secure and seamless underlay and overlay networking within the IT infrastructure as per their solution design" <u>stands deleted</u>
163.	Section 7.5.4	ANPR Server Software - Point No. 8	257	II	The centralized Video Management Module should be part of same ANPR software framework. No 3rd party VMS is allowed to be offered, howsoever integrated it may be	<p>Clause Amended as:</p> <p>The centralized Video Management Module should be part of same ANPR software framework.</p>
164.	Section 10	Appendix VII: Water Quality	291	II	Water Quality Analyzer Locations	Please refer Annexure - VIII

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Section No.	Clause No. (if any)	Page No.	Volume of the RFP (I / II / III)	Original RFP Clauses	Revised RFP Clause
		Analyzer Locations				
165.	Section 11	Vol 2 Page no. 300 11 Appendix VIII: Indicative Use Cases	300	II	The system should be able to do - No helmet detection for 2-wheelers	The clause "The system should be able to do - No helmet detection for 2-wheelers" <u>stands deleted</u>
166.	Section 11	Appendix VIII- Indicative Use Cases - Point No. 22	300	II	Over Speed Detection Module: a. The system should be able to detect vehicles moving up to speeds of 200 km/hr. and read their number plates with good accuracy. Vendor should provide manufacturer certificate/test report in support of their claim b. The certification for the accuracy of speed measurement should be from the approved Govt. body from the country of origin. Certifications shall be provided for the complete system and not individual components. The system should be calibrated for accuracy prior to handing over and the successful bidder should ensure annual calibration of the system	"Over Speed Detection Module" stands deleted
167.	Section: 2.8 Change Control	2.8.1 Change Control Procedure, Point No. II		III	ii. The Bidder and ASCL, while preparing the CNS, shall consider the change only when such change is beyond the Scope of Work including ancillary and concomitant services required as detailed in RFP. The value of each CNS request should not be exceeding 5% of the Contract value in any case and overall cost of CNSs, during the term of Project, shall not exceed 15% of the Contract Value.	Clause Amended as: The Bidder and ASCL, while preparing the CNS, shall consider the change only when such change is beyond the Scope of Work including ancillary and concomitant services required as detailed in RFP. The value of each CNS request should not be exceeding 5% of the Contract value in any case and overall cost of CNSs, during the term of Project, shall not exceed 10% of the Contract Value.

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure I: Eligibility Criteria

S. No.	Criteria	Documentary Evidence*
1.	<p>a. The Sole Bidder and each of Consortium members should be registered under Companies Act, 1956 or as amended or a LLP firm/Partnership firm under Partnership Act 1932.</p> <p>b. The Sole Bidder or the Lead Bidder in case of a Consortium should have completed at least 10 years of Operations in India as on bid submission date</p> <p>c. In case of Consortium, each member of the Consortium (other than the Lead Bidder) should have completed at least 5 years of operations in India as on bid submission date</p>	i. Copy of Certification of Incorporation/ Registration Certificate
2.	<p>The Sole Bidder should have an average annual turnover of INR 300 Crores and positive net-worth for the last three financial years (FY 2015-16, 2016-17 and 2017-18)</p> <p>The Lead Bidder in case of a Consortium should have minimum 51% of total turnover and remaining 49 % of the turnover shall be met by other members of the consortium, with min turnover requirement of 20 % (in case of 2 consortium members) or 26% (in case of one consortium member) for the last three financial years (FY 2015-16, 2016-17 and 2017-18)</p>	<p>i. Audited financial statements for the last three financial years (FY 2015-16, 2016-17 and 2017-18)</p> <p>ii. Certificate from the Statutory Auditor on turnover details for the last three (3) financial years (FY 2015-16, 2016-17 and 2017-18)</p> <p>iii. Certificate from the Statutory Auditor on positive net-worth for the last three (3) financial years (FY 2015-16, 2016-17 and 2017-18)</p>
3.	<p>The Sole Bidder or any of Consortium members should have experience in India / Abroad of executing (should have been declared "Go-live" by the Client OR should have received 80% of the CAPEX of the Project value) at least One (1) project with four (4) out of five (5) business areas during the last 7 years as on bid submission date listed below (B1 to B5)</p> <p>OR</p> <p>should have experience in executing at least two (2) projects with two (2) out of five (5) business areas during the last 7 years as on bid submission date. These two Projects should have been declared "Go-live" by the Client OR should have received 80% of the CAPEX of the Project value</p> <p><u>Business Areas:</u></p> <p>B1. Supply, Installation, Operations and Maintenance of City Wide video surveillance systems (including any three (3) out of the following sub-systems connected by IP network) with minimum value of INR 5 Crores and minimum 250 numbers of cameras</p> <p>I. Crowd Detection / People Counting,</p> <p>II. Un-Attended Objects</p> <p>III. Wrong way driving</p> <p>IV. Motion Detection</p> <p>V. Congestion Detection,</p> <p>VI. Face Recognition System (FRS)</p> <p>B2. Design, Supply, Installation and Operations & Maintenance of IT Infrastructure, networking equipment, storage backup equipment, servers and cyber-security (excluding auxiliary infrastructure such as desktops, printers, UPS, scanners) for at least Tier II or above Data Centre (certified by Uptime Institute or equivalent Indian regulatory body / Client / Work Order) with minimum value of INR 10 Crores.</p>	<p>i. Work order/Purchase Order/ Contract Agreement <u>/Apostille (document required for International Projects)</u></p> <p>OR</p> <p>Contract clearly highlighting the Scope of Work, Bill of Material and value of the Contract/order</p> <p>OR</p> <p>Self-certificate from the Bidder mentioning the Scope of Work, Bill of Material and value of the Work order/Purchase Order/ Contract Agreement, signed by authorised signatory of the Bidder for this bid along with the certificate issued by the Statutory Auditor certifying value of the project</p> <p><i>Note: Bidder shall mention disclaimer under each Self-certificate that Bidder cannot submit Work order/Purchase Order/ Contract Agreement due to NDA signed with respective client</i></p> <p>OR</p> <p><i>Work Order/ <u>Apostille</u> */ Agreement/Client Certificate or self-certificate from authorized signatory</i></p> <p><i>*indicates documents requirement for International projects</i></p> <p>AND</p> <p>to show the Project as “Complete” minimum one (1) of the following certificate/document shall be enclosed:</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Criteria	Documentary Evidence*
	<p>Note: Bidders who have built their own Data Centre (DC) for commercial use may also be considered.</p> <p>B3. Design, Installation and Operations & Maintenance of Integrated Operations Centre / Command and Control Centre / City Operations Centre / City Surveillance Command Centre with integration of at least four (4) different smart elements / smart solutions using ICCC software platform (out of the following (13) smart elements / smart solutions) with minimum value of INR 10 Crores</p> <ul style="list-style-type: none"> I. Parking Sensors / Intelligent Parking II. Air Quality Monitoring Stations / Environmental Sensors III. Solid Waste Management IV. Intelligent Lighting systems / Smart LED street lights V. Public safety and Disaster Management VI. Tourism Information Centre / Public Information Systems VII. GPS / GIS based Vehicle Tracking systems VIII. Variable Message Display (VMD) Board IX. Adaptive Traffic Signalling System / Transit Plan Module X. City wide CCTV Surveillance systems XI. City wide IP based Public Address System XII. Water Quality Monitoring System XIII. Integration with SCADA based systems <p>B4. Leased Services of Network Bandwidth / Internet Connectivity (OFC network or Electronic components or both) for connecting different smart elements / smart solutions in city-wide / Campus-wide projects with minimum value of INR 5 Crores</p> <p>B5. Design, Installation and Operations & Maintenance of Traffic Enforcement System (including ANPR, RLVD, ATCS systems) project with coverage of at least 10 junctions / locations with minimum value of INR 5 Crores</p>	<p>Completion Certificate issued & signed by the competent authority of the client entity on the entity's letterhead</p> <p>OR</p> <p>Copies of payments received against the Work order/Purchase Order/ Contract Agreement signed by the Statutory Auditor of the Bidder or any other document certifying the completion of the project</p> <p>OR</p> <p>Certificate/Letter from the Competent Authority (who has issued the work order) that the Project has been declared "Go-Live" and is under the Operations & Maintenance phase</p> <p>OR</p> <p>Certificate from the Statutory Auditor along with copies of payments received against the Work order/Purchase Order/ Contract Agreement certifying that payment has been received for 80% of the CAPEX of the Work order/Purchase Order/ Contract Agreement.</p> <p>Note:</p> <ol style="list-style-type: none"> In case of a turnkey project comprising of application development and IT Infrastructure, the Bidder is required to submit a certificate from Statutory Auditor/ Company Secretary specifying the value of the respective business area Bidder may also use the "Technical Experience" of its Parent/ Holding Entity & all its subsidiaries by enclosing Board Resolution from Parent/ Holding Entity authorizing use of its experiences along with declaration/ undertaking that it shall support the Bidding entity but not limited to providing its manpower, experts, technical know-how, knowledge, tools, methodologies, licenses etc. for the entire duration of the Project on a Non – judicial stamp paper of INR 100/- or such equivalent amount and document duly attested by notary public
3.	<p>The Sole Bidder or any of Consortium members, should jointly possess any three (3) of the below certifications which are valid at the time of bidding:</p> <ul style="list-style-type: none"> i. ISO 9001:2008/ ISO 9001:2015 for Quality Management System ii. ISO 14001:2015 for Environmental Management System iii. ISO 20000:2011 for IT Service Management iv. ISO 27001:2013 for Information Security Management System v. CMMi Level 3 or above for Capability Maturity Model Integration 	<p>The Sole Bidder or any of Consortium members:</p> <ul style="list-style-type: none"> i. Copies of valid certificates <p>AND</p> <p>For CMMi Level 3 or above</p> <ul style="list-style-type: none"> ii. Copies of valid certificates <p>OR</p> <p>In case the Bidder is in the process of re-certification of CMMi Level 3 or above; then the copy of expired certificate and present assessment certificate from duly authorised CMMi Auditor to be enclosed</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Criteria	Documentary Evidence*
	Note: Each member of the Consortium should possess minimum one (1) of the above valid certification	
4.	The Sole Bidder and each of Consortium members, should not have been black-listed for indulging in corrupt practice, fraudulent practice, coercive practice, undesirable practice, breach of contract or restrictive practice by any Central/ State Government as on bid submission date (during last three (3) years)	The Sole Bidder and each of Consortium members shall furnish an undertaking signed by CEO/ Country Head/ Authorized signatory of the company to be provided on Non – judicial stamp paper of INR 100/- or such equivalent amount and document duly attested by notary public as per format in Form A.7
5.	<p>a. Specific Power of Attorney in favour of Authorized Signatory signing the bid and Board Resolution in favour of person granting the Power of Attorney for the Sole Bidder or the Lead Bidder in case of Consortium (on Non – judicial stamp paper of INR 100/- or such equivalent amount and document duly notarized) who shall sign the Contract Agreement</p> <p>b. Specific Power of Attorney in favour of Authorized Signatory signing the bid and Board Resolution in favour of person granting the Power of Attorney for the Lead Bidder from each member of the Consortium (on Non – judicial stamp paper of INR 100/- or such equivalent amount and document duly notarized) authorizing to sign the Contract Agreement on behalf of them</p>	<p>i. Specific Power of Attorney for the Sole Bidder or the Lead Bidder in case of Consortium to sign the Contract Agreement as per format in Form A.8</p> <p>ii. Specific Power of Attorney from each consortium member to the Lead Bidder authorizing to sign the Contract Agreement on behalf of them as per format in Form A.9</p>
6.	a. The Sole Bidder or the Lead Bidder shall have a project office in Amritsar or shall furnish an undertaking to establish an office in Amritsar within thirty (30) days of signing the Contract. The office shall be maintained during the entire duration of the contract.	<p>i. Office address in Amritsar along with Shop Establishment Certificate</p> <p>OR</p> <p>ii. Undertaking from authorized signatory to open office in Amritsar within thirty (30) days) days from Contract signing date.</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure II: Technical Evaluation Criteria

