Correctional Service Canada
Facilities Branch
Electronics Security Systems

4 March 2015

STATEMENT OF TECHNICAL REQUIREMENTS

FOR A

MCCP CONSOLE UPGRADE & RECONFIGURATION

AT

MISSION INSTITUTION

AUTHORITY

This Statement of Technical Requirements is approved by the Correctional Service of Canada for the upgrade and reconfiguration of the MCCP Console at Mission Institution.

Recommended corrections, additions or deletions should be addressed to the Design Authority at the following address:

Director, Electronic Security Systems
Correctional Service of Canada
340 Laurier Avenue West,
Ottawa, Ontario
K1A 0P9

Prepared by:

Edwin Morton
Electronic Security Systems and Installation Engineer

Reviewed by:

Chief, Electronic Security Systems Maintenance
Electronic Security Systems

Approved by:

Director,
Electronic Security Systems

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Abbreviation	Expansion
API	Application Program Interface
ATP	Acceptance Test Procedure
BIFMA	Business & Industrial Furniture Manufacturers Association
BIX	Building Industry Cross-connect
BNC	Bayonet Neill Concelman
CA	Contract Authority
CCDA	Command Control Data Acquisition
CCTV	Closed Circuit Television
CD	Commissioner's Directive
CER	Common Equipment Room
CESM	Chief, Electronics System Maintenance
COTS	Commercial-Off-The- Shelf
CSA	Canadian Standards Association
CSC	Correctional Service Canada
DA	Design Authority
DCMS	Door Control and Monitoring System
DES	Director Engineering Services
EIA	Electronic Industries Association
FAAS	Facility Alarm Annunciation System
FAR	False Alarm Rate
FDS	Fence Disturbance Detection System
FIU	FAAS Interface Unit
GFE	Government Furnished Equipment
HVAC	Heating, Ventilation and Air Conditioning
IMS	Information Management Services
IP	Internet Protocol
IVRMS	Inmate Voice Recording and Management System
KVM	Keyboard Video Mouse
LCD	Liquid Crystal Display
LTU	Large Transponder Unit
MCCP	Main Communications and Control Post
MDS	Motion Detection System
MPIU	Monitoring Post Interface Unit
MTBF	Mean Time Between Failure
MTTR	Mean Time To Repair
NAR	Nuisance Alarm Rate
NTP	Network Time Protocol
NVUS	Network Video Unit System
OMS	Offender Management System
PA	Public Address
PC	Personal Computer
Pd	Probability of Detection

Abbreviation	Expansion
PFV	Private Family Visits
PIDS	Perimeter Intrusion Detection System
PIDTS	Perimeter Intrusion Detection Radar Tracking System
PIU	Perimeter Intrusion Detection System Integration Unit
PLC	Programmable Logic Controller
PPA	Portable Personal Alarm
PPAL	Portable Personal Alarm Locatable
PTT	Push to Talk
PTZ	Pan/Tilt/Zoom
RATS	Regional Administrator Technical Services
REPO	Regional Electronics Program Officer
RFP	Request For Proposal
SAT	Site Acceptance Test
SCC	Security Control Centre
SIDS	Supplementary Intrusion Detection System
SIO	Security Intelligence Officer
SOW	Statement of Work
STR	Statement of Technical Requirements
TCP/IP	Transport Control Protocol/Internet Protocol
TER	Telecommunications Equipment Room
UI	User Interface
USB	Universal Serial Bus
UPS	Uninterruptible Power Supply
V&C	Visits and Correspondence
VCR	Video Cassette Recorder
VDU	Video Display Unit
VESA	Video Standards Equipment Association
VGA	Video Graphics Array
VIRS	Visits Intercept and Recording System
VMS	Video Management System

