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- TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0A1 / Noyau 0A1
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Electrical & Electronics Products Division
11 Laurier St./11, rue Laurier
7B3, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Title - Sujet PERIMETER DETECTION SYSTEMS CCTV		
Solicitation No. - N° de l'invitation 21120-147874/A		Amendment No. - N° modif. 004
Client Reference No. - N° de référence du client 21120-14-2007874		Date 2014-07-07
GETS Reference No. - N° de référence de SEAG PW-\$\$HN-334-64960		
File No. - N° de dossier hn334.21120-147874	CCC No./N° CCC - FMS No./N° VME	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-07-25		Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>		
Address Enquiries to: - Adresser toutes questions à: McLaughlin, Michael		Buyer Id - Id de l'acheteur hn334
Telephone No. - N° de téléphone (819) 956-3622 ()		FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:		

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Solicitation No. - N° de l'invitation

21120-147874/A

Amd. No. - N° de la modif.

004

Buyer ID - Id de l'acheteur

hn334

Client Ref. No. - N° de réf. du client

21120-14-2007874

File No. - N° du dossier

hn33421120-147874

CCC No./N° CCC - FMS No/ N° VME

This amendment is raised to address questions submitted by potential bidders. The questions appear in their original format and language. The Technical Authority's responses appear in the attached pdf.

This amendment is also raised to identify the deadline for submitting a second round of bidder questions. All questions **MUST** be submitted either by email or Fax to the Contracting Authority by **4:00pm EST on July 21st 2014**.

Email: michael.mclaughlin@tpsgc-pwgsc.gc.ca

Fax: 819-956-3622

ALL REMAINING TERMS AND CONDITIONS ARE UNCHANGED



**CORRECTIONAL SERVICES CANADA
TECHNICAL SERVICES BRANCH
ELECTRONIC SECURITY SYSTEMS**



ADDENDUM

**PWGSC File # 21120-147874
Replacement of Perimeter Cameras
For Use in Federal Correctional Institutions**

During bidders' visits to CSC institutions in the Quebec Region, observations were made about various facilities which raised some questions. Clarification would be useful here in order to standardize the information provided to bidders and eliminate any possible ambiguity.

General observation:

The contractor shall test the operational characteristics of all existing PIU equipment and systems, relating to the Project, prior to integration and provide a written record of those tests for the Crown.

The contractor must identify any operational deficiency of equipment being integrated or else risk being held accountable for system deficiencies during the Perimeter Cameras replacement commissioning period.

1.	Q1. Will an extension to the submission date be granted? Suggest 2-3 weeks to accommodate the Q&A's process and any further pending questions that may arise from the Q&A?	A1. That comes under PWGSC, which issues these instructions as part of the bidding process.
2.	Q2. Reference STR section 2.2: please clarify whether standard ES/STD-0203 is relevant?	A2. No, it has been replaced by ES/STD-0221 revision #3.
3.	Q3. Reference STR section 3.2: will the current maintenance reports be made available from CSC service being achieved at any of the nine institutions.	A3. Yes, the successful bidder will be put in contact with the ADGA contractor for each of the nine institutions for planning purposes.
4.	Q4. Reference STR section 4.2: please identify any criterion listed within this section that is not currently being achieved at any of the nine institutions.	A4. This is a standard, general description of the nine institutions. It must be modified based on the following information: CSC requires new Ethernet switches to be supplied and installed, in the CER main network cabinet, on the current network infrastructures at the Port-Cartier and Donnacona institutions, and, as described in section 6.4 for the FTC institution. We are attaching the plans as built to this addendum.
5.	Q5. Reference STR section 4.5: please provide lists indicating the quantities of each of these alarms types currently integrated at the 9 institutions. This alarm integration listing will aid the contractor with the verification of the operational characteristics identified within section 3.2 of the STR.	A5. This section lists only what is relevant to the project. The rest of the signals are confidential for security reasons unrelated to this project. It would also take several weeks to list the specific information for each of the nine institutions for an exercise which adds nothing to the preparation of a bid.
6.	Q6. Reference STR section 4.5: please clarify which of the listed capabilities of the LANSER are currently implemented	A6. All of them and they are already listed in section 4.5. A manual is annexed to this Addendum concerning the LANSER functionalities.

	and relevant to the nine individual PIDS CCTV sites? Are these lists that can be provided?	
7.	Q7. Reference STR section 4.8: please clarify what parameters of a cameras field-of-view can be considered as "better" as referenced within section 4.8.	A7. The following criteria are required: width, length and height of the image, definition, contrast, sensitivity (low light), smooth movement (exempt of lagging) and depth of field (area in space where the image is clear).
8.	Q8. Reference STR section 4.9: please clarify whether the contractor is to retain the equipment removed as part of this upgrade project?	A8. The contractor will take pictures with the current equipment to obtain approval for a dismantling which will occur after the project has been gradually phased in. Review section 4.9, which is quite specific on the subject.
9.	Q9. Reference STR section 4.11: the objective of the statement regarding the video compression within this paragraph is unclear. Please clarify whether all camera compression standards are to be modified to H.264.	A9. Joliette, La Macaza, Drummond and Cowansville institutions: an uniform PIVOT 3 servers are installed and will be possible to configure all existing cameras annexed to it. Port-Cartier, Donnacona and FTC needs an upgraded Ethernet switches in the CER and limit the H.264 configuration to the IP perimeter cameras only.
10	Q10. Reference STR section 4.12: please clarify which certification (IP66 or IP 67) is required for the switches to be provided? Please identify whether there are specific parameters from within each specification to be adhered?	A10. Precisely, enclosure NEMA 4X has been referring to IP65.
11	Q11. Reference STR section 4.14: is there a relevant CSC standard of acceptance for the required camera enclosures? Does ES/STD-0205 apply?	A11. Yes there is, the ES/STD-0205 should be added in the section 2.2 of the STR. This specification is missing in the document.
12	Q12. Reference STR section 4.14: please identify a CCTV environmental enclosure manufacturer with a product equipped with a wiper motor capable of "running in neutral"?	A12. The environmental specifications are described with the addition of the ES/STD-0205 to the STR document.
13	Q13. Reference STR section 4.15: please clarify the mention of Leclerc institution and exclusion of the Federal Training Center within this section?	A13. Leclerc institution doesn't belong anymore in this context of the STR document.
14	Q14. Reference STR section 4.20: please provide the various operator console space allowance for PIDS CCTV monitors at the various institutions?	A14. The MCCP monitors selected must be compatible with the current ergonomics. They are currently mounted in a 19-inch chassis.
15	Q15. Reference STR section 4.21: please clarify the reference to a discontinued AXIS model 221 camera within this section?	A15. Since the manufacturer has changed its product names, we now have AXIS P13 Series camera models (no specific preference, provided for reference only).