S. No.	Criteria Category	Evaluation Criterion	Max Marks	Supporting Documents Required*
A	Bidder's profile (Max Marks: 20)			
A1	Average Annual Turnover of the Sole Bidder or in case of a JV/ Consortium, combined turnover of lead bidder and partners/ consortium members.	Average annual turnover over the last three financial years (2015-16, 2016-17 and 2017-18). Marks shall be allotted as given below: <ul style="list-style-type: none">• More than INR 500 Crores = 12 marks• More than INR 400 Crores – up to INR 500 Crores = 10 marks• >= INR 300 Crores – up to 400 Crores = 8 marks	12	i. Certificate from the Statutory Auditor on turnover details from the over the last three (3) financial years (FY 2015-16, 2016-17 and 2017-18)
A2	Manpower of the Sole Bidder or in case of a JV/ Consortium, combined turnover of lead bidder and partners/ consortium members.	Full time employees on payroll working in the business unit providing “IT/ITeS” as on bid submission date Marks shall be allotted as given below: <ul style="list-style-type: none">• More than 300 full-time employees = 8 Marks• Between 300-201 = 6 Marks• Between 200-100 = 4 Marks• Less than 100 = 2 Marks	8	i. Certificate from the Head of HR Department or equivalent on bidding entity's letter head countersigned by authorized signatory for this bid holding written specific power of attorney on stamp paper
B	Project Experience (Max Marks: 25)			
Marking Criteria: First 20 Marks: 5 Marks per business area (B1 to B5) per project. Thereafter 1 Mark per additional business area per project (Max 5 additional marks)				
Bidder may show same project in different categories (B1 to B5)				
B1	Supply, Installation, Operations and Maintenance of video surveillance systems	The Sole Bidder or any of Consortium members should have experience in India / Abroad of executing project (should have been declared "Go-live" by the Client OR should have received 80% of the CAPEX of the Project value) of Supply, Installation, Operations and Maintenance of IP based City-Wide video surveillance systems (including any three (3) out of the following sub-systems connected by IP network) with minimum value of INR 5 Crores and minimum 250 numbers of cameras during last 7 years as on bid submission date <ul style="list-style-type: none">I. Crowd Detection / People Counting,II. Un-Attended ObjectsIII. Wrong way drivingIV. Motion Detection	-	Work order/Purchase Order/ Contract Agreement / <u>Apostille (document required for International Projects)</u> OR Contract clearly highlighting the Scope of Work, Bill of Material and value of the Contract/order OR Self-certificate from the Bidder mentioning the Scope of Work, Bill of Material and value of the Work order/Purchase Order/ Contract Agreement, signed by authorised signatory of the Bidder for this bid along with the certificate issued by the Statutory Auditor certifying value of the project Note: Bidder shall mention disclaimer under each Self-certificate that Bidder cannot submit Work Order or Contract due to NDA signed with respective client

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Criteria Category	Evaluation Criterion	Max Marks	Supporting Documents Required*
		V. Congestion Detection, VI. Face Recognition System (FRS)		<p>to show the Project as “Complete” minimum one (1) of the following certificate/document shall be enclosed:</p> <p>i. Completion Certificate issued & signed by the competent authority of the client entity on the entity’s letterhead</p> <p>OR</p> <p>Copies of payments received against the Work order/Purchase Order/ Contract Agreement, signed by the Statutory Auditor of the Bidder or any other document certifying the completion of the project</p> <p>OR</p> <p>Certificate/Letter from the Competent Authority (who has issued the work order) that the Project has been declared "Go-Live" and is under the Operations & Maintenance phase</p> <p>OR</p> <p>Certificate from the Statutory Auditor along with copies of payments received against the Work Order/Purchase Order certifying that payment has been received for 80% of the CAPEX of the Work order/Purchase Order/ Contract Agreement.</p>
B2	Design, Supply, Installation and Operations & Maintenance of IT Infrastructure, networking equipment, storage backup equipment, servers and cyber-security (excluding auxiliary infrastructure such as desktops, printers, UPS, scanners)	<p>The Sole Bidder or any of Consortium members should have experience in India / Abroad of executing project (should have been declared "Go-live" by the Client OR should have received 80% of the CAPEX of the Project value) of Design, Supply, Installation and Operations & Maintenance of IT Infrastructure, networking equipment, storage backup equipment, servers and cyber-security (excluding auxiliary infrastructure such as desktops, printers, UPS, scanners) for at least Tier II or above Data Centre (certified by Uptime Institute or equivalent Indian regulatory body / Client / Work Order) with minimum value of INR 10 Crores during last 7 years as on bid submission date.</p> <p>Note: Bidders who have built their own Data Centre (DC) for commercial use shall also be considered.</p>	-	
B3	Design, Installation and Operations & Maintenance of Integrated Operations Centre / Command and Control Centre / City Operations Centre / City Surveillance Command Centre with integration of different smart elements / smart solutions	<p>The Sole Bidder or any of Consortium members should have experience in India / Abroad of executing project (should have been declared "Go-live" by the Client OR should have received 80% of the CAPEX of the Project value) of Design, Installation and Operations & Maintenance of Integrated Operations Centre / Command and Control Centre / City Operations Centre / City Surveillance Command Centre with integration of at least four (4) different smart elements / smart solutions using ICCC software platform (out of the following (13) smart elements / smart solutions) with minimum value of INR 10 Crores during last 7 years as on bid submission date</p> <p>I. Parking Sensors / Intelligent Parking</p> <p>II. Air Quality Monitoring Stations/ Environmental Sensors</p> <p>III. Solid Waste Management</p> <p>IV. Intelligent Lighting systems / Smart LED street lights</p> <p>V. Public safety and Disaster Management</p> <p>VI. Tourism Information Centre / Public Information Systems</p> <p>VII. GPS / GIS based Vehicle Tracking systems</p> <p>VIII. Variable Message Display (VMD) Board</p> <p>IX. Adaptive Traffic Signaling System / Transit Plan Module</p>	-	<p>Note:</p> <ol style="list-style-type: none"> 1. In case of a turnkey project comprising of application development and IT Infrastructure, the Bidder is required to submit a certificate from Statutory Auditor/ Company Secretary specifying the value of the respective business area 2. Bidder may also use the “Technical Experience” of its Parent/ Holding Entity & all its subsidiaries by enclosing Board Resolution from Parent/ Holding Entity authorizing use of its experiences along with declaration/ undertaking that it shall support the Bidding entity but not limited to providing its manpower, experts, technical know-how, knowledge, tools, methodologies, licenses etc. for the entire duration of the Project on a Non – judicial stamp paper of INR 100/- or such equivalent amount and document duly attested by notary public

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Criteria Category	Evaluation Criterion	Max Marks	Supporting Documents Required*
		X. City wide CCTV Surveillance systems XI. City wide IP based Public Address System XII. Water Quality Monitoring System XIII. Integration with SCADA based systems		
B4	Leased Services of Network Bandwidth / Internet Connectivity (OFC network or Electronic components or both) for connecting different smart elements / smart solutions in city-wide / Campus-wide	The Sole Bidder or any of Consortium members should have experience in India / Abroad of executing project (should have been declared "Go-live" by the Client OR should have received 80% of the CAPEX of the Project value) of leased services of Network Bandwidth / Internet Connectivity (OFC network or Electronic components or both) for connecting different smart elements / smart solutions in city-wide / Campus-wide projects with minimum value of INR 5 Crores during last 7 years as on bid submission date	-	
B5	Design, Installation and Operations & Maintenance of Traffic Enforcement System	The Sole Bidder or any of Consortium members should have experience in India / Abroad of executing project (should have been declared "Go-live" by the Client OR should have received 80% of the CAPEX of the Project value) of Design, Installation and Operations &Maintenance of Traffic Enforcement System (including ANPR, RLVD, ATCS systems) with coverage of at least 10 junctions / locations with minimum value of INR 5 Crores during last 7 years as on bid submission date	-	
C	Approach & Methodology with proposed solution (Max Marks: 30)			
C1	On- Site Proof of Concept (PoC) Note: The bidder shall bear all cost of carrying out POC at Amritsar	Demonstrate the ICCC/ Control Room setup with visualization <u>on a single platform</u> with the following use cases (1-25). <u>Upto 1 mark</u> shall be awarded for <u>each of the following use case</u> demonstrated successfully 1. Generation of reports and MIS through ICCC platform 2. In built GIS capabilities of the ICCC Platform and Ability to plot various field devices on GIS maps with different layers 3. Ability to plot various field devices on GIS maps with different layers 4. Capability of the system to use third party maps and GIS data 5. Capability of the system to track GPS equipped vehicles such as PCR van, Fire Tenders Ambulance, City Buses,	30	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Criteria Category	Evaluation Criterion	Max Marks	Supporting Documents Required*
		<p>VIP vehicles and work in Tandem with ITMS system to establish Green Corridor, priority passing etc.</p> <p>6. Demonstration of Built-in SOPs, Customization and Configuration SOPs and Rule Engine</p> <p>7. Demonstration of Automatic invocation of SOPs and Operator initiated SOPs</p> <p>8. Demonstration of Alerts, Notifications on ICCC Platform generated by Video Analytics System</p> <p>9. Common Operating Picture (COP) of various events in real-time</p> <p>10. Capability of Integration of ICCC Platform to various government and emergency services such as law enforcement (such as Dial 100, Dial 112), disaster and emergency services (Dial 108), utility services</p> <p>11. ICCC Platform Notifications, Alerts and Dashboards on Mobile Devices</p> <p>12. Demonstration of the Functioning of the ICCC Platform, Video Surveillance and Video Analytics in the Disaster Scenario (Failure of Primary Data Centre)</p> <p>13. Future Integration Capabilities, Integration with 3rd Party sensors, SCADA systems and Protocols</p> <p>14. Features of the ICCC Platform to monitor and control Street Lights</p> <p>15. Video Analytics: Camera Blocked/Tempered/Theft/vandalism protection features of the Field devices</p> <p>16. Video Analytics: Face Recognition System (FRS)</p> <p>17. Video Analytics: Person of Interest Search (such as Dress Color, height etc.)</p> <p>18. Video Analytics: Traffic Congestion Detection and predictive analysis, Parking Violation, Vehicle Color Search</p> <p>19. Video Analytics: Perimeter Protection/Tripwire</p> <p>20. Integration of Pollution Sensors with the existing Weather monitoring stations/CPCB sensors/CPCB Website</p> <p>21. Air Quality MIS and dashboards for citizens and officials</p> <p>22. Public Address System and Variable Message Display: Capability to broadcast messages/information from Mobile Device (designated users).</p>		