TABLE OF DEFINITIONS

#	Term	Example(s)	Description	Function
1	Administrative User Interface		Monitor and Software that supports task specific User Interaction for System Administrators, located in a secure area	Provides administrative personnel with the ability to map enrolled users to the functional domains that they are allowed to access and change
2	Application	Cell Call Management, PA Management	Software that is used to deliver Application Support functionality for a sub-system	Software that provides the Operator Interface and supporting logic that allows a sub-system (Control Domain) to be managed
3	CCTV Monitor	PIDS or Range CCTV Monitor	Computer Monitor Hardware	Displays CCTV images for Operator viewing
4	Client		Rack mounted computer located in a secure area away from a Control Post or Control Desk.	Runs software and supports one or more Application
5	Configuration Data	Site floor plans showing quantity of cameras, doors, cells etc. Camera locations. Number of User Interfaces required in a Post.	Site and System specific information typically supplied by CSC that defines how a sub-system application is to be set-up for a site, location within a site, or post.	The configuration data provides the information that a sub-system application requires to tailor it to meet site, location within a site, or post user requirements.
6	Configuration User Interface		Monitor and software that supports task specific user interaction, located in a secure area	Allows suppliers or qualified personnel to add, delete and modify application configuration
7	Contract Authority		Public Works and Government Services Canada (PW&GSC) is responsible for all contractual matters associated with the system design and implementation.	
8	Contractor		The company selected as the successful bidder.	
9	Control Console	MCCP Console, Living Unit Control Post Console	Console, typically located in a Control Post. Serves as the physical support infrastructure for Operator User Interfaces	Contains User Interfaces or Control Panels used by staff to execute their management responsibilities and interact with the domains over which they have control

TABLE OF DEFINITIONS

#	Term	Example(s)	Description	Function
10	Control Desk	Living Unit Control Desk	Desk, typically located in a Control Post or Office. Serves as the physical support infrastructure for Operator User Interfaces	Equipped with user interfaces used by staff to execute their management responsibilities and interact with the domains over which they have control
11	Control Domain	Cell Call, Guard Tour, Public Address	A group of physical and virtual devices or objects, often supported by specialized hardware and software, that performs a set of related functions	Collect information, or activate capabilities in their operational domain
12	Control Panel	PACP, Fire Alarm	Hardware and software device that provides an Operator Interface (I/O device), located in a Control Post	Allows Operators to manage one or more domain
13	Control Post	Living Unit Control Post/MCCP	Room or area, typically located in a secure area in an institution	Room used by staff to execute their management responsibilities and interact with the domains over which they have control
14	Custom Equipment		Equipment designed and/or manufactured specifically for a specific contract.	
15	Design Authority		Director, Electronic Security Systems (DES) Correctional Service of Canada (CSC) is responsible for all technical aspects of the system design and implementation.	
16	Edge Device	CCTV Camera, Managed Door, Call Origination Device	A specialized device, typically consisting of hardware and software	Provides data collection or activate functions associated with a specific system or sub-system
17	Enrolment User Interface		Monitor and software that supports task specific User Interaction, located in a secure area	Allows designated personnel to enroll and delete users from the Command, Control and Data Acquisition System.
18	Maintenance User Interface		Monitor and software that supports task specific User Interaction, located in the CER or Maintenance Service Provider Office	Provides maintenance personnel with the ability to interact with one or more systems to carry out their day to day tasks to troubleshoot and maintain systems and subsystems

TABLE OF DEFINITIONS

#	Term	Example(s)	Description	Function
19	Notification	Notification that a door is opened, or a door is closed, or a sensor is in alarm	A notification is a message that can be shown on a User Interface and/or logged in a database that represents a change in state or a command initiated by an operator.	
20	Off-the Shelf		Equipment currently on the market with available field reliability data, manuals, engineering drawings and parts price list.	
21	Operator User Interface	PIDS Display, Door Control and Monitoring System Display	Computer monitor and software that supports User Interaction (I/O device)	Provides an Operator with the ability to interact with one or more systems to carry out their day to day tasks at a Control Console or Control Desk
22	Project Officer		A CSC employee or a contracted person designated by DES to be responsible for the implementation of the project.	
23	Reporting User Interface		Monitor and software that supports task specific user interaction, located in a secure area	Provides management personnel with the ability to access preconfigured reports and to create custom reports
24	Server	Network Video Recorder	Rack mounted computer that runs software and is located in an equipment room such as a CER or TER	Runs software that is used to deliver services that support command and control applications to connect to sub-systems
25	State		The state of a device as reported to a sub-system or system	This is a logical representation of the state of a device that is being monitored or managed
26	Sub-system	Cell Call, Guard Tour	A group of physical and virtual devices or objects, often supported by specialized hardware and software, that perform a specific set of related functions	Collects information, or activates capabilities in their operational domain
27	System	PIDS	A group of physical and virtual devices or objects, often supported by specialized hardware and software, including devices from sub-systems that perform a more general set of related functions	Collects information, or activates capabilities in their operational domain