16	Q16. Reference STR section 4.21: please clarify the reference containing the wiper control to the video encoder? Are the video encoders not being eliminated as part of these upgraders?	A16. The contractor must provide a solution via TCP/IP to maintain control of the wiper. Encoders must be eliminated as part of this upgrade.
17	Q17. Reference STR section 4.22: please confirm the desired runtime of the UPS's to be provided?	A17. The uninterruptible power supply installed in an external enclosure must provide a supply for a minimum of five minutes.
18	Q18. Reference STR section 4.26: please explain the relevance of the twelve paragraphs within this section and how each specifically pertains to the requirement identified within this tender and the CSC specification and standards identified within section 2.2 of the STR? In circumstances where contradiction exist what document is to take precedence?	A18. It is section 4.28, not 4.26. This section refers to normal conditions in the bidding process.
19	Q19. Reference STR section 4.30.1: please explain the relevance of the « current indoor and outdoor condition of the institution » referenced within this paragraph?	A19. It is the contractor's responsibility to be familiar with the current systems and sub-systems attached to this project, to analyze them and identify any current anomaly to be reported to CSC. If a contractor fails to identify the latter and starts work, he may be held responsible and may not be able to charge extra compensation to remedy the situation.
20	Q20. Reference STR section 4.30.3: please identify approvals other than CSA that are required?	A20. CSA, FCC, UL and ULC are those usual certification approved by the CSC.
21	Q21. Reference STR section 4.30.8: please confirm for each institution that no additional cameras other than PIDS cameras are currently connected to the SX550C matrix switches?	A21. Part of the purpose of this project is also to eliminate the use of these "matrix." When the contractor has met the requirement in section 4.30.1, he may submit his observations to CSC and propose a project modification.
22	Q22. Reference STR section 5.3: please confirm whether new Maintenance Manuals are to be provided or the existing manuals amended? If existing manuals are to be amended will the latest CAD drawings be provided in a format capable of editing?	A22. As indicated in the STR, submit a new manual. Submit new as built.
23	Q23. Reference STR section 6.2, paragraph 3: please provide a scaled drawing indicating the locations of the conduits within the institution as well as the predicted routing outside the building.	A23. CSC does not provide plans for its infrastructures. We have only what was created during projects carried out in the past by other contractors. We attach what is available to us only; it is not CSC's mission to generate this information.

24	Q24. Reference STR section 6.3, paragraph 3: please provide reference drawing indicating the conduit run.	A24. CSC does not provide plans for its infrastructures. We have only what was created during projects carried out in the past by other contractors. We attach what is available to us only; it is not CSC's mission to generate this information.
25	Q25. Reference STR section 6.4, paragraph 6: there is no indication of the existing network or interconnections for FTC within Appendix C of the STR. Please provide.	A25. Below in this Addendum – Additional requirements to the STR section.

May 20, 2014

Localisation des commutateurs et adresse ip de gestion									
Port #	Commutateur #1 salle contrôle 192.168.32.225	Commutateur #2 salle contrôle 192.168.32.226	Commutateur Tour #1 192.168.32.228	Commutateur Mur 1-2 192.168.32.239	Commutateur Tour #2 192.168.32.229	Commutateur Mur 2-3 192.168.32.227	Commutateur Tour #3 192.168.32.230	Commutateur Mur 3-4 192.168.32.240	Commutateur Tour #4 192.168.32.231
1									
2									
3	Poste de Visionnement 4	Automate	Amplificateur IP7-40	Caméra 32	Amplificateur IP7-07	Caméra 34	Amplificateur IP7-18	Caméra 36	Amplificateur IP7-29
4	Poste de Visionnement 1	Nvus-VCR-1	Amplificateur IP7-41	Caméra 33	Amplificateur IP7-08	Caméra 35	Amplificateur IP7-19	Caméra 37	Amplificateur IP7-30
5	Poste de Visionnement 2	Interface PPCC	Amplificateur IP7-01		Amplificateur IP7-09		Amplificateur IP7-20		Amplificateur IP7-31
6	Poste de Visionnement 3	Nvus-VCR-2	Amplificateur IP7-02		Amplificateur IP7-10		Amplificateur IP7-21		Amplificateur IP7-32
7	Intercom IP7-HP43	Interface Fouille	Amplificateur IP7-03		Amplificateur IP7-11		Amplificateur IP7-22		Amplificateur IP7-33
8	Cam-41	Nvus-VCR-3	Amplificateur IP7-04		Amplificateur IP7-12		Amplificateur IP7-23		Amplificateur IP7-34
9	Cam-39	Interface MCCP	Amplificateur IP7-05		Amplificateur IP7-13		Amplificateur IP7-24		Amplificateur IP7-35
10	Cam-38	Archiveur	Amplificateur IP7-06		Amplificateur IP7-14		Amplificateur IP7-25		Amplificateur IP7-36
11	Cam-42	Interface Ancien Poste de Contrôle			Amplificateur IP7-15		Amplificateur IP7-26		Amplificateur IP7-37
12	Cam-40	Archiveur			Amplificateur IP7-16		Amplificateur IP7-27		Amplificateur IP7-38
13		Intercom PCCP			Amplificateur IP7-17		Amplificateur IP7-28		Amplificateur IP7-39
14	Cam Gym	Intercom A-103					INTERCOM TOUR 3		
15		Intercom A-001A							
16	Link Senstar	Intercom A-108					PATCH PORT 2		
17	NVUS-1	Intercom AN-8000EX					PATCH PORT 1		
18	NVR-1	Intercom A-001					WIFI-CAM		
19	NVR-3	Intercom A-004					Contrôle Tour 3 (Châssis déporté)		
20	NVR-2	Intercom A-106A					Cam 31 Véhicule		
21	TALK MASTER	Intercom MCCP	Caméra 19	Cam 20			Cam 24 Tour	Cam-17	
22		HPE-042	Caméra 22	Cam 21			Cam 23 Tour	CAM-25	
23	ETH32		UPS Tour 1	UPS Tour 2			UPS Tour 3	UPS Tour 4	
24									
1F	Vers Tour #4	Vers Comm Tour #1	Vers Switch # 2 CCP	Vers Tour #2	Vers Mur 2-3	Vers Tour #2	Vers Mur 2-3	Vers Tour #4	Vers Switch # 1 CCP
2F	Vers Switch # 2 CCP	Vers Switch # 1 CCP	Vers Mur 1-2	Vers Tour #1	Vers Mur 1-2	Vers Tour #3	Vers Mur 3-4	Vers Tour #3	Vers Mur 3-4
3F									
4F									
	Port de fibre optique 1000 Base-SX								
	port cuivre 10/100/1000 Base-TX								
	Port inexistant ou inutilisable								

26	Q26. Please provide the electrical panel designations and circuit breaker distribution allocations for the existing PIDS camera power feeds at each institution.	A26. It is premature at this stage to provide information that does not assist in the evaluation of a costing proposal as part of a bidding process. In all cases, circuits are located nearby.
27	Q27. Reference RFP section 4.2.1: is the Federal Training Center to be included within the shipment consignment list?	A27. This institution is an integral part of this project. PWGSC will correct this omission in its own documents.