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Criteria Category	Evaluation Criterion	Max Marks	Supporting Documents Required*
		23. Public Address System and Variable Message Display: Capability to fetch and display traffic information from third party service providers, 24. Public Address System and Variable Message Display: Capability to integrate with existing Radio communication system used by Police Officials 25. ANPR: Detection accuracy of Non-standard number plates 26. ITMS: Capability to establish Green Corridor, Priority Passage for Emergency Vehicles 27. ITMS: Integration with VMS and PAS 28. ITMS: Capability of the System for vehicle queue detection/counting in Mixed traffic conditions 29. ITMS: Capability of the System for working in Fog and poor visibility conditions. 30. ITMS: Capability of the System to run on the failover mode during the Network disruption with the Data Centre		
D	Proposed Resources for the Project (Max Marks: 25)			
D1	Resources	Design, Development & Implementation Phase: 1. Project Manager: 5 marks 2. Technical Lead / Solution / Enterprise Architect: 3 marks 3. Security Expert: 3 marks 4. Video Analyst / IP Camera Surveillance Expert: 3 marks 5. EMS Expert: 2 marks 6. System Administrator: 2 marks 7. Network Administrator: 2 marks 8. Database Administrator: 2 marks 9. Software Developer (Full Stack Developer): 3 marks Note: All the proposed resources shall be full time employee of the Bidder and shall be deployed at Amritsar during the entire duration of Operations and Maintenance Phase of the project	25	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No	Evaluation Criteria	Marks	Minimum Qualifying Marks
1.	Bidder's Profile	20	10
2.	Sole Bidder / Consortium Project Experience	25	12.5
3.	Demonstration / Proof of Concept	30	15
4.	Proposed Resources for the Project	25	12.5
	Technical Score	100	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

CorrigendumAnnexure III: Manpower Details

1. Project Manager - IT Infrastructure

S. No.	Description
1.	B.E./B. Tech. / M.Tech degree with MBA from a recognised university
2.	Minimum 10 years of experience in IT infrastructure/ Data Centre / Smart City Solutions / Surveillance out of which at least 6 years of experience of leading large ICT implementation projects as a Project Manager
3.	Should have experience of working in Government sector with minimum of 2 of leading large IT infrastructure / Data Centre / Smart City Solutions / Surveillance projects of similar scale.
4.	Should possess Industry accredited certifications like PMP or Prince 2 certified

Note: It is presumed that Project Manager has considerable and reasonable executing powers to take informed decisions for smooth delivery of the Project

2. Technical Lead – IT Infrastructure

S. No.	Description
1.	B.E./ B. Tech. / M.Tech degree from a recognised university
2.	Minimum 10 years of experience in IT infrastructure out of which at least 5 years of experience in Data Centre / Smart City Solutions / Surveillance projects
3.	Should have experience of working in Government sector as Technical lead in minimum 2 projects in IT infrastructure / Data Centre / Smart City Solutions / Surveillance
4.	Industry accredited certifications like MCSE, MSCD, CCNA or certifications from OEM products

3. System Admin- L2

S. No.	Description
1.	B.E./B. Tech./ M.Tech /MCA degree from a recognized university
2.	Minimum 5 years of IT experience out of which 3 years of experience as System Administrator
3.	Microsoft Certification (MCSE), RHCE or similar certifications in System Administration tools/platforms/OS specifically used in this project
4.	Experience of installation, configuration, Management and Monitoring of Windows/Linux based Servers with high availability solutions like clustering / load balancing of servers, Server Virtualization (using Hyper-V/VMware /Open Source)
5.	<p>Knowledge of IIS Web Server for successful running & administering WWW, FTP, SMTP etc. services on production environment. Databases like MS SQL/MySQL/Maria DB/PostgreSQL/Oracle etc. connectivity for applications running on Web/App servers.</p> <p style="text-align: center;">Or</p> <p>Knowledge of Apache Web Server, Tomcat & JBoss Application Server for successful running & administering WWW, FTP, and SMTP etc. services on production environment. Databases like MySQL/Maria DB/PostgreSQL/Oracle etc. connectivity for applications running on Web/App servers.</p> <p style="text-align: center;">Or</p> <p>Knowledge of DAMP (Drupal + Apache + MySQL + PHP) setup, Operations & Maintenance for Drupal related server administration covering administering WWW, FTP, SMTP etc. services on production environment. Databases like MySQL/Maria DB/PostgreSQL/Oracle etc. connectivity for applications running on Web/App servers.</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

4. Network Administrator - L2

S. No.	Description
1.	B.E./B. Tech. / M. Tech / MCA degree from a recognized university
2.	Minimum 5 years of IT experience out of which 3 years of experience as Network Administrator
3.	Must have knowledge of switching, routing, QoS, OSPF, BGP, NAT, Virtual Networks, Net Flow, etc.
4.	Must have sound knowledge of network administration, shell scripting, python, ansible, puppet, Application load balancing, routing, IP tables, HTTP/HTTPS, SSL offloading, web-server, TCP multiplexing, etc.
5.	Industry accredited certifications like CCNA / CCNP or certifications from OEM products

5. DB Administrator - L2

S. No.	Description
1.	B.E./B. Tech. / M. Tech / MCA degree from a recognized university
2.	Minimum 6 years of IT experience out of which 3 years of experience as Database Administrator
3.	Certification in Database Administration
4.	Experience of installation, configuration, Management and Monitoring of Windows based Database software i.e. MS SQL Database Server with high availability solutions like clustering/Mirroring of servers. Creation & Management of database accounts, Backups/log-shipping. Or Experience of installation & configuration of Linux based MySQL/PostgreSQL/Oracle Database/application Server software with high availability solutions like Clustering/load balancing/log-shipping of servers
5.	Extensive Knowledge of administration and management of Windows /Linux based Database Servers. Knowledge of related/dependent OS services.
6.	Knowledge of IIS/Apache/Tomcat Web Server for http services etc. for integration with Web/Application Server

6. Software Developer (Full Stack Developer) - L3

S. No.	Description
1.	B.E./B. Tech. / M. Tech / MCA degree from a recognized university
2.	Minimum 8 years' experience as a Full Stack Developer with experience in middleware, database integration and front-end development
3.	Industry accredited certifications like MCSD, Oracle Certified Expert/Professional
4.	Should have minimum 1-year experience on projects related to ICCC command control software
5.	Should have more than 2 years of experience in middleware integration projects and API based integration

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure IV: Implementation Plan, Payment Schedule and Deliverables

S. No.	Activity / Task	Timelines (Months)	Deliverables / Milestone	Payment Milestone
1.	Project Award and Contract Signing between ASCL and successful Bidder	Project Start Date =T0		-
2.	Performance Bank Guarantee (PBG)		Performance Bank Guarantee (PBG) for the Project Term	-
3.	Team Deployment for the following: • Project Planning • Resource Scheduling • Development, Implementation & Maintenance approach	T0 + 0.5	• Final Project Plan • Project Inception Report	-
4.	Submission and approval of Site-survey Report (All tracks)	T0 + 1.5	• Solution Design Document • Final Survey Reports	5 % of the CAPEX against Bank Guarantee of equivalent amount to be submitted along with the invoice for this milestone (shall be released within 15 days of the acceptance of the Solution Design Document and Final Survey Reports by the Technical Committee)
5.	Completion of Site preparation, Civil Works, HVAC Systems, Furniture and Electrical Work of Data Centre and ICCC	T0 + 3	• Completion Reports • Inspection Reports approved by ASCL	9% of the CAPEX
6.	Supply of all equipment/ components (Hardware) including System Software Licenses at the Data Centre and ICCC and all field equipment/ components (Hardware)	T0 + 5	• Delivery Challan with date & stamp on delivery proof • Copy/Original excise duty gate-pass • Inspection report from an authentic third party • Warranty certificate issued by respective OEMs for each hardware back to back in the name of "ASCL" • License in case of system software • Country of origin certificate	15 % of the CAPEX
7.	Installation, Testing, Configuration and Operationalization of all	T0 + 7	• Device-wise configuration report stating IP schema • Installation, Testing and Commissioning Report • Complete set of Technical, Operations & Maintenance Manual • Configuration Change Report • Software Installation Guide and Checklist • Insurance certificate from the Insurance Company	25 % of the CAPEX

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Activity / Task	Timelines (Months)	Deliverables / Milestone	Payment Milestone
8.	User Acceptance Testing, Training and Go-Live of all smart components	T0 + 9	<ul style="list-style-type: none"> • UAT Report • Training and Capacity Building • Defect Resolution Report • Commissioning Report • User Acceptance Testing and Go-Live of all Smart Solutions 	26 % of the CAPEX
9.	Post Go-Live Support	48 months after effective Go-Live of Smart Solutions	• SLA Adherence Report on a Monthly/ Quarterly basis	<p>CAPEX amortized over 4 years: 20% (16 quarterly payments of 1.25% after in equated instalments after deductions of SLA penalties)</p> <p>AND</p> <p>OPEX amortized for 4 years payable quarterly at the end of each quarter in equated instalments after deductions of SLA penalties</p>

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure V: Indicative Bill of Material

The Bill of Material given below is indicative in nature. Bidders are required to carefully examine the requirements and may propose components and quantities as per their solution to meet the objective of RFP.

The Bill of Material proposed by the Bidder will become the basis for future payments.

Successful Bidder/ MSI will be required to do the installation as per the submitted BoM in its proposal. MSI will be required to submit design documents (as defined in earlier sections of the RFP) to Authority for approval based on the approved BoM.