TABLE OF DEFINITIONS

#	Term	Example(s)	Description	Function
28	Touch Screen User Interface	Door Control and Monitoring System User Interface	Typically an LCD Monitor with touch screen technology	Allows an Operator to view and interact with the systems presented on the monitor
29	Workstation		Rack mounted computer located in a secure area away from a Control Post or Control Desk	Runs software that is used to deliver command and control capabilities

1.0 INTRODUCTION

1.1 General

Correctional Service Canada (CSC) has a requirement to replace and upgrade the Main Communications and Control Post (MCCP) console at Mission Institution in the Pacific Region. This Statement of Technical Requirements (STR) will cover the requirements for the work.

1.2 Scope of Work

CSC has a requirement to address operational, technical, and environmental limitations associated with the existing User Interfaces (UI) and supporting equipment in the MCCP at Mission Institution.

Over time, the core Perimeter Intrusion Detection System, Facility Alarm Annunciation System, Radio Management and Telephone sets have been upgraded by additional user interfaces, monitors and controllers as new systems have been installed at the institution. The equipment installed in the MCCP includes but is not limited to:

- Perimeter Intrusion Detection System (PIDS) UI
- Facility Alarm Annunciation System (FAAS) UI
- Motorola® Radio System UI
- Closed Circuit Television (CCTV) Monitors
- Public Address (PA) Control Panel(s)
- Thermal Camera System UI
- Door Control & Intercom User Interfaces
- IMS Workstation
- Fire Alarm System User Interface.

The existing MCCP console and the space above and surrounding the console have become cluttered and the working environment has become ergonomically challenging for operators. This could potentially result in sub-optimal operational performance under normal operating conditions and impact the ability of an operator to manage a security situation.

In addition to the equipment and user interfaces, there are a number of items of equipment, such as computers, transponder units, cross-connect panels, housed in the existing MCCP console bays that need to be relocated to the CER.

This project is intended to replace and upgrade the existing MCCP Console and to relocate, upgrade, or replace select MCCP security electronics at this Institution. Mission Institution is a medium-security facility located in Mission, British Columbia.

1.2.1 Objective

At the completion of the project, the MCCP will be equipped with an ergonomically correct low profile console including reconfigured and upgraded user interface equipment. All security electronics not required by the MCCP operator will have been relocated to the CER.

1.3 Requirement/Purpose

This STR supports the procurement and installation of Electronic Security Systems and equipment to be installed in CSC facilities. The STR provides prospective suppliers with sufficient information that they can define the scope of the system architecture, equipment, installation, testing, acceptance, training and handover steps required to deliver a fully functioning and upgraded MCCP Console.

This STR defines the general and site specific technical requirements and the scope of the work required to replace the MCCP console and associated security electronics that are reaching the end of their service life. This work must be accomplished with minimum disruption to the daily operation and security of Mission Institution.

This STR also indicates the extent to which both general and particular CSC specifications are applicable to the implementation of this requirement. Bidders must comply with the STR and the listed specifications and standards unless specifically identified in this STR. The STR takes precedence over the subordinate documents such as a Statement of Work, a Specification or a Standard.

1.4 Description of Existing MCCP

The MCCP at Mission Institution is currently equipped with a five (5)-bay console assembled in a “bay-45°wedge-bay-bay-bay-45°wedge-bay” configuration. A 381mm (15”) wide writing surface spans the length of the console. The console is supplemented by a single standalone floor model cabinet behind the Operator. All console bays are 19” EIA standard units. The cabinet and console bays are numbered on-site according to the numbering scheme detailed in Figure No. 1.

A description of the existing security electronics installed in the MCCP cabinet and console bays, as numbered in Figure No.1, is provided in the following sections. CSC will provide prospective Bidders with a series of detailed and annotated photographs of the MCCP and the MCCP Console Showing currently installed racks, console bays and equipment layout at the Mandatory Site Visit/Bidders Conference that will be held following the posting of this project.

The MCCP is equipped with recessed fluorescent lights and a non-functional surface track light located immediately above and around the console area. All lights are controlled by switches located immediately inside the MCCP entrance door.