Questions received by PWSC Tuesday 6 May 2014

Most of the answers to these questions refer to answers already provided in the first part of the 27 questions:

28	1. Can the crown confirm that, given the fact that all existing cameras are to be configured H.264, the programming of the existing equipment is to be performed by the successful bidder? a. Can the crown confirm that, given the fact that the switches deployed at Donnacona and Port-Cartier doesn't support H.264, the switches are to be replaced by the successful bidder?	A28. See A4 and A9 A28.a. See A4 and A9								
29	2. Can the crown confirm that, given the specifications stated under section 4.22, the proposed UPS is to be exterior rated? a. Can the crown confirm that, given space issues inside the PIDS Enclosures, the exterior rated UPS can be deployed outside of the PIDS Enclosures?	A29. See A17 et A20. Section 4.22 specify one hours – that has to be correct by 5 minutes to maximise space limitation in the actual institutional enclosures. A29.a. No, new solution should be proposed to CSC by the contractor if it is consider not reusable. If work was synchronized at night after a service interruption, congestion problems in existing enclosures would be prevented.								
30	3. Can the crown confirm that, due to the fact that lenses size will be determined during the investigation visit, providing several lenses options (5-50mm, 7-70mm, 8-80mm, etc...) is acceptable?	A30. See the table in Appendix B for the quantities. <table><tr><td>Type of lens</td><td>% deployed in Quebec</td></tr><tr><td>2.8 – 11</td><td>7%</td></tr><tr><td>8 – 12</td><td>8%</td></tr><tr><td>5 – 50</td><td>85%</td></tr></table>	Type of lens	% deployed in Quebec	2.8 – 11	7%	8 – 12	8%	5 – 50	85%
Type of lens	% deployed in Quebec									
2.8 – 11	7%									
8 – 12	8%									
5 – 50	85%									
31	4. Can the crown confirm that all new PIDS enclosures shall have a door	A31. Yes, opening/sabotage contacts are only for NEMA 4X enclosures to be provided/installed outside for institutions which do								

	<p>contact integrated to the existing S100 integration software?</p> <p>a. Can the crown confirm if all existing PIDS enclosures shall have a new door contact integrated to the existing S100 integration software?</p>	<p>not currently have any. See A13.</p> <p>A30.a. It is not required to change the actual door contact from the exterior enclosures.</p>
32.	<p>5. <i>Can the crown confirm the height at which the new PIDS enclosures should be installed at Cowansville, Joliette and Port Cartier?</i></p>	<p>A32. Height off the ground.</p>
33.	<p>6. <i>Can the crown confirm that all monitors are to be installed at the same location as the existing ones, using the available 6RU?</i></p>	<p>A33. No changing locations are acceptable.</p>
34.	<p>7. <i>Can the crown confirm that the bidders are to provide a full compliant solution for Drummond Institution without taking in account any work being done on the existing console?</i></p>	<p>A34. The presence in the implementation of the CSC project relating to the ergonomic rearrangement of the MCCP post at this institution will not require modifications or the replacement of monitors at the control station.</p>
35.	<p>8. <i>Can the crown confirm that, given the fact that we will not be performing a site visit at Port Cartier, the bidders are to submit a price for Port-Cartier assuming identical conditions to Donnacona Institution except for the fibre requirements?</i></p>	<p>A35. See Appendix C for details on this institution.</p>
36.	<p>9. <i>Can the crown confirm that, in an effort to provide software uniformity across the region, an upgrade to Genetec 4.8 is required at Port Cartier (Only site not at 4.8).</i></p>	<p>A36. As to support H.264, all licences would need to be upgraded to the latest Omnicast version by GENETEC. FTC, Joliette, Cowansville, Drummond and La Macaza Institutions are already on this version.</p> <p>Archambault and RRC are being upgraded to the latest Omnicast software version.</p>
37.	<p>10. <i>Can the crown confirm that, in an effort to provide software uniformity across the region, that the Lan to Serial interface (LANSER) deployed at Port Cartier and Donnacona are to be upgraded to the latest version (Only sites not at version 8.5)</i></p>	<p>A37. A manual is annexed to this Addendum concerning the LANSER functionalities. An upgrade it is require to Port-Cartier and Donnacona institutions to accommodate those sites.</p>
38.	<p>11. <i>Can the crown confirm that, given the network/system instability in</i></p>	<p>A38. See A19</p>

	<i>Donnacona, the bidders are to include the necessary time to troubleshoot and resolve the on-site situation?</i>	
39.	12. <i>Can the crown confirm if, given the technical risk involved with the currently deployed systems, all companies are to be, at a minimum, Certified Elite Partner with the Genetec platform?</i>	A39. All the new cameras must include a Genetec Omnicast camera licence and a Genetec Omnicast licence. Most of our institution are equipped with PIVOT 3 server. The contractor shall demonstrate in his proposal himself or via a sub-contractor partner, that he is GENETEC certified.
40.	13. <i>Can the crown confirm if, given that there is a residual 3 year warranty with the currently deployed Pivot3 head-end, all companies are to be certified on the Pivot3 platform prior to modifying the on-site configurations?</i>	A40. Yes, same idea as in answer A39.
41.	14. <i>Can the crown confirm the necessary integration to the existing PIDS/FAAS Software?</i> a. <i>Should the cameras be "called up" automatically on an alarm condition from the Fence Detection System?</i> b. <i>Should the cameras be "called up" automatically on an alarm condition from the Motion Detection System?</i> c. <i>Should the cameras be "called up" automatically on zone selection from the PIDS or the FAAS?</i> d. <i>Should all cameras alarm on the PIDS/FAAS on Camera failure?</i>	A41. After the preliminary investigation CSC requires from the contractor at project start-up for all nine sites, and as specified in sections 4.8 and 4.30.1, the contractor must reproduce exactly the same operational activity defined in the ES/SPE-0409 specification. A41.a. Yes. A41.b. Yes. A41.c. Yes. A41.d. Yes.

42.	15. Can the crown confirm if all S100 points unused (Encoder Failures) are to be decommissioned from the System at the end of the project?	A42. If such is currently the case, yes.
43.	16. Can the crown confirm if the UPS integration is to follow the existing UPS integration which consists of the following: UPS Offline, UPS General Fault, UPS on Battery, UPS Battery Low) for each UPS?	A43. The supervision of the status of external UPSs to be provided in the NEMA enclosures is not required for this project.
44.	17. Can the crown confirm what uptime is required from each UPS?	A44. See A17.
45.	18. Can the crown confirm that Exterior CAT-6 is required to all exterior location regardless of the fact that the cable is to be deployed in a conduit?	A45. Yes.
46.	19. Can the crown confirm that, in an effort to provide hardware/sparing uniformity across the region, that the Avocent LVIPDH-001 IP Video Extenders are to be used to carry over the KVM signals to the new consoles?	A46. CSC requires the uniformity of its facilities to be maintained, and the bidders' visits are specifically designed for that purpose.
47.	20. Can the crown confirm if the IR Illuminators at Joliette Institution are to be replaced? If so, can the crown please provide specifications for replacement units?	A47. IR are not part of this project.
48.	21. Can the crown confirm if new conduits are to be deployed for all PIDS enclosures and that no existing conduits can be used at Joliette?	A48. No external conduits are available at this site as part of this project. CSC includes worksite instructions as an alternative solution for the purposes of the evaluation of the bids. Some schematic are provided with this Addendum.
49.	22. Can the crown please provide a drawing or description of where the PIDS enclosures are to be deployed at Joliette?	A49. See A48.