S. No.	Item Description	Unit	Indicative Quantity	Make / Brand	Model Details	Compliance with RFP Requirements (Yes / No)
A.	Field Hardware					
A.1	Surveillance					
1.	Fixed Box Outdoor Camera with Housing & Accessories - Face Recognition, General Surveillance	Nos.	885			
2.	Indoor Bullet Camera - Face Recognition	Nos.	21			
3.	Outdoor 360 Degree Panoramic Camera with Housing & Accessories	Nos.	78			
4.	PTZ Speed Dome Camera with Integrated IR Illuminator	Nos.	130			
5.	Public Address System with Integrated Audio Amplifier	Nos.	50			
6.	Emergency Call Box with Panic Button	Nos.	10			
7.	Site preparation, Trenching, Conduiting, Re-instatement and other Civil Work	Nos.	409			
8.	ANPR LPU (Inside Junction Box)	Nos.	72			
9.	Body Camera	Nos.	50			
10.	Body Camera Docking Station	Nos.	10			
A.2	Air Quality Sensor					
1.	Air Quality Sensor Unit including Parameter Display and Site Implementation	Nos.	7			
A.3	Waste Water Sensor					
1.	BOD, COD, TSS Analyzer	Set	5			
2.	Dissolved Oxygen Analyzer	Set	5			
3.	PH Analyzer and Temperature probes	Set	5			
4.	Ammonical Nitrogen Analyzer (NH4-N)	Set	5			
5.	Oil and Grease Analyzer	Set	5			
6.	Open Channel Embankment Mounted Electrical Control Panel with Intelligent Gateway, Analog-Digital Converter Cards, Integrated 3G/4G	Set	5			

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Item Description	Unit	Indicative Quantity	Make / Brand	Model Details	Compliance with RFP Requirements (Yes / No)
	communication, DC SMPS, Cable and Other Accessories (As per Requirement)					
7.	In-Situ Flotation Buoy with Integrated Sensor Probes and tethering chain from embankment	Set	5			
8.	Site preparation cost	Lumpsum	5			
A.4	Network Backbone					
1.	Provisioning of Electrical Power(Fixed metering-One time cost)	Lumpsum	409			
2.	16 port POE Industrial Grade Junction Box Switches with SFP modules	Nos.	409			
3.	Industrial Grade Junction Box Pole Mount (including last mile passive network termination, Earthing, UPS/Rectifier, Battery Bank, Controller, Energy Meter, Protection Switchgear, AC/DC Power Distribution with other cabling and accessories)	Nos.	409			
A.5	Variable Message Display					
1.	VMD board including VMD controller	Nos.	10			
2.	Mounting structure for VMD as per site requirements and IRC guidelines	Nos.	10			
3.	Provisioning of Electrical Power	Lumpsum	10			
4.	VMD Cabinet IP 65 Compliant	Nos.	10			
A.6	Sewerage Treatment Plant Integration					
1.	Ethernet to 3G/4G Router with high power antenna	Nos.	2			
2.	Hardware for VPN network establishment at STPs	Nos.	2			
A.7	Intelligent Traffic Management System and Traffic Violation Detection System					
1.	ATCS Detector/Vehicle Detector/ Sensors & Controllers (3 Arm Junction) along with associated accessories & systems including all cables/wires including site preparation	No. of Junctions	10			
2.	ATCS Detector/Vehicle Detector/ Sensors & Controllers (4 Arm Junction) along with associated accessories & systems including all cables/wires including site preparation	No. of Junctions	11			
3.	RLVD System (including Evidence Cameras, ANPR Camera, IR illuminators)	No. of Lanes	41			
4.	Local Processing Units, at edge, including all passive components & Accessories	Nos.	As per the proposed Solution			

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Item Description	Unit	Indicative Quantity	Make / Brand	Model Details	Compliance with RFP Requirements (Yes / No)
5.	ITMS Site preparation including supply, installation of Standard Pole(s), Cantilever Pole(s) for 3 Arm Junction as per the IRC specifications	No. of Junctions	10			
6.	ITMS Site preparation including supply, installation of Standard Pole(s), Cantilever Pole(s) for 4 Arm Junction as per the IRC specifications	No. of Junctions	11			
7.	Traffic Light Aspects (Red, Green-Straight Arrow, Green Left Arrow, Green Right Arrow, Amber)	Nos	2 per Arm			
8.	Pedestrian lamp heads – Stop Man and Walk Man	Nos	2 per Arm			
9.	Countdown timer (meeting IRC/ EN specifications)	Nos	1 per Arm			
10.	Field UPS and Battery for minimum 4 hours backup	Nos	as per solution requirements			
B	Non-IT Field Infrastructure					
1.	Standard GI Pole	Nos.	500			
2.	Cantilever GI Pole	Nos.	72			
C	Data Centre Hardware					
C1	IT Hardware, Compute & Storage					
1.	Surveillance Storage (NL SAS Drives Usable Capacity)	Lot	1			
2.	Unified storage for Video and Application Data	Lot.	1			
3.	SAN Switch	Nos.	2			
4.	Blade Servers (Web, Application, Database, Platform Solutions etc.)	Nos.	16			
5.	Rack - 42 U with necessary cabling	Nos.	4			
6.	Blade Chassis with Switch and virtual KVM	Nos.	3			
C2	Network and Security					
1.	Router (Internet)	Nos.	2			
2.	Router (Core)	Nos.	2			
3.	Spine Switch	Nos.	2			
4.	Leaf Switch (TOR)	Nos.	4			
5.	Fabric Controller	Nos.	1			
6.	Internet Firewall (Perimeter Solution) with Intrusion Prevention System(IPS) , Advanced Malware Protection(AMP), APT and management	Nos.	2			

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Item Description	Unit	Indicative Quantity	Make / Brand	Model Details	Compliance with RFP Requirements (Yes / No)
7.	Internal Firewall with Intrusion Prevention System(IPS), Advanced Malware Protection(AMP), APT and management	Nos.	2			
8.	Advanced Malware Sandboxing	Nos.	1			
9.	Server Load Balancer(SLB) + Link Load Balancer(LLB) + Web Application Firewall(WAF) Appliance + DDOS Protection	Nos.	2			
10.	Web Security System (URL Filtering/Caching, Advanced Malware Protection(AMP), APT and management)	Nos.	2			
11.	Network Behaviour Analysis system	Nos.	1			
12.	L3 Switch 12 Port X 10G (Interconnectivity Switch)	Nos.	2			
13.	L2 Switch 24 Port X 1G with POE (Interconnectivity Switch)	Nos.	2			
14.	Network Access Control & Authentication	Nos.	1			
15.	SMS Gateway	Nos.	1			
C3	Generic IT Hardware					
1.	Keyboard Joystick to control PTZ Cameras	Nos.	5			
2.	DLP LED Video Wall – 4 X 2, 50" with convertor + Video Wall Controller with Software	Nos.	2			
3.	Workstation PC - Operators and Supervisors	Nos.	24			
4.	Printer	Nos.	1			
5.	Desktops for DC Manpower, Help Desk, NOC, BMS	Nos.	16			
6.	IP Dome Camera for DC Surveillance	Nos.	4			
7.	DTH Cable	Lumpsum	1			
8.	IT consumables & Stationary	Lumpsum	1			
C4	Non-IT Hardware					
1.	Fire Alarm System with smoke detector sensors and control Panel, Fire extinguishers FM 200 and Hand-held extinguishers	Set	1			
2.	Rodent Repellent system	Set	1			
3.	Air Conditioner 2 Ton	Set	2			
4.	Centralised cooling system	Set	1			
5.	Precision Cooling System	Set	2			

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Item Description	Unit	Indicative Quantity	Make / Brand	Model Details	Compliance with RFP Requirements (Yes / No)
6.	LT Distribution for Mains, UPS and DG	Set	2			
7.	Lighting	Set	1			
8.	Diesel Generator Set - 250 KVA	Set	2			
9.	UPS with inverter and battery banks - 60 KVA - 30 mins	Set	2			
10.	UPS with inverter and battery banks - 20 KVA - 30 mins backup	Set	2			
11.	Site Preparation including DC & ICCS including partitioning, doors, civil work, earthing, electrical and LAN cabling with panic bars, lighting arrestors	Lumpsum	1			
12.	Furniture for Situation Room	Lumpsum	1			
13.	Projector with overhead mounting and screen for NOC Room	Set	1			
C5	Helpdesk Hardware					
1.	Telephone Lines	Nos.	1			
2.	Voice Router / Voice Gateway with PRI port	Nos.	1			
3.	IP phones with power adapters	Nos.	30			
4.	IP PBX HW & SW, Automatic Call Distribution and IVR	Nos.	1			
D	Software Licences					
D1	Data Centre Platform Software					
1.	ICCS Software Platform implementation + IoT Platform with Application/Platform/OS Licenses	Set	1			
2.	Document/Content Management System	Set	4			
3.	Enterprise Management System (EMS)	Set	1			
4.	Server OS Licenses	Set	16			
5.	Identity and Access Management	Set	1			
6.	Directory Software	Set	1			
7.	Backup Solution	Set	1			
D2	Data Centre Security Software					
1.	Enterprise Antivirus Solution	Set	1			
2.	Antivirus Solution (End users license)	Set	50			
D3	Data Centre Infrastructure Management Software					

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Item Description	Unit	Indicative Quantity	Make / Brand	Model Details	Compliance with RFP Requirements (Yes / No)
1.	Compute Virtualization Solution (Compute)	Lot	54			
2.	Virtualization Management Solution (Compute)	Lot	1			
3.	Network and Security Virtualization	Lot	54			
4.	BMS Software License	Set	1			
5.	Access Control System software License	Set	1			
D4	Data Centre Environment Software					
1.	Central Air Quality Monitoring Software License	Set	1			
D5	Data Centre Surveillance Software					
1.	Video Management/Recording Software License	Set	1			
2.	Video Analytics License	Set	1			
3.	Facial Recognition Software License	Set	1			
4.	ANPR Server Software License	Set	1			
5.	Public Address Software License	Set	1			
6.	Emergency Callbox System Software License	Set	1			
7.	Body Camera Software License	Set	1			
D6	Waste Water Quality Management Software					
1.	OWQMS Cloud Subscription based Web application with Application/ Platform/ OS Licenses	Set	1			
D7	Helpdesk Software					
1.	Web based Helpdesk & Incident Management Software with Application/Platform/OS Licenses	Set	1			
D8	Variable Message Display					
1.	Software License for Variable Message Display	Set	1			
D9	Sewerage Treatment Plant Integration					
1.	SCADA HMI Client / web interface client License	Nos.	2			
2.	VPN Server and Client software License	Nos.	2			
D10	Intelligent Traffic Management System (ITMS) & Traffic Violation Detection System (TVDS)					
1.	Adaptive Traffic Control System perpetual license	License	1			