Typically, any upgrades required for the MCCP HVAC and lighting will be handled by the Institution. Bidders must review any potential HVAC upgrade requirements at the Mandatory Site Visit for Bidders. The contractor must coordinate security installation activities with the site to avoid congestion on the part of the contractor in the MCCP and ensure that all work is completed in its proper sequence.

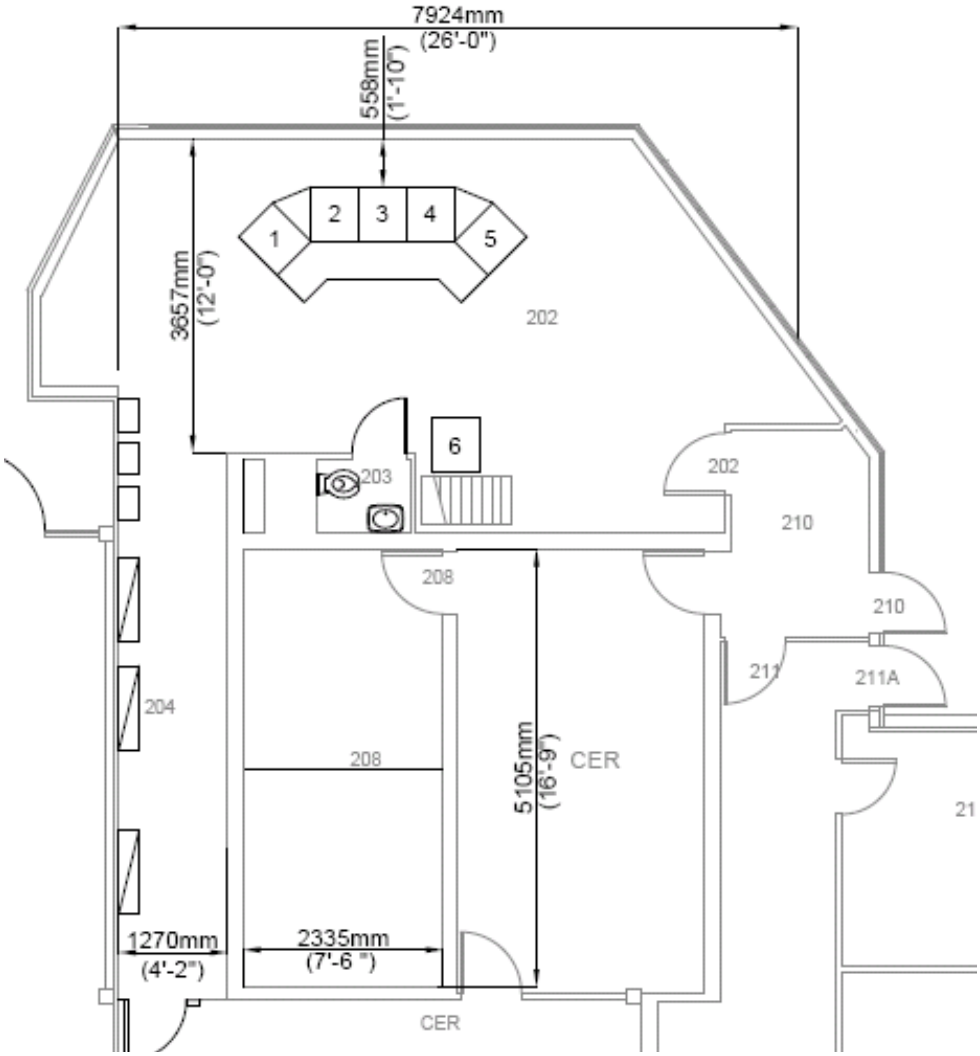

Figure No. 1: Existing MCCP Console Bays/Cabinets Layout

1.5 Network CCTV System

The MCCP is equipped with seven (7) large ceiling mounted Genetec Omnicast® video monitors of which four (4) are designated for non-PIDS usage. In addition, there are two (2) small rack mounted monitors in Console Bay #1.

The Operator uses a Pelco® keyboard/joystick to select and control PTZ cameras. The Pelco® unit is integrated into Genetec Omnicast® using an Axis® video encoder.