50.	<p>23. Can the crown please confirm if the new head-end switch to be deployed at Port Cartier, Donnacona and FTC should have the following specifications?</p> <ul style="list-style-type: none"> e. 48x 10/100/1000 PoE+ Ports f. L2 Enterprise Switching g. 1G Small Form-Factor Pluggable (SFP) or 1G/10G SFP+ slots h. IEEE 802.3at-compliant PoE+ for up to 30W of power per port / Up to 740W of combined PoE/PoE+ budget i. USB interfaces for management and file transfers j. LAN Base or LAN Lite Cisco IOS® Software feature set k. SmartOperations tools that simplify deployment and reduce the cost of network administration l. An enhanced limited lifetime hardware warranty (E-LLW), providing next-business-day replacement 	<p>A50. Refer to the text entitled "Additional requirement to the STR" For All Institutions and in section 6.4 concern specifically to FTC institution.</p>
51.	<p>24. Can the crown confirm that, given the fact that the 52 port switch at Joliette is full, a Netgear AXC761 10Gb link shall be provided to allow the expansion of a new head-end switch?</p>	<p>A51. The project involves swapping the ports currently used by the analog perimeter cameras with their replacements, IP cameras. It should balance because it is not an addition.</p>
52.	<p>25. Can the crown specify if any given NVUS shall have a maximum of 2x monitors per station?</p>	<p>A52. It is a good practice for an NVUS to allow a double video card to be used. Given that the real time visual display through the network configuration is in H.264 format, the control display will be tested. The NVUS unit dedicated to displaying the perimeter camera shows only one image on one monitor as specified in the ES/STD-0601 standard. The contractor can propose two monitors per NVUS in keeping with the requirements specified in ES/STD-0228.</p>
53.	<p>26. Can the crown provide as-built information / network layout for FTC?</p>	<p>A53. Annexed to this Addendum.</p>
54.	<p>27. Can the crown confirm how the Genetec system is integrated to the Senstar Sentient at FTC? Is the site using a bi-directional starcom link as per the other sites in Quebec?</p>	<p>A54. FTC CCTV PIDS cameras system is integrated to Senstar Sentient platform and they using a bi-directional starcom link as per the other sites in Quebec.</p>

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Questions received by PWSGC, May 8, 2014

55	<p>1. The following specifications and standards are quoted in the STR but not provided:</p> <ul style="list-style-type: none"> • ES/SOW-0101 • ES/SOW-0102 • ES/SOW-0110 • ES/SPEC-0006 • ES/SPEC-0409 • ES/STD-0203 • ES/STD-0204 • ES/STD-0207 • ES/STD-0221 • ES/STD-0227 • ES/STD-0228 	<p>A55. Sent to PWSGC, May 20, 2014.</p> <p>ES/STD-0203 and 0204 has to be replaced by ES/STD-0221 ES/STD-0207 has to be replaced by ES/STD-0205</p>
56	<p>2. Can the crown confirm if the information on Leclerc institution located in Appendix C is to be discarded?</p>	<p>A56. See A.13.</p>
57	<p>3. Can the crown confirm that the information provided for FTC (Cameras / housings) in Appendix B is valid as there are no information for FTC in Appendix C.</p>	<p>A57. See grid page 5 of this Addendum.</p>

Questions received by PWSGC, May 13, 2014

58	<p>1. For each site, please provide up to date as-built information including drawings and network CCTV tables.</p>	<p>A58. See A.23.</p>
59	<p>2. For each site equipped with existing fibre, please provide as-built drawings detailing the amount of fibre strands available and their distribution.</p>	<p>A59. See A.23.</p>
60	<p>3. Please provide a scaled perimeter drawing detailing the location of each junction box and the fibre cable distance between each box and the CER.</p>	<p>A60. See A.23.</p> <p>Most sites, the actual fiber optic are reusable. Distance between each NEMA boxes are 300 m long.</p>
61	<p>4. Please clarify if the equipment installed in the perimeter junction boxes (switch, media converter, power supply, etc...) needs to be temperature hardened</p>	<p>A61. Ethernet switches, UPS, etc., installed in outdoor enclosures must operate at temperatures ranging from -40 ° C to +60 ° C.</p>

	or if it is acceptable to install a heater and thermostat in each box to achieve the required operating temperature range.	
62	5. Please indicate if the existing camera enclosure mounts are to be replaced.	A62. Yes, brackets and accessories include.
63	6. Are new perimeter junction boxes to be fitted with a tamper switch and integrated into Senstar 100 similar to the existing?	A63. Yes.
64	7. CSC typically limits the number of monitors associated with each workstation to two (2). This would entail providing two workstations for the PIDS CCTV application. Please confirm that this standard is to be followed for this project.	A64. Yes, two workstations equip with dual video cards. Also, see A52.
65	8. Are the spare quantities identified in Appendix B to be included in the base equipment being proposed or within the recommended spare equipment list?	A65. Included in the base equipment list, obligatory.
66	9. Please provide a current copy of the CSC specifications and standards identified in Section 2.2 of the STR.	A66 See A55.

Questions received by PWSGC, May 15, 2014

67	1) Complete version of the Genetec software & Licenses across all sites	A67. See A36
68	2) The fiber distances at Joliette, Cowansville, and Federal Training Centre	A68. Port-Cartier has to be include also. Limited to 1.5 km for each sites.
69	3) List of the Macro commands already created on the existing sites	A69. See A37
70	4) Does the CAT6 cable have to be exterior ready?	A70. Yes. See A45.

71	5) Does the power/electrical cabling have to be replaced if damaged, and what would be the procedure if it needs to be replaced?	A71. The bidder has to proceed with a Propose Change Order to his contract with a cost evaluation if he encounters the situation. Do not furnish an analysis cost in this process of bidding proposal.
72	1. Bidders were not afforded the opportunity to visit Port Cartier Institution. In lieu of a site visit, please identify the number of spare network switch ports available at the head end, the make and model of the existing video monitors, and the location of the CER relative to the MCCP.	A72. None and same as Donnacona institution.
73	2. Section 4.20 of the STR indicates that each site is equipped with four (4) PIDS CCTV monitors. Please confirm that this is accurate for Joliette as well.	A73 Joliette used only 2 monitors for PIDS CCTV. Refer to section Additional precisions to the section 6.2 at the end of this Addendum.
74	3. Please provide an ES/STD document for the required outdoor camera enclosures. ES/SPEC-0409 references an ES/STD-0205 Outdoor Enclosure standard but this is not listed in the STR. Section 2.2 of the STR references ES/STD-0207 but this document addresses indoor high security camera enclosures.	A74. See A55.
75	4. To ensure that CSC's expectations for the outdoor network switch requirement are met; please provide an ES/STD document, a product specification, or an acceptable product for reference.	A75. The CSC has not produced any STD document yet concerning this material. Refer to <i>Additional requirements of section 4.12</i> and <i>Additional requirements for all institutions</i> mentioned in this actual Addendum.
76	5. Section 6.4 of the STR refers to two drawings related to FTC. Please provide the referenced drawings.	A76. Annexed with this Addendum.
77	6. Please clarify the outdoor enclosure requirement. The STR identifies a NEMA 4X requirement but refers to existing Hammond EN4SD36308GY enclosures that are not NEMA 4X rated.	A77. The existing exteriors enclosures dedicate to the actual PIDS CCTV are reusable. Port-Cartier, Joliette and Cowansville are the only 3 sites requiring new exteriors boxes that should be NEMA 4X.