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Item Description	Unit	Indicative Quantity	Make / Brand	Model Details	Compliance with RFP Requirements (Yes / No)
2.	RLVD System Perpetual License	License	1			
E	Cloud Hosting					
1.	Compute, Storage and Services	Lot	1			
2.	DRM (DC-DR Sync) Software	No.s	1			
F	Bandwidth Cost					
1.	P2P Network Links from Field to ICC	Lumpsum	415			
2.	DC Internet Links	Lumpsum	2			
3.	Environment Sensor Connectivity	Lumpsum	6			
4.	Connectivity for Online Waste Water Monitoring System	Lumpsum	3			
5.	PRI Lines	Lumpsum	1			
6.	Connectivity for Variable Message Display	Lumpsum	10			
7.	Connectivity for Sewerage Treatment Plant	Lumpsum	1			
8.	DR Link Connectivity Charges (Redundant Link)	Lumpsum	4 2			

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure VI: Implementation SLA Matrix

S. No.	Activity / Task	Timelines (Months)	Deliverables / Milestone	Penalty
1.	Project Award and Contract Signing between ASCL and successful Bidder	Project Start Date =T0		N.A.
2.	Performance Bank Guarantee (PBG)		Performance Bank Guarantee (PBG) for the Project Term	N.A.
3.	Team Deployment for the following: • Project Planning • Resource Scheduling • Development, Implementation & Maintenance approach	T0 + 0.5	<ul style="list-style-type: none"> • Final Project Plan • Project Inception Report 	N.A.
4.	Submission and approval of Site-survey Report (All tracks)	T0 + 1.5	<ul style="list-style-type: none"> • Solution Design Document • Final Survey Reports 	1% of the milestone payment value for every week of delay for first 4 weeks and 2% for every subsequent week of delay.
5.	Completion of Site preparation, Civil Works, HVAC Systems, Furniture and Electrical Work of Data Centre and ICCC	T0 + 3	<ul style="list-style-type: none"> • Completion Reports • Inspection Reports approved by ASCL 	1% of the milestone payment value for every week of delay for first 4 weeks and 2% for every subsequent week of delay.
6.	Supply of all equipment/ components (Hardware) including System Software Licenses at the Data Centre and ICCC and all field equipment/ components (Hardware)	T0 + 5	<ul style="list-style-type: none"> • Delivery Challan with date & stamp on delivery proof • Copy/Original excise duty gate-pass • Inspection report from an authentic third party • Warranty certificate issued by respective OEMs for each hardware back to back in the name of "ASCL" • License in case of system software • Country of origin certificate 	1% of the milestone payment value for every week of delay for first 4 weeks and 2% for every subsequent week of delay.
7.	Installation, Testing, Configuration and Operationalization of all	T0 + 7	<ul style="list-style-type: none"> • Device-wise configuration report stating IP schema • Installation, Testing and Commissioning Report • Complete set of Technical, Operations & Maintenance Manual • Configuration Change Report • Software Installation Guide and Checklist • Insurance certificate from the Insurance Company 	1% of the milestone payment value for every week of delay for first 4 weeks and 2% for every subsequent week of delay.

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Activity / Task	Timelines (Months)	Deliverables / Milestone	Penalty
8.	User Acceptance Testing, Training and Go-Live of all smart components	T0 + 9	<ul style="list-style-type: none">• UAT Report• Training and Capacity Building• Defect Resolution Report• Commissioning Report• User Acceptance Testing and Go-Live of all Smart Solutions	1% of the milestone payment value for every week of delay for first 4 weeks and 2% for every subsequent week of delay.

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure VII: Operations and Maintenance SLAs

Parameter	Components	Measurement methodology	Baseline Metrics		Lower Performance Category A		Lower Performance Category B		Breach	
			Metric	Score	Metric	Score	Metric	Score	Metric	Score
A. Availability				50		34		16		-50
	A.1 DC Infra (Servers / Storage /Router/ Switches/ Link Load Balancers, Firewall / IPS/ AMP/ APT/DDOS/ WAF)	Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.982 %	7	< 99.982 % & ≤ 98.0 %	5	< 98.00 % & ≥ 96.00 %	3	< 96.00 %	-7
	A.2 CCTV Cameras	Following camera conditions shall also be counted under "Downtime" <ul style="list-style-type: none"> • Bad feeds due to Video Jitter, dim, blurred, unfocused, obstructed, nonaligned feed • Framerate for viewing and recording not as per the RFP requirements Daily SLA Monitoring Average of the hourly uptime of each camera shall be taken for arriving at the daily score for CCTV Cameras Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.982 %	7	< 99.982 % & ≥ 98.50 %	5	< 98.50 % & ≥ 97.50 %	2	< 97.50 %	-7
	A.3 ICCC Platform & associated applications	Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.982 %	7	< 99.982 % & ≤ 98.00 %	4	< 98.00 % & ≥ 96.00 %	2	< 96.00 %	-7
	A.4 Network Backbone (City Level) Network Backbone is considered available when all the services in full capacity are available	Daily SLA Monitoring Average of the hourly uptime of each location and DC switch shall be taken for arriving at the daily score Monthly SLA Monitoring Average of the day wise uptime of each location and DC switch shall be taken for arriving at the monthly score. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.50 %	6	< 99.9 % & ≤ 98.00 %	4	< 98.00 % & ≥ 96.00 %	2	< 95.00 %	-6
	A.5 Network Backbone (DC-Cloud DR)	Daily SLA Monitoring Average of the hourly uptime of each of the network link between DC and DR shall be taken for arriving at the daily score Monthly SLA Monitoring Average of the day wise uptime of each network link between DC and DR shall be taken for arriving at the monthly score. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.50 %	6	< 99.50 % and ≥ 99.00 %	4	< 99.00 % and ≥ 98.50 %	2	< 98.50 %	-6

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Parameter	Components	Measurement methodology	Baseline Metrics		Lower Performance Category A		Lower Performance Category B		Breach	
			Metric	Score	Metric	Score	Metric	Score	Metric	Score
	A.6 Video Wall	Equipment Downtime shall be measured from the time the equipment becomes unavailable (due to any reasons whatsoever attributable to the MSI) for Business processing to the end user to the time it becomes fully available Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.70 %	4	< 99.70 % & ≥ 96.50 %	3	< 96.50 % & ≥ 95.00 %	1	< 95.00 %	-4
	A.7 Variable Message Display	Equipment Downtime shall be measured from the time the equipment becomes unavailable (due to any reasons whatsoever attributable to the MSI) for Business processing to the end user to the time it becomes fully available Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.70 %	3	< 99.50 % & ≥ 98.50 %	2	< 98.50 % & ≥ 97.50 %	1	< 97.50 %	-3
	A.8 Emergency Call Box	Equipment Downtime shall be measured from the time the equipment becomes unavailable (due to any reasons whatsoever attributable to the MSI) for Business processing to the end user to the time it becomes fully available Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.70 %	4	< 99.70 % & ≥ 96.50 %	3	< 96.50 % & ≥ 95 %	1	< 95.00 %	-4
	A.9 ITMS and TVDS field components	Equipment Downtime shall be measured from the time the equipment becomes unavailable (due to any reasons whatsoever attributable to the MSI) for Business processing to the end user to the time it becomes fully available Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.70 %	3	< 99.50 % & ≥ 98.50 %	2	< 98.50 % & ≥ 97.50 %	1	< 97.50 %	-3
	A.10 Air Quality Sensor and Water Quality Sensor	Equipment Downtime shall be measured from the time the equipment becomes unavailable (due to any reasons whatsoever attributable to the MSI) for Business processing to the end user to the time it becomes fully available Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.70 %	3	< 95.00 % & ≥ 94.00 %	2	< 94.00 % & ≥ 93.00 %	1	< 93.00 %	-3

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Parameter	Components	Measurement methodology	Baseline Metrics		Lower Performance Category A		Lower Performance Category B		Breach	
			Metric	Score	Metric	Score	Metric	Score	Metric	Score
	A.11 Workstation equipment in NOC and Helpdesk	Equipment Downtime shall be measured from the time the equipment becomes unavailable (due to any reasons whatsoever attributable to the MSI) for Business processing to the end user to the time it becomes fully available Monthly SLA Monitoring Average of the day wise uptime of each component shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	≥ 99.70 %	3	< 99.70 % & ≥ 96.50 %	2	< 96.50 % & ≥ 95.00 %	1	< 95.00 %	-3
B. Performance				25						
	B.1 ICCC Platform including Reports Generation Response Time (Alerts/MIS/Logs etc.) Percentage of transactions meeting the Base line Loading time for all pages	Response time to be measured at interval of 30 minutes and averaged quarterly	≤ 4 seconds	6	> 4 seconds & ≤ 7 seconds	4	>7 seconds & ≤ 10 seconds	2	> 10 seconds	-6
	B.2 Network Backbone (City Level)	Reports from EMS/NMS Tool	<ul style="list-style-type: none"> • > 99.00 % throughput of minimum stipulated bandwidth during 24*7 hours • Average Packet loss ≤ 0.5% • Latency ≤50 ms 	6	N.A.		N.A.		Breach of Baseline metrics for sustained period of more than 600 seconds	0.2 X n (where n is the number of such instances)
	B.3 Network Backbone (DC-Cloud DR)	Reports from EMS/NMS Tool	<ul style="list-style-type: none"> • > 99.00 % throughput of minimum stipulated bandwidth during 24*7 hours • Average Packet loss ≤ 0.5% • Latency ≤50 ms 	5	N.A.		N.A.		Breach of Baseline metrics for sustained period of more than 60 seconds	0.5 X n (where n is the number of such instances)
	B.4 Average Page Load time/ Maximum time for successful settings modification of field devices	Reports from EMS and Video Management System	≤ 4 seconds	4	> 4 seconds & ≤ 6 seconds	2	> 6 seconds & ≤ 8 seconds	0	> 8 Seconds	-4

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Parameter	Components	Measurement methodology	Baseline Metrics		Lower Performance Category A		Lower Performance Category B		Breach	
			Metric	Score	Metric	Score	Metric	Score	Metric	Score
	B.5 ANPR Accuracy	Reports from ANPR tool	Accuracy of $\geq 90.00\%$ for both 2 wheelers and 4 wheelers (Number plate with Arabic Numerals and Latin/Roman letters)	4	Aruras $< 90.0\%$ & $\geq 80.00\%$	2	Aruras $< 80.00\%$ & $\geq 70.00\%$	0	Accuracy of $< 70.00\%$	-4
C. Infrastructure Management				15						
	C.1 Power Availability (DG, UPS etc.)	Availability of Power will be measured up to the socket level in the equipment room that will be providing power to the Racks.	$\geq 99.982\%$	3	$< 99.982\%$ & $\geq 98.50\%$	2	$< 98.50\%$ & $\geq 97.50\%$	1	$< 97.50\%$	-3
	C.2 BMS system Availability	Monthly SLA Monitoring Average of the day wise uptime of BMS System shall be taken for arriving at the monthly score for that component. Quarterly SLA Monitoring Average of the month-wise scores shall be taken for the quarterly measurement	$\geq 99.982\%$	3	$< 99.982\%$ & $\geq 98.50\%$	2	$< 98.50\%$ & $\geq 97.50\%$	1	$< 97.50\%$	-3
	C.3 Security rules & Policy update	As directed by ASCL	Within 90 minutes from the written instructions from ASCL	3	≤ 3 violations of Baseline metrics	2	> 3 violations & ≤ 5 violations of Baseline metrics	1	> 5 violations of Baseline metrics	-3
	C.4 Anti-virus, Anti-spyware, Anti-spam updates	As and when released officially by the Product vendor	Within 180 minutes from the release of the updates from the product vendor	3	≤ 3 violations of Baseline metrics	2	> 3 violations & ≤ 5 violations of Baseline metrics	1	> 5 violations of Baseline metrics	-3
	C.5 Patches, firmware & Updates from Product vendor	As and when released officially by the Product vendor	Within 48 hours from the release of the updates from the product vendor	3	≤ 3 violations of Baseline metrics	2	> 3 violations & ≤ 5 violations of Baseline metrics	1	> 5 violations of Baseline metrics	-3
D. Helpdesk Support				10						
	D.1 Help Desk Response Time	Time taken to sending emails and ticket assignment from the time of registering the request.	≤ 1 hour	2	> 1 hr and ≤ 2 hrs	1	N.A.	0	> 2 hours	-2

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Parameter	Components	Measurement methodology	Baseline Metrics		Lower Performance Category A		Lower Performance Category B		Breach	
			Metric	Score	Metric	Score	Metric	Score	Metric	Score
		Daily SLA Monitoring: Average must be achieved for responding to the request in at least 95% of cases in the stipulated time. Quarterly SLA Monitoring: Average day wise measurements shall be taken for the quarterly measurements.								
	D.2 L1 support resolution time	Resolution time by L1 support after the issues has been logged. Average must be achieved for at least 95% of cases in a quarter	<24 hours	4	> 24 hrs & ≤3 days	2	N.A.	0	>3 days	-4
	D.3 L2 support resolution time	Resolution time by L2 support after the issues has been logged. Activities under L2 supported need to be agreed upon. Average must be achieved for at least 95% of cases in a quarter	Within agreed timeline	4	N.A.	2	N.A.	0	Beyond agreed timeline	-4

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure VIII Water Quality Analyzer Locations

S. No.	Name of the Location	Quantity
1.	Tung Dhab Drain	1
2.	City Outfall Drain	1
3.	Tarowali Head Works	1
4.	STP Plant – Khapperkheri	1
5.	STP Plant – Ghausabad	1

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure IX: Mode of Selection

1. All the technically qualified bidders shall be notified to participate in Commercial Bid opening process
2. Bidders quoting unrealistic cost of items shall be summarily rejected by ASCL. Any bid found to have unsatisfactory response in the eligibility criteria and Technical Evaluation Criteria as mentioned shall be rejected and shall not be considered for further evaluation.
3. The Commercial Bids for the Technically Qualified bidders who have scored minimum of 70 marks shall then be opened on the notified date. Commercial Bids that are not as per the provided format provided in Form A.22 shall be summarily rejected
4. "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail"
5. The Commercial Bid Bid price shall include all taxes and levies and shall be in Indian rupee and mentioned separately
6. The Normalized Commercial Score of the Technically Qualified bidders will be calculated, while considering the Commercial Bid value quoted by each of the Bidders in the Commercial Bid as follows:
Normalized Commercial Score of a Bidder = (Lowest Commercial Bid Value / Bidders Commercial Bid Value) X 100 (adjusted to 2 decimals)
7. The final score will be calculated through Quality cum Cost Based (QCBS) selection method based with the following weightage:
Technical Score: 70% and Normalized Commercial Score: 30%
The Final Score = (0.70 X Technical Score of the Bidder) + (0.30 X Normalized Commercial Score of the Bidder)
8. The bidder with the **Highest Final score** shall be treated as the **Successful Bidder**.
9. In the event the Final scores among two or more Bidders are equal, the Bidder with lowest Commercial Bid (among all the Bidders with equal Final Score) declared as the **Successful Bidder**.

Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions (Phase - I) in Amritsar City

Annexure X: Additional Scope of Work-Intelligent Traffic Management System (ITMS)

Objectives of the ITMS Project

ASCL intends to adopt Smart ICT led interventions in Traffic Management to bring more efficiency and better management of day-to-day traffic scenario at Amritsar.

The Intelligent Traffic Management System (ITMS) shall enable Traffic Law Enforcement through the smart ICT led interventions to improve & regulate traffic signals allowing real time traffic density to be monitored by adopting Adaptive Traffic Control Systems (ATCS) at the selected traffic junctions. It shall also help the city authorities/ Traffic Police to understand the traffic patterns prevailing across the city; plan and manage events in Amritsar city based on historical and real-time Traffic data. It shall also enable commuters to stay abreast with traffic updates on Variable Message Signboards and Public-Address Systems. Traffic Violation Detection System (TVDS) interventions such as Red-Light Violation Detection (RLVD), wrong way & wrong parking detection, zebra crossing/stop line violation detection shall also be the part of the ITMS component. It is further envisaged that the TVDS system shall have provision for integration with the eChallan System and Vaahan & Saarthi Projects of Ministry of Road Transport & Highways

Components of the ITMS Project

- **Adaptive Traffic Control System (ATCS):** ATCS shall offer traffic signal optimizing functionalities, use data from vehicle detectors & sensors deployed at each of the traffic junctions and optimize traffic signal settings resulting in much improved vehicle delays and stops. The system interconnects & coordinates with all the traffic junctions signal controller, thus, enabling holistic traffic regulation and monitoring from the central location.

The primary objective of the system is to monitor and control traffic signals, including signalled pedestrian crossings, using a traffic responsive strategy based on real time traffic flows, in terms of classified volume counts as well as the travel time data estimated using dedicated detectors/ ANPR and Bus GPS data to calculate the optimal cycle time, effective green time ratios, change intervals and offsets for all traffic signal controllers connected to it.

Further, ATCS system shall also have the capability to provision GREEN CORRIDOR system for the seamless movement of traffic, EMERGENCY VEHICLE PRIORITY for emergency vehicles like fire, medical, police to name a few and BUS PRIORITY AND COMPENSATION for BRT buses in the city. The ATCS shall have the capability to operate under fixed time plan as per the conventional methodology and it shall be able to operate the junctions from control room in manual mode eliminating the need to go to the junction for traffic police.

In addition, a module of the smart city mobile application that shall be provided for emergency vehicles shall be used to provide EMERGENCY VEHICLE PRIORITY

- **Traffic related Video Analytics / Automatic Traffic Count & Classifier (ATCC):** The Video Analytics system shall help in continuous monitoring of the traffic conditions in the city, traffic volume trends & patterns, and further helps the city administrators in extensive planning and engineering exercise. Following are some of the key data envisaged to be collected by the system:
 - Vehicle Counting & classification –
 - Counts the vehicle passing the intersection along with type of vehicle, two-wheeler/four-wheeler
 - Provide periodic digest report on counts of vehicles by class/category (cars, trucks, motorcycles etc.), direction and time.
 - Speeding Detection –
 - Detect speed of the vehicle
 - Generate alarm when the threshold speed is crossed or vehicle is standing idle for a considerable amount of time.
 - Provision to manually set the environment like configuring special slow speed zones, near schools or beside shopping malls and hospitals.
 - Collect information on the average speed of vehicles passing through the road way.
 - Congestion Detection –
 - Detect areas which are congested along with an analysis of the timing of these events, i.e., by the time of day and the day of the week.
 - Send alerts to notify of potential accidents, track traffic congestion over time, and more.
 - Generate Heat Maps to provide an overview of traffic information and trends at an intersection, exportable as high-quality images, for perfectly understanding overall traffic flow
- **Traffic Violation Detection System (TVDS):** Traffic Violation Detection system (TVDS) primarily constitutes of Red Light Violation Detection System (RLVD) and Automatic Number Plate Recognition (ANPR) Systems, which shall have capability to capture the number plate of the vehicles that have crossed the stop line, at the junction, while the traffic light is red. System shall be able to automatically detect red light through evidence camera units, RLVD camera unit along with sensor, and captures vehicle number through ANPR camera. Further, the ANPR system processes the captured image and convert into an

Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions (Phase - I) in Amritsar City

alphanumeric text/number, which shall be taken into eChallan system for the issuance of the challan. There are several other traffic related violations like zebra crossing, wrong direction, wrong parking etc. which shall be executed through the feeds to the general surveillance camera as part of Video Analytics system

- **Future integration with eChallan and Vaahan & Saarthi:** The e-Challan system provides a simple digital process for sending challans to violators; Traffic and Parking violations shall be processed in the field with handheld machines, while details of the traffic violations detected by using RLVD & ANPR systems shall be interfaced with the e-Challan system for sending the challan to the offenders. The e-Challan system also provides citizens with an interface to check for pending tickets/challans and history while the payments, against the challan, can also be made online. **It is proposed to keep the relevant provisions in the system to integrate with eChallan and Vaahan & Saarthi as and when required to be implemented in future.**

Scope of the Work for ITMS and TVDS Project

The MSI shall be responsible for Procurement, Supply, Installation, Testing and Commissioning of ITMS & TVDS & non IT Infrastructure & Systems (field as well as datacentre) along with 4 years of Operations & Maintenance Support, from the date of Go-Live

Detailed Site Survey and Site Preparation:

- The MSI shall undertake site survey of all the proposed junctions for ITMS to ascertain number of traffic sensors, detectors & controllers, RLVD & ANPR cameras and required accessories, camera positioning (viewing angle, height, direction etc.) to ensure intended coverage.
- MSI shall also closely coordinate with the Traffic Police, ASCL, MCA, PWD or any other authority as identified by ASCL, and shall be responsible for supply & erection of pole infrastructure along with cantilevers for the installation of traffic sensors, lights, cameras and shall jointly decide the location of pole infrastructure, along with cantilevers, in consultation with officials assigned by the purchaser or its authorized entity.
- The indicative junctions to be covered under this project is listed in the Table below:

S.No	Junction Name	Junction Arms	Total Lanes (upstream + downstream)
1.	Gurudwara Sandhuon ka junction	4 –Arm	14
2.	Bhagat Kabir Marg Junction	4 –Arm	16
3.	Ghala Mala Chowk	4 –Arm	11
4.	Makhan Chowk	3 –Arm (Y Junction)	10
5.	Ratan Singh Chowk	4 – Arm	18
6.	100 Feet Road Chowk	3 –Arm (T-Junction)	12
7.	Albert Road Crossing (GT Road)	3 –Arm (T Junction)	16
8.	Ram-Tirath Road Junction (GT Road)	3 –Arm (Y Junction)	14
9.	Gurudwara Pipli Singh Junction (GT Road)	4 –Arm	16
10.	Bhandari Bridge (GT Road)	4 –Arm – Rotary	14
11.	Islamabad Chowk	4 –Arm	12
12.	Rahunath Mandir	4 –Arm (Staggered)	8
13.	Nayinwala Chowk	3 –Arm (T-Junction)	12
14.	100 Feet Road Junction (GT Road)	4–Arm	20

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S.No	Junction Name	Junction Arms	Total Lanes (upstream + downstream)
15.	Ram Talai Chowk (GT Road)	4 –Arm	20
16.	Sangam Cinema Chowk (GT Road)	3 –Arm (Y Junction)	11
17.	Maqbool pura (GT Road)	3 –Arm (Y Junction)	18
18.	Hussainipura Chowk	3 – Arm (Y-Junction) – Rotary	19
19.	Khalsa College Junction	3 –Arm (T-Junction)	16
20.	Chheharta Chowk	4 –Arm (Staggered)	17
21.	Amritsar Cant Junction (Manekshaw Avenue)	3 –Arm (Y Junction)	14

- The MSI shall finalise these locations in consultation with Traffic Police, ASCL, MCA, PWD or any other authority as identified by ASCL, post the detailed site survey and utilize the functional signals, poles etc.
- MSI shall prepare and submit site survey reports (map view/3D design), location wise and highlight issues/challenges & support required.
- MSI shall also obtain the sign-off from Traffic Police, ASCL, MCA, PWD or any other authority as identified by ASCL on the Site Survey Report.