78.	7. Section 5.11 of the STR identifies a requirement to work with Senstar to complete any PIDS/FAAS integration requirements. Section 5.10 of the STR indicates that there is a Marcomm Dynatrol communications interface between the PIDS/FAAS and Genetec Omnicast system. Both Marcomm and Senstar participated in the site visits and presumably will be responding to this RFP. In the interest of creating a level playing field, please consider treating this requirement as part of a change order after contract award or as a cash allowance within the tender.	A78. See A37. This portion of the mandate is negligible in the overall project and accounts for a small percentage fees for the implementation of this feature PIDS / FAAS. We believe that this remains competitive knowing the entire budget that requires this project to the entire province of Quebec.
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79.	1. Please provide all spec that are referred to in section 2	A79. See A55.
80.	2. Referring to Section 4.11 for the STR, are the cameras to be True Day/night with IR removal?	A80. The section 4.11 didn't mention anything about IR requirement. ES/STD-0204 has been replaced by ES/STD-0221.
81.	3. Are any new licences required for the Genetec Omnicast System?	A81. See A67.
82.	4. Once the existing Panasonic WJ-SX550 Matrix switcher is removed, is a new NVUS running Genetec Omnicast software required to replace the physical matrix switcher with a virtual matrix switcher? If so will a single NVUS be sufficient or is there a requirement to have 2 NVUS?	A82. The new PIDS NVUS could serve the virtual matrix functions.
83.	5. What info is provided for Dynatrol LANSER Manuals/ drawings?	A83. See A37
84.	6. Please provide scaled maps with proposed routes for conduit/cabling as discussed at the site visits.	A84. For Joliette institution only, annexed to this Addendum.
85.	7. For all sites please provide a scaled map indicating location of existing and proposed field enclosures as well as the locations of all existing cameras as the descriptions in Appendix C are not complete and a map of each site will properly describe the current system.	A85. See A23
86.	8. What is the current version (and SR) of the existing Genetec Omnicast for each site? (Required to ensure camera	A86. See A66.

	compatibility.	
87.	9. Are all Monitors in the MCCP to be replaced with new monitors?	A87. No, only the fourth (4) PIDS monitors.
88.	10. At Joliet Institution there are only 2 monitors presently. This is because there is only a single fence and no MDS. Is the requirement to provide 4 monitors in the MCCP (or only replace the two existing monitors)? If 4 monitors are required, will there be sufficient space to mount these monitors.	A88. Refer to "Clarification: section 6.2 " to this addendum.
89.	11. Please confirm that the UPS that will be installed in the Field enclosures are to be sized to accommodate the time to transfer from main power to generator back up during a power failure and also indicate what that duration is.	A89. See « Clarification: section 4.12 » of this Addendum.
90.	12. What is considered acceptable down time of CCTV system for cutover from the analog system to the IP system.	A90. It is premature on this stage of this process to give this answer. That will be a case by case issue.
91.	13. The existing analog cameras are converted to IP via the Axis 243Q Video Server. This video is then recorded on existing NVRs. Is it correct to assume that the NVR is then capable of recording the video from the new IP cameras and no additional NVR's are required?	A91. Yes, H.264 configuration will allow the CSC to retrieve NVRs if require.
92.	14. At the three sites where new fiber is required (Cowansville, Joliette and Port Cartier), please confirm that the fiber needs to be a complete loop in both directions. i.e. leaves CER/MCCP and travels to/along the outside fence in a clockwise and direction with 24 strand fiber as indicated and ends at the point where it met the perimeter fence. A second counter clockwise loop is also applied in the same manner.	A92. The scenario of these facilities maximizes the shortest path possible for a perimeter of 1.5 km average distance. No wired redundant solution is required for the network in this project. The contractor may choose to offer a single trip or two trips to interconnect all perimeter cameras institutions Port-Cartier and Cowansville. We only offer a viable solution for Joliette Institution, due to physical constraints of the site. This scenario will be explained and attached with this addendum.
93.	15. Section 6.1 states in the 3 rd paragraph that there are 5 enclosures to be installed on one of the towers in each of the corners. In the scope of work section it states to install a perimeter enclosure on the towers in each corner (4 locations) is it 4 or 5 enclosures that are	A93. Only 4 enclosures at each perimeter corner.

	required. If 5, where is the 5 th enclosure located?	
94.	16. For the institutions that require new fiber two 24 core fiber is to be run around the perimeter in each direction (clockwise and counter clockwise). Yet it states to use a 24 port cross connect patch panel in the NEMA 4X enclosure. This will only provide terminations for one of the two 24 core fiber cables. What happens to the other fiber cable?	A94. Cowansville, Port-Cartier and Joliette require only one 24 core fiber. FTC institution will require a specific strategy to achieve the requirement explain below to this addendum. We do not see any issue on none cross connect fiber to patch panel.
95.	17. Section 6.3 states that a drawing will be provided for the fiber path. Please provide the drawings.	A95. Annexed with this addendum.
96.	18. Section 6.4 states that 2 drawings are attached that explain the scope of work required at FTC. Please provide these drawings.	A96. Annexed with this addendum.
97.	19. At sites with existing fiber 62.5/125 micron fibre is indicated at all locations except 50/125 micron fiber between switches. Which switches are these and at what locations?	A97. The actual Ethernet switches from those networks are in the CER. We do not have any exterior switches solution for the perimeter. Exterior networks solution as to be provided by the bidders.
98.	20. At Drummond, two cameras are connected directly to the CER on less then 90m of coax. What are these cameras mounted to.	A98. ???, All perimeter cameras are actually mount on the fibre optic cable with analogue/digital converters . The two cameras, mentioned in your question, do not refer to the perimeter surveillance.
99.	21. At Archambault Appendix C indicates 23 cameras however on 22 are indicated as attached to the perimeter enclosure, where is the 23 rd camera?	A99. Tower #9.
100.	22. For the locations that require fiber (Cowansville, Port Cartier, Joliette and FTC) please provide the number of towers that are serviced by each enclosure to determine new conduit requirements.	A100. Drawings annexed to this Addendum.
101.	23. Section 4.12 of the STR states that all exterior equipment connected in the existing NEMA enclosures around the perimeter shall be IP66 or IP67 certified. Since the equipment is already in a NEMA enclosure the Ingress Protection rating to be totally dust tight and protection against string water jets	A101. See A61 and "Clarification: section 4.12:".

	and waves or against temporary immersion is not practical. Should the requirement be for all equipment to meet the temperature rating of -40 to +50C?	
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Questions received by PWSGC, May 20, 2014

102.	1. Can the crown confirm the network switch requirement (IP66 or IP67) as these standards are used to define protection against dust and water infiltration?	A102. See A10.
103.	2. Can the crown confirm if all cables are to be outdoor rated (AC and necessary power cable)?	A103. Yes.
104.	3. It is stated that two 1" conduit from the outdoor enclosure to the camera are required, CSC specifications states that the minimum conduit size is to be 3/4", could the crown please clarify.	A104. AC cables should be separate to the IP data cable, one on each conduit (1 inch size).

Questions received by PWSGC, May 22, 2014

105.	For the Field UPS it is indicated in the spec that it is to be located in the field enclosure. This poses two problems, 1) the field enclosure is a NEMA4 (Existing) and NEMA4X (New) without venting. Putting the vents in will de-rate the enclosure to NEMA 3R 2) the enclosure depth is limiting choices for the UPS	A105. Usually, all boxes are already vent and we do not allowing any more additional enclosure. The bidder as to submit an optimum space and hardware solution. Many solution could be found to optimise spaces in the NEMA boxes
106.	1) At FTC/CFF are we to reuse existing Field enclosures. Please provide quantity with number of cameras serviced from each and confirm the size of the existing enclosures	A106. See additional requirement to the STR below, section 6.4 and enclosed drawings.
107.	2) Can an alternate approach be proposed that would not require the use of the LANSER device.	A107. See A37.

Additional requirements to the STR:

For all institutions:

CSC, ESS systems network traffic is predominantly streaming video from CCTV camera operation. The provided network infrastructure must be optimized for (H.264) multicast video operation for both cameras covered by this

deployment and the addition of a further cameras which may be added in the future; optimization including the perspectives of:

- simplicity and efficiency of protocols involved;
- efficient video streaming with required low latency, high bandwidth and network resiliency for predictable, always on connectivity;
- connectivity to the associated video management system (VMS), storage and viewing stations (NVUS).

The system shall be capable of supporting thousands of independent streams with sub-second recovery in the event of any failure, with no visible loss of data. The faster recovery is to maintain connectivity and avoid data or packet loss and minimize pixilation of video data.

Donnacona Institution:

The STR document must include the addition of equipment, such as an open/tamper alarm breaker, ventilation/heating unit in existing perimeter NEMA 4X enclosures. NEMA enclosures must be equipped with key locks.

Clarification: section 4.12:

The Ethernet switches and the UPS installed in the external enclosures must work in temperatures varying from -40°C to +60°C. Limited time coverage should be between 15 to 30 minutes.

Clarification: section 4.14:

The camera housing brackets must be replaced by the contractor.

Clarification: section 4.15:

The NEMA 4X enclosures which will be added/modified at the FTC and Cowansville, Port-Cartier and Joliette institutions must be monitored by an open/tamper sense switch at the MCCP post as required by ES/SPEC-0409. This alert must be displayed on the FAAS monitor. The proposed method is to use the TCP/IP to send the signal to the Omnicast software which will then send it in dry contact through the PIDS module. In addition to this work, the contractor may modify the FAAS through an authorized SENSTAR dealer.

Clarification: section 4.17:

The CAT6 cables installed in external conduits must be green in colour and built to withstand outdoor weather conditions. And, the electrical cables installed in external conduits must be built to withstand outdoor weather conditions.

Clarification: section 6.2:

In exceptional circumstances, the Joliette Institution uses two surveillance monitors attached to the PIDS. CSC wants to standardize the use of four monitors at this institution. At the project launch meeting, the contractor will have to discuss technical services and local security in order to propose possible ergonomics to allow for the enhancements.

Fibre optics and perimeter enclosures

All video camera signals are currently carried directly to the CER by coaxial cables. These coaxial cables are located in underground conduits along the perimeter. The contractor will be responsible for removing the existing coaxial and supply cables for the existing cameras.

Two new 24-strand fibre optic cables must run from the CER; new conduits will have to be installed to take these optic fibres outside Building F to the perimeter fence near the "exterior-7 exit." The cable installed in the clockwise direction must be attached to the top of the perimeter fence. The cable installed in the counter clockwise direction must first be installed on the outside wall of buildings E and F using conduits before attaching it along the top of the perimeter fence.

Distances of 500 metres and 100 metres will be required for the perimeter fence in the clockwise and counter-clockwise directions respectively. Conduits will be required to bury the cable going clockwise under a 15-metre wide barrier. The fibre must be installed inside the fence and must be attached using UV-resistant fasteners.

A total of 4 perimeter enclosures will have to be installed on this fence (see section 4.16 for the enclosure specifications). Each of these enclosures will have to contain enough fibres for future expansion. Install conduits between the perimeter enclosure and the camera enclosures.

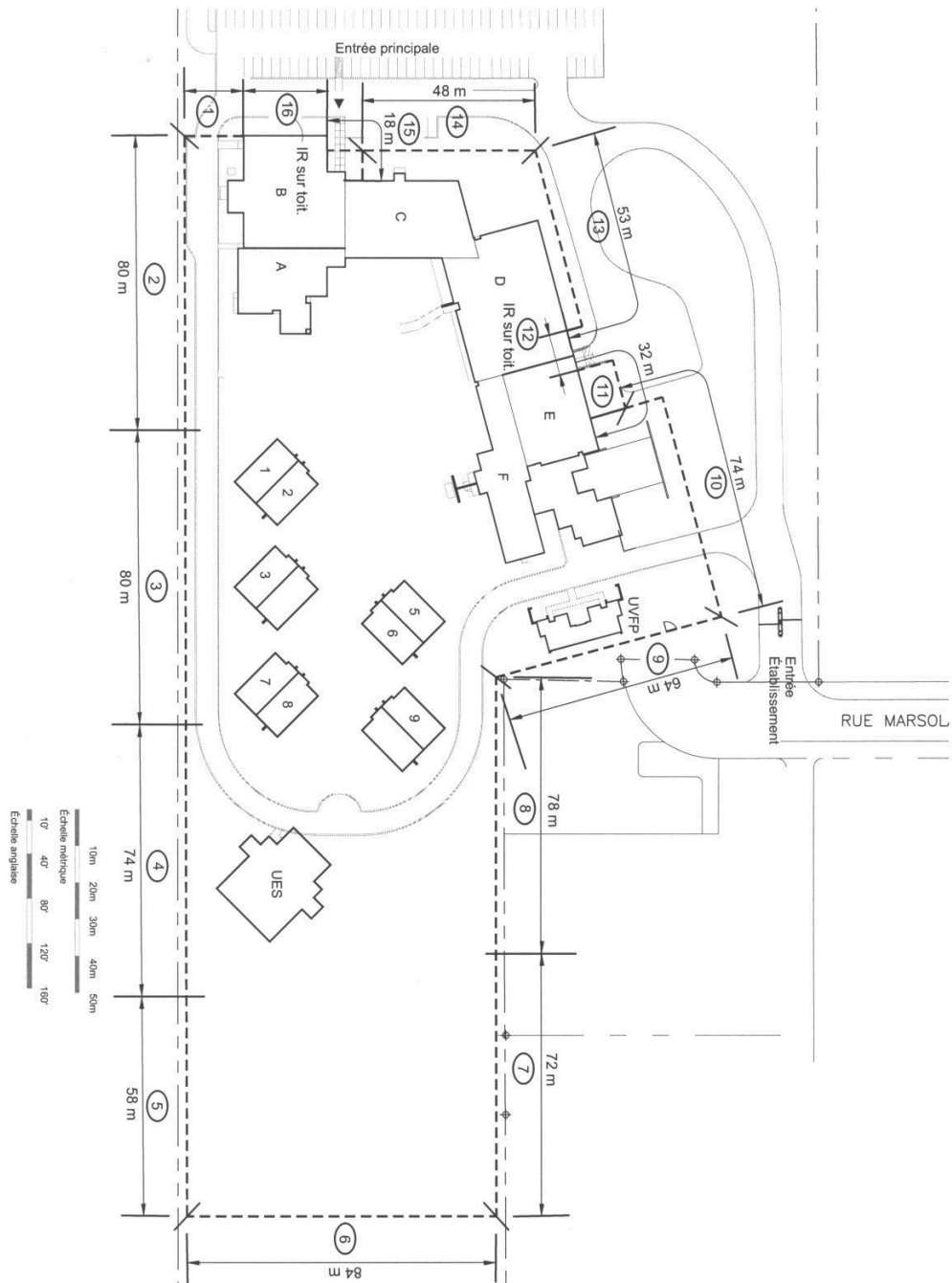
A total of ten (10) cameras will be connected to the new perimeter enclosures.