Design, Develop, Supply and Installation of all the IT and non-IT Infrastructure and System Applications

- MSI shall be responsible for provisioning of end-to-end IT Infrastructure & System Applications both at the field level, identified Traffic Junctions, as well as at the ICCC and Data Centre, as per Indicative Bill of Material at Annexure 1, but not limited to, including materials/accessories/consumables/libraries/ assemblies etc. necessary for the installation of the system
- MSI shall be responsible for coordinating with Traffic Police, ASCL, MCA, PWD or any other authority as identified by ASCL and shall be responsible for supply & erection of pole infrastructure along with cantilevers for the installation of traffic sensors, CCTV cameras and provisioning of city network (fiber), and shall share its requirement in totality like poles locations, cantilever position, cat 6 termination etc. and execute requisite site work including electrical, civil, administrative etc. in order to ensure that the site is ready. Installation of requisite edge processing infrastructure shall be the whole sole responsibility of the MSI.

Provisioning of Network Connectivity

The MSI shall be responsible to ensure that connectivity has been provisioned at each of the field infrastructure like traffic sensor, camera, edge processor along with the accessories.

Integration, Testing, Commissioning and System Go Live

MSI shall be responsible for the end-to-end integration of all the proposed IT systems and Infrastructure, field as well as centralised, at the Data Centre; which also includes integration with ICCC, EMS application etc. Along with integration, MSI shall also provision for a single interface, via ICCC platform, for the user to operate, monitor, control the ITMS System.

Functional and Technical Requirement Specifications

Traffic Violation and Detection System (TVDS) – RLVD/ANPR

S. No.	Minimum Requirement	Compliance (Yes / No)
1.	The TVDS sub-system shall have an ANPR based on non-intrusive type of enforcement for detecting various traffic violations.	
2.	The TVDS shall automatically detect the license plate in the captured video feed in real-time.	
3.	The system should work seamlessly with the ANPR sub-system to perform OCR (Optical Character Recognition) of the license plate characters (English alpha-numeric characters in standard fonts) and convert into machine readable format for further processing.	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Minimum Requirement	Compliance (Yes / No)
4.	The system shall be capable of storing JPEG image of the violating vehicle along with its license plate and enter the license plate number into the database along with date, time-stamp and site location details.	
5.	The TVDS system should instantaneously (within 4 seconds) receive the processed ANPR of the violating vehicle from the ANPR sub-system.	
6.	The system should store a continuous unaltered video clip of the vehicle approaching and leaving the violation location in the database.	
7.	The TVDS sub-system should work in both day and night conditions with the defined minimum accuracy levels.	
8.	The TVDS sub-system should work with minimum intervention and maximum accuracy levels in all weather conditions	
9.	The system should at least have 95% of violation detection accuracy as the minimum accuracy level irrespective of the type of violation, time and condition of the violation in the field in terms of Standard number plate	
10.	The system should be able to provide Unique Case number for each of the Violation Detected.	
11.	The system should be capable of providing a search and filter option to find specific cases at any point of time	
12.	Type of Violations – The following type of traffic violations should be automatically detected using the appropriate non-intrusive technology in each case as applicable. All the traffic violations should be seamlessly integrated with the ANPR sub-system and maintain the status of each violation till closure in the database. <ul style="list-style-type: none"> • Red Light Violation & Detection (RLVD) with ANPR • Zebra Crossing Violation/ Stop Line Violation with ANPR • Speed detection with ANPR • Wrong Direction Vehicle Movement with ANPR 	
13.	Red Light Violation Detection (RLVD) – The non-intrusive RLVD sub- system should be capable of capturing multiple Infraction Vehicle Data (IVD) simultaneously on each arm of the junction at any point of time.	
14.	Zebra Crossing / Stop Line Violation at Junctions – The non-intrusive system should be capable of detecting the violations and capturing multiple IVD simultaneously on each arm of the junction at any point of time.	
15.	Speed Violations - The nonintrusive system shall be capable of measuring speed of vehicles and capture over speed vehicles. The Speed measurement should support multiple methods for calculation of speed – either Average or Instantaneous Speed Measurement methods. Speed accuracy of +/-5KMPH is expected.	
16.	Wrong Direction Vehicle Movement – The non-intrusive system should be installed at critical junctions to capture the wrong direction vehicle movement. The system should identify and capture multiple IVD. The E-Challan standard procedure should be triggered.	
17.	The TVDS should have provision to be seamlessly integrate with e-challan sub-system which is capable of providing a legally binding court evidence following a proven and a robust procedure.	
18.	The TVDS system shall have an operations monitoring dashboard, located at the ICCC	
19.	The ANPR system shall capture vehicle license plate from front or from rear depending on the proposed solution and ensuring the performance Parameters are met.	
20.	The ANPR sub-system is also used for identifying hot-listed vehicles. The system should have option to input certain license plates according to the hot listed categories like “Wanted”, “Suspicious”, “Stolen”, etc. by authorized personnel.	
21.	The TVDS along with the ANPR system when seamlessly integrated with the e-challan system shall generate challans (tickets) to various traffic violators.	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Minimum Requirement	Compliance (Yes / No)
22.	The ANPR sub-system shall be used for satisfying various add-on use- cases such as stolen vehicle identification.	
23.	ANPR system is used to identify vehicles by their registered number plates.	
24.	<p>The ANPR sub-system shall have the following minimum accuracy levels irrespective of any other reason at the installed location for each of the vehicles in the field of view during any time of the day or night:</p> <ul style="list-style-type: none"> • At a minimum of 90% vehicle detection accuracy. • the system should have a conversion accuracy of more than 85% for the detected vehicles for ANPR for standard format license plates • the system should have a conversion accuracy of more than 70% for the detected vehicles for ANPR for non-standard format license plates Exclusions: whitewash, broken and dirty 	
25.	<p>The following are the minimum details of the infracting vehicle to be captured:</p> <ul style="list-style-type: none"> • Location Name and ID along with Latitude and Longitude • Date & Time of the instance • Vehicle Number plate (Captured & Processed) • Headway • Image of the vehicle • Direction of Travel • Instantaneous Speed of the vehicle 	
26.	Court Evidence Standard Procedure – The ANPR system should provide the Color video & image evidences of infracting vehicles to be submitted in the court.	
27.	The tamper-proof video extract shall be provided as a supporting evidence (for submission in a court of law) to each infracting vehicle and the video length shall be t-5 to t+5 seconds where t being the instant at which the infraction occurred. The video output should be in color in any industry standard format such as MJPEG, MP4, AVI etc.,) with visually readable license plate number.	
28.	The system shall have options to search historical records for post event analysis by the vehicle color or the vehicle color with license plate and date time combinations	

Adaptive Traffic Control System (ATCS)

S. No.	Minimum Requirement Description	Compliance (Yes / No)
1.	Monitor and control traffic signals, including signalled pedestrian crossings, using a traffic responsive strategy based on real time traffic flow and vehicle presence information. However, the system shall also be capable of operating under fixed time plan.	
2.	All junctions under Adaptive Traffic Control System shall be provided with vehicle detection system & communication equipment. Allow each intersection controller to be monitored from ICCC for proper functionality. Any corrective action can be initiated either automatically based on status information or by an operator. The real time classified volume counts shall be communicated to ICCC by each controller.	
3.	ATCS shall be driven a control system in real time with the capacity to calculate the optimal cycle times, effective green time ratios, and change intervals for all system traffic signal controllers connected to the ATCS system which in turn can also work in configurable manner. These calculations shall be based upon assessments carried out by the ATCS application software based on the traffic volume data gathered by vehicle detectors at the intersections.	
4.	Signal Synchronization - manage network of signals to synchronize timing cycle to ensure probability of maximum greens to the vehicle moving in a particular direction.	
5.	Pedestrian Priority	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Minimum Requirement Description	Compliance (Yes / No)
	<ul style="list-style-type: none"> • The controller site-specific data shall provide independent control for each of the pedestrian movements. It is also possible for a pedestrian phase to be configured to appear alone, in conjunction with other pedestrian phases, with non-conflicting vehicle phases, or in conjunction with a combination of pedestrian and non-conflicting vehicle phases. • Allow pedestrian movements to be introduced automatically or by demand, whichever is required. Vehicle movements configured to run in parallel with a pedestrian phase shall continue to hold right of way until the end of the pedestrian clearance interval. • Shall allow the pedestrian green and/or flashing red intervals to overlap between one or more stages with non-conflicting phases if so required. 	
6.	Emergency Vehicle Priority Provision to make way for emergency vehicles like fire, police and ambulances during emergencies.	
7.	The solution proposed shall use or shall be able to integrate with industry standard communication protocols like UTM/UG405 or NTCIP. No proprietary communication protocols shall be allowed.	
8.	The application shall interface with a simulation software to evaluate potential traffic control strategies in case of any anomalies and identify the appropriate strategies for the traffic control.	
9.	The application shall be able to estimate comprehensive network state by fusing detector data with data from ANPR, GPS or any other such data collected from other third-party sensors/detectors/cameras. It should also predict the future network state in terms of traffic demand for up to 1 hour.	
10.	The ATCS system shall have provision to interface with the GPS device in the BRT buses and provide them with priority in crossing the junction.	
11.	The ATCS application shall have a Graphical User Interface (GUI) with an underlying GIS map that shall display the network and the traffic signals, traffic cameras/detectors, Variable Message Display (VMD) boards and Public Address (PA) systems deployed, in one view.	
12.	It shall be possible to either upgrade the existing signals using an external/additional module or replace the existing controller for providing the required ATCS functionalities.	
13.	API shall provide near real-time detector data and accept controller instructions	
14.	Application shall be supplied with Simulation software and Simulation Models so that it shall be grouped into regions with clusters of signals covering all ATCS junctions.	
15.	Provision of calibrated traffic simulation models for AM peak, PM peak, inter-peak and off-peak for weekdays and peak and off-peak for Saturday & Sundays covering all the ATCS junctions	
16.	True real-time adaptivity. Adapts to traffic present at this very instant (not only statistically)	
17.	BRT Prioritization with true real-time adaptivity and dynamic phasing capability	
18.	Proposed solution should have functionality of prediction of future traffic flow	
19.	Traffic signal communicates directly with nearby signals for prediction of future traffic flows	
20.	Sharing of data among traffic signals improves future prediction which increases the likelihood of getting "through greens" without hampering adaptivity	
21.	Adaptivity is based on detected traffic densities and patterns, not just on presence of vehicles	
22.	Vision algorithms well suited for non-lane-based mixed-carriage-width traffic	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Minimum Requirement Description	Compliance (Yes / No)
23.	Even if one or multiple cameras fail, information from nearby signals, from the cameras that continue to function (and there is some overlap), and from previously generated statistics is used to continue adaptivity; till the fault is corrected	