Eight (8) cameras will be installed on various buildings and their cabling will be inside the buildings:

- 4 cameras will be installed on Building B and will be located 150 metres from the CER;
- 1 camera will be installed on Building D and is located 50 metres from the CER;
- 3 cameras are installed on Building F and are 20 metres from the CER.

The drawings included in this package show the camera positions and the planned location of the cables and perimeter enclosures.

Power available 110 volts:



Attached is a drawing entitled *SCCG-3-043-E01.pdf* showing an installation project for two camera poles near sectors 3 and 8. The electrical rooms in residential buildings 4 and 10 show where the buried conduits run up to the camera poles. The path of these conduits was limited [? – Tr.] by the excavation work for future NEMA 4X enclosures to be attached to the perimeter fence in these sectors. The contractor will find circuit breaker panels in each of the mechanical/electrical rooms in these buildings. Local technical service teams will designate available circuits. Two more NEMA enclosures will be installed in sectors 10 and 13. The power supply will exit close to the outside wall of Building E. ...a recently excavated area leading to a new camera pole (junction of sectors 10 and 11) will be used to

attach the NEMA enclosure which will be installed in sector 10. The contractor will excavate a less than 15 m section to cover the entire distance required. In sector 13, the contractor will re-use existing buried conduits after removing the coaxial cables from this sector before installing the power supply cable. The circuit breakers will come from the electrical panels in the institution's CER room.

We attached two sketches (325 ft 1 of 2, 325 ft 2 of 2) showing the perimeter cameras and the desired locations for the NEMA enclosures.

Specific information on the CCTV system in the PIDS in place – Joliette Institution

Cameras

Camera: Panasonic, Model WV-BP550, quantity 18

Lens: Panasonic, Model 13VD2.8-12, Model 13VD5-50, quantity 18

Camera enclosures

Enclosure: Pelco, Models EH-5723-1 and EH-5722, quantity 18

Wiper interface: located in camera enclosures

Wiper relay power supplies: 12 V c.c.

Perimeter electronic equipment enclosures

None.

Perimeter electrical enclosures

None.

Fibre backbone

None.

Coaxial cable backbone

Video signals from all cameras transmitted to CER on a coaxial cable network. These cables are located in underground conduits along the perimeter.

Cabinet space

40 inches of vertical clearance – EIA standard 19 inch width in CER cabinets;

Clarification: section 6.4 (specifications for FTC institution only)

The ergonomics of the monitors in the M CCP posts will be maintained at this facility and will not require any additional/replacement materials. This site uses a 42-inch monitor split into squares to display the perimeter. The display ergonomics may be improved given that this institution will be required to display more than four cameras per sector.

Addendum network text; high level requirements description (with some rationale included?)

For the upgrade to the FTC CCTV system, CSC requires an upgraded network infrastructure capable of providing integrated support for multiple Electronic Security System (ESS) sub systems. Initially, for this deployment, this network infrastructure will support the Perimeter CCTV cameras, perimeter PA systems, internal door intercom systems (Administration building and tower 3), and specific door control (Administration building and tower 3). The system must be expandable to scale to support additions to any of these subsystems and/or addition of further ESS sub-systems within the institution as required in the future. This network infrastructure will provide an integrated, end-to-end "virtualized" architecture for the systems connected to it, using state of the art techniques for the network operation and configuration as described in sections below.

The new network switching infrastructure shall be sourced by one switch vendor with the ability to interface in a multi-vendor manner to other vendors equipment should future requirements deem this necessary.

CSC, ESS systems network traffic is predominantly streaming video from CCTV camera operation. The provided network infrastructure must be optimized for (H.264) multicast video operation for both cameras covered by this deployment and the addition of further cameras which may be added in the future; optimization including the perspectives of:

- simplicity and efficiency of protocols involved;
- efficient video streaming with required low latency, high bandwidth and network resiliency for predictable, always on connectivity;
- connectivity to the associated video management system (VMS), storage and viewing stations (NVUS).

The system shall be capable of supporting thousands of independent streams with sub-second recovery in the event of any failure, with no visible loss of data. The faster recovery is to maintain connectivity and avoid data or packet loss and minimize pixilation of video data.

The network infrastructure will provide an open system, multi-vendor capable, communication environment utilizing IEEE 802.1aq Shortest Path Bridging (SPB) to forward and control traffic between switches.

The new network switches to be provided will replace existing switches deployed for the support of the perimeter PA and CCTV cameras, Tower 3 and Administration building CCTV, intercom and door control system.

The contractor is responsible to ensure the new switching infrastructure is fully integrated into the FAAS and PIU alarm and display systems.

The network is to be built primarily from stackable 24-port switch devices, other than a 48 port switch required in the CER for the CCTV, intercom, PA and related systems connected within the administration building. The contractor is responsible for taking all steps to minimize the number of network equipment devices required to minimize sparing requirements.

All switches must include QoS (Quality of Service) and security management capabilities. Each switch must have the ability to classify, mark and prioritize traffic into a minimum of 2 strict priority queues, and 6 weighted round robin queues on every port, and maintain QoS across the virtual / stack backplane. Classification controls and ACL (Access Control List) strategies must include the ability to sort traffic based on: MAC Address, 802.1Q VLAN ID, IP Address, TCP/UDP Ports, CoS (Class of Service), ToS (Type of Service), and DSCP (Differentiated Services Code Point).

The network infrastructure will provide a layer 2 SPB VID (VLAN identification) environment in which each ESS subsystem has its own allocated VID to provide for secure traffic segregation for each sub system and thus ease of monitoring, troubleshooting and maintenance. Each VID will be logically separate from any other and thus allow multiple services and systems to operate independently on the same wired infrastructure.

For connectivity to the door control systems the network switches will provide an Ethernet interface to the PLC controller.

The network infrastructure shall be capable of supporting flexible topology configurations e.g. star, full or partial mesh or ring topology to allow for optimal use of additional data paths as these become available and thus provide extra resiliency and readiness for redundancy in network connectivity connections.

The upgraded network infrastructure will remove the need for NEMA-enclosed switches on the perimeter. For the mid perimeter cameras, the required solution is to utilize available Ethernet extension technology to connect 2 cameras (1 FDS, 1 MDS) to the nearest tower switch via an Ethernet extension switch device in each tower. The heating and wiper control power will be separately provided from with the NEMA enclosure.

Maintenance, Training and Certification

The contractor is responsible to ensure that CSC maintenance technicians receive training to be able to provide 1st level monitoring equipment.

In the event of any failure of equipment under this STR, including the network switching infrastructure, the contractor is responsible for immediate resolution for resumption of full system operation. This will include provision of a three year warranty including a response time to a service call of within 4 hours.

In order to facilitate this, the contractor will be required to ensure appropriate maintenance support agreements are in place with the switch vendor to provide immediate support in the event of equipment failure. The contractor will provide proof of the availability of certified maintenance support.

The electrical contractor is responsible to confirm that all network switches within the network infrastructure are mountable in 19" mounting rail racks, and that the switches do not exceed the depth of communication racks and cabinets.

The contractor is to supply network switches to meet the needs of all ESS network requirements.

Network switches shall be capable of device authentication, and include a management GUI interface for maintenance equipment.

Technical requirements:

- 350 W, 120 V power supply; POE switches are required to be able to concurrently deliver up to POE+ per port
- support up to 50 Ethernet ports (48 port version)
- software support for IPv4 and IPv6

Temperature range of operation: 0°C to 40°C

Operating humidity range: 0 to 95% relative humidity

Core network

The core network shall consist of a switch cluster, with a minimum of 2 switches acting as one logical switch, providing active-active switch operation and linkage capability to be located in the CER in the administration building. This switch cluster will provide high availability connectivity and performance utilizing active-active links to the edge switching equipment. Thus, if one unit becomes inoperable (maintenance update, equipment failure) bandwidth is dropped by a factor of 50%, but the 2nd unit maintains 100% of the connectivity requirement and maintains uninterrupted operation of the overall network.

Core Switches must include clustering capabilities, whereby the physical core switches can be logically combined to appear as a single L2 switch, from the perspective of any edge switch/switch stack, and from any multi-NIC equipped server or appliance. These 'virtual' links between the edge and the core cluster must be Active-Active (i.e. spanning tree, and other loop avoidance or hot-standby methods disabled), load sharing, and capable of scaling up to 8 physical interfaces, spread across a stack (or separate module slots in the event of a chassis based core switch), bound into a single virtual trunk. It is imperative that service outages normally associated with network disruption, such as the restart, module alteration, power outage, or software/firmware reload of a single core switch does not disrupt the flow of traffic through the entire virtual / clustered core.

This switch cluster will be made up of 19" rack mountable 1RU switches providing the capability to be configured with Layer 2 and layer 3 switching features.

The core switches and network infrastructure will support ease of provisioning via edge only device and service provisioning, providing ease of configuration at the edge devices automatically informing the network infrastructure of a

move, add or change and not require core configuration when changes to the network are required. The edge only provisioning will be capable of adding a new device to the associated VID.

For network access control and security, the network system will provide software for automatic edge device authentication to ensure edge devices are compatible devices for installation, manage device permissions and monitor the health of connected devices.

Each of the core-switch cluster switches will support a minimum of 1 Gbps wire speed.

Each switch must support end-to-end (system-wide) network infrastructure support for a flexible and robust, optimally high availability and reliable (Best in class mean time between failure) network (that is always on), with high throughput (1Gbp) and providing a lossless environment with lowest latency (<4ms) for an evolving, high performance CSC institution data center environment

Each switch must provide hot-swappable power supplies redundant fans.

Each switch shall be hot swappable such that any failed unit within the associated stacked switches can be replaced without impact to the rest of the network operation and when replaced the system will provide automated self-configuration such that the replaced switch assumes its prior configuration and operation without need for manual operator configuration.

The network architecture is required to support zero down time for maintenance to core switches allowing for the continuous operation of video surveillance and other connected ESS subsystems and services.

Edge network

The edge switches connected to the core switch cluster, will be Stackable 24 port network switches utilizing 802.1aq SPB allowing for ease of future expansion of the network infrastructure and the capability for multiple connections into different switches in the stack utilizing load balanced network paths to provide an extra level of resiliency within the network in case of any switch failure. This provides flexible scalability for connectivity of future subsystems and equipment.

The edge switches will provide:

- L2/L3 switching
- 10/100/1000 Mbps switching
- 1GBps SFP+ uplinks (with migration option for 10Gb future uplinks) resilient, always on connectivity
- Wire-speed performance and non-blocking throughput to support a variety of applications including requirements for low latency, high bandwidth, reliable video surveillance
- Field replaceable redundant power supplies for increased resilience
- maximum POE wattage to support CCTV surveillance cameras deployed with capacity for further additions; must be able to concurrently deliver up to POE+ per port
- Flexibly support for IEE 802.3af POE and IEEE 802.3at POE+ devices per port, optimized for video surveillance (including PTZ devices, HD)
- Provide one-touch edge provisioning for edge devices with any move, add or change communicated automatically throughout the network infrastructure
- capability (via stackable functionality) to add further network capacity as required without impacting current operational switching
- support for independent switch handling extended Ethernet reach to cameras in the mid-perimeter (two cameras extended to each tower)
- Support IEEE 802.1aq SPB
- Advanced QOS and prioritization

- Network access control (NAC) via device authentication software and IEEE 802.1x Port-based NAC
- Support for both IPv4 and IPv6 management addresses

The Edge switches shall provide for edge-provisioning, automatically informing the rest of the network of the change/addition, eliminating the need for manual configuration of the core switches when changes are made.

Perimeter Cabling: To provide for for this active-active dual-path connectivity to CER CORE

Internal cabling e.g. to admin building door intercom is Cat 6

Add OM fibre cable to allow independent, bidirectional active-active link connectivity to each tower edge switch. This significantly removes single points of failure and dependencies of network on any individual switch or link.

Clarification: Appendixes B and C

The total number of cameras for Joliette as indicated in appendixes B and C must be 18 (+ C25 project).

END OF ADDENDUM