Automatic Number Plate Recognition (ANPR) Camera

S. No.	Category	Minimum Requirement Specifications	Compliance (Yes / No)
1.	General Requirements	The camera should be commercial / industrial grade designed for 24 x 365 use.	
2.	Image Sensor with WDR	1/2.8" or better with minimum 120 dB WDR, progressive CMOS Sensor or better	
3.	Lens Specs	Compatible to image sensor, Full HD (1080P), P IRIS / DC IRIS / Auto IRIS, Corrected IR, C / CS Mount with IR cut filter	
4.	Focal length	5x varifocal lens (Lower limit as 10mm or less, and Upper limit as 50mm or greater) or better	
5.	Resolution	Active Pixels 1920 x 1080 (2 MP)	
6.	Minimum illumination	Colour: 0.3 lux or better, B/W: 0.05 lux or better (at 30 IRE)	
7.	Video Compression	H.264 with smart codec / H.265, Motion JPEG	
8.	Frame Rate	Minimum 60 FPS or higher for all resolutions	
9.	Local Storage	Micro SD/SDHC /SDXC/SD Card Slot with minimum 256 GB Class 10 SD card	
10.	Ethernet	10/100/ Base-T ports	
11.	Protocols	Minimum of the following protocols to be supported RTSP, RTP/TCP, RTP/UDP, HTTP, HTTPS, DHCP, 802.11x	
12.	Industry Standards	ONVIF Compliant	
13.	Power Supply	POE IEE 802.3af compliant	
14.	Operating Temperature	0° C to 50° C or better	
15.	Operating Humidity	20% to 90% for cameras	
16.	Enclosure / Casing	IP 66 with Cast iron or aluminium alloy casing	
17.	Certifications	UL, CE, FCC, ONVIF	
18.	Streaming	The camera shall be able to setup and stream out minimum three (3) stream profiles. Each stream profile shall have its own compression, resolution, frame rate and quality independently. All the 3 streams should be individually configurable and compatible with H.264 with smart codec / H.265.	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Category	Minimum Requirement Specifications	Compliance (Yes / No)
19.	White Balance	Auto / Manual	
20.	Back Light Compensation	Auto	
21.	Security	Security Password protection	
22.	Security	Vandal and impact resistant housing, IK 10, IP66 / NEMA	

Context / Evidence Camera (RLVD Camera)

S. No.	Category	Minimum Requirement Specifications	Compliance (Yes / No)
1.	General Requirements	The camera should be commercial / industrial grade designed for 24 x 365 use.	
2.	Image Sensor with WDR	1/2.8" or better with minimum 120 dB WDR, progressive CMOS Sensor or better	
3.	Lens Specs	Compatible to image sensor, Auto IRIS / P IRIS / DC IRIS, Corrected IR, C / CS Mount with IR cut filter	
4.	Focal length	3x varifocal lens (Lower limit as 4 mm or less, and Upper limit as 8mm or greater) or better	
5.	Resolution	Active Pixels 1920 x 1080 (2 MP)	
6.	Minimum illumination	Colour: 0.3 lux or better, B/W: 0.05 lux or better (at 30 IRE)	
7.	Video Compression	H.264 with smart codec / H.265	
8.	Frame Rate	Minimum 30 FPS or higher for all resolutions	
9.	Local Storage	Micro SD/SDHC /SDXC/SD Card Slot with minimum 256 GB Class 10 SD card	
10.	Ethernet	10/100 Base-T ports	
11.	Protocols	Minimum of the following protocols to be supported RTSP, RTP/TCP, RTP/UDP, HTTP, HTTPS, DHCP, 802.11x	
12.	Industry Standards	ONVIF Compliant	
13.	Power Supply	POE IEE 802.3af compliant	
14.	Operating Temperature	0° C to 50° C or better	
15.	Operating Humidity	20% to 90% for cameras	
16.	Enclosure / Casing	IP 66 with Cast iron or aluminium alloy casing	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No.	Category	Minimum Requirement Specifications	Compliance (Yes / No)
17.	Certifications	UL, CE, FCC, ONVIF	
18.	Support	The camera should not be end of life / end of service for minimum 7 years, and OEM should certify that they will give spare support	
19.	Streaming	The camera shall be able to setup and stream out minimum three (3) stream profiles. Each stream profile shall have its own compression, resolution, frame rate and quality independently. All the 3 streams with 30 FPS should be individually configurable and compatible with H.264 with smart codec / H.265.	
20.	White Balance	Auto / Manual	
21.	Back Light Compensation	Auto	
22.	Security	Security Password protection	
23.	Security	Vandal and impact resistant housing, IK 10, IP66 / NEMA	

ATCS Controller Technical Requirement

S. No	Minimum Requirement Description	Compliance (Yes / No)
1.	Communication protocol: UTMC/UG405/NTCIP or equivalent	
2.	Number of detector inputs: 4 videos plus 4 pedestrian minimum	
3.	Police Control Panel: Yes, with hurry calls and push to change buttons	
4.	Temperature: 0°C to 60°C	
5.	Interfaces: 1 x 10/100 Ethernet interface; 2 x USB 2.0 host ports; 1 x micro USB 2.0 port; 1 x RS232 port; 1 x RS485 port	
6.	RAM: 128 MB SDRAM minimum	
7.	Storage Capacity: 512 MB minimum	
8.	Timing Resolution: Minimum 100 msec (input resolution to 2ms)	
9.	Output Pins: Minimum 32 Interface pins	
10.	Number of signal groups: 16 minimum	
11.	Number of phases: 16 minimum	
12.	Number of signal plans: 32 minimum	
13.	32-bit Processor	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

S. No	Minimum Requirement Description	Compliance (Yes / No)
14.	Shall be possible to run custom traffic control logic	
15.	Shall send the detector data back to the control room ATCS application."	

ATCS Detector Function requirement

S. No	Minimum Requirement Specification	Compliance (Yes/No)
1.	<p>Bidder is free to choose an appropriate camera based detector which provides following:</p> <ol style="list-style-type: none"> 1. Shall cover upto 4 lanes. 2. Count with 85% accuracy 3. Classification with at least 3 categories: 2-Wheeler, Light Motor Vehicle, Heavy Motor Vehicle 4. At least provide 3 detection zones for vehicle presence information via an open interface. <p>The bidder is encouraged to use cameras that have been deployed for RLVD and ANPR, as much as possible, for providing ATCC and ATCS functionalities.</p>	
2.	Bidder shall clearly specify the placement of the detector (upstream, downstream, stop-line, exit etc.) for independent straight and right turn signals before installation.	
3.	The detector shall be able to count vehicles in non-lane based mixed traffic flow conditions. The accuracy of counts shall be greater than or equal to 85% in all light and weather conditions such as dense fog, heavy rain, low visibility etc.	

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure XI: 360 Degree Panoramic Camera

S. No.	Nature of Requirement	Minimum Requirement Specifications
1.	Image Sensor	Progressive scan CMOS or better (Single/Multi Sensor)
2.	Day/ Night Operation	Yes, with inbuilt/external IR Illuminator
3.	Minimum Illumination	Colour: 0.3 Lux @ 30 IRE
4.	Lens field of view	360 Degree
5.	Image Resolution	Minimum 8 MP and 1920x1080 (1080p)
6.	Compression	H.265/H.264 compression with 3 Mbps and lower speed at 1920 X 1080 @ 30 FPS per stream
7.	Frame Rate and Bit Rate	Shall support up to 30 fps
8.	Edge Storage	Micro SD/SDHC /SDXC/SD Card Slot with minimum 128 GB Class 10 SD card
9.	Storage	Support for recording to dedicated network-attached storage
10.	Protocols	IPv4/v6, HTTP, HTTPS, SSL/TLS, QoS Layer 3 DiffServ, FTP SMTP, Bonjour / RTCP / ICMP/ SSH, UPnP, SNMPv1/v2c/v3 (MIB - II), DNS, NTP, RTSP, RTP, TCP, UDP, IGMP, DHCP, ARP
11.	Security	Password Protection, HTTPS encryption, IEEE 802.1X
12.	Enclosure	IP66/NEMA 4X, IK08 impact-resistant aluminium or plastic casing with polycarbonate hard-coated dome
13.	Operating Temperature	-5 °C to 70 °C
14.	Auto adjustment + Remote Control of Image settings	Colour, brightness, sharpness, contrast, white balance, exposure control, backlight compensation, Gain Control
15.	Wide Dynamic Range	On/Off
16.	Certification	CE, UL, FCC, ONVIF

**Corrigendum for the Request for Proposal for Selection of Master System Integrator (MSI) for Implementation & Maintenance of Smart Solutions
(Phase - I) in Amritsar City**

Annexure XII: Keyboard and Joystick

S. No.	Parameter/ requirement	Minimum specifications/requirements
1.	General	The control board shall be based upon standard components and proven technology
2.	Controller	Shall be equipped with Keypad for selecting desired cameras/ as per user configurations
3.	Technical	Joystick: Pan Tilt and Zoom function
4.	Interface	USB 1.1/2.0/3.0 compliant
5.	Compatibility	<ul style="list-style-type: none">• Minimum 10 programmable buttons• Multi-camera operations• Compatible with all the camera models offered in the solution• Compatible with VMS /Monitoring software offered
6.	Power	Via USB
7.	General	The control board shall be of modular design and provide keypad, joystick and jog dial functionality
8.	General	The inter-connectable modules shall be backed by an open and published API and shall, when combined with a video management application
9.	Operating conditions	0 °C to 60 °C
10.	Operating Humidity	20% to 80% (RH)