Each monitor is connected to its associated NVUS using a CAT VGA extender. A 24 port CAT6 patch panel rack mounted in the rear of Console Bay #1 is used as a termination point for each of the extender CAT6 cables. In addition, the Axis® video encoder is patched into the same CAT6 patch panel.

1.6 Information Management Services (IMS) Workstation

A 17" administrative monitor, keyboard, and mouse are mounted on the existing console desktop. The associated system unit is shelf mounted in the front of Console Bay #5 below the desktop.

1.7 PIDS CCTV System

Two (2) Genetec Omnicast®workstations located in MCCP Console Bay #1 (below desktop level) provide PIDS CCTV camera viewing and switching using four (4) large video monitors ceiling mounted in the MCCP.

1.8 PIDS/FAAS Integration Unit (PIU/FIU)

1.8.1 PIDS/FAAS Touch Screens

The existing PIDS and FAAS Operator User Interface touch screens are located in Console Bays #3 and #4 respectively in Figure No.1. Their associated speakers are fastened to a metal bar in the rear of the console.

1.8.2 Senstar 100® Maintenance Station

A Senstar 100® PIDS maintenance monitor and rack mount keyboard are installed in Cabinet #6. This monitor is used by maintenance staff to perform system PIDS/FAAS system maintenance and by CSC trainers to simulate PIDS/FAAS alarms.

1.8.3 Senstar ®PIDS PA/FDS Audio Panel

A 2RU PIDS PA/FDS Audio Panel is rack mounted in Console Bay #2. A handheld PTT PIDS PA microphone is connected to the front of the panel and is clipped to the face of the console. The PIDS PA microphone is connected to the panel. The panel is in turn connected to a PA switcher located in the CER.

The FDS Audio portion of the panel is equipped with five (5) buttons: ALL, ALL MASK, ALL SECURE, OFF, & SECTOR. Depending on which button is active, the audio from the selected FDS zone(s) will be sent to the FDS speaker (located in the rear of Console Bay #6). In addition, there is an FDS volume potentiometer, which is used by the operator to raise and lower the audio signal level at the FDS speaker.

1.8.4 Senstar Sennet® Large Transponder Units

Two (2) Sennet® Large Transponder Units (LTUs) are lrack mounted in the rear of the MCCP Console. The LTUs (128 x 128 I/O) are connected to Sennet® Network Controller SN1, which is located in the CER.

Each LTU is equipped with two (2) 64 relay I/O cards. The relay cards are connected to input and output cable assemblies that are terminated with BIX and DIN mounted screw-type terminal blocks to collect and distribute contact closures.

Card #1 of the top LTU has a cable termination assembly connected to input connectors J1 & J2 and output connectors J3 & J4. Card #2 of the top LTU has a cable termination assembly connected to input connectors J1 & J2 and output connector J3.
Card #1 and Card #2 of the lower LTU each have a cable termination assembly connected to input connectors J1 & J2. There are no outputs connected to the lower LTU.

1.9 Motorola® Radio System

The existing Motorola® system utilizes a 17" touch screen rack mounted in Console Bay #2 to provide operator channel controls. The system is equipped with a desktop gooseneck PTT microphone.

Two (2) independent (SELECT and UNSELECT) speakers (with integral volume control) are installed on top of Console Bay #2.

A desk mounted connector that can be used to connect a hand held Motorola® radio antenna socket to the main antenna in the event of a power failure is installed in Console Bay #1.

The following Motorola® equipment is installed in the rear of Console Bay #5:

- A Motorola® Device/Network Switch complete with 48VDC Power Supply.
- A Belkin VGA extender
- A touch screen USB extender

1.10 Public Address System

A 2RU Public Address Panel is rack mounted in Console Bay #2 immediately below the desktop. The panel is equipped with zone selection buttons and an XLR microphone jack. A handheld PTT microphone is connected to the XLR jack and clipped to the face of the console.

1.11 Door Control & Intercom System

A 3RU custom intercom panel is rack mounted in Console Bay #1. The panel is equipped with buttons for door controls and selecting remote intercom locations (50% of the buttons are not used). Camera views of the selected door locations are displayed on the two (2) monitors located in Console Bay #1.

1.12 Secondary Fire Alarm System

A 17" monitor and work station are rack mounted in Cabinet #6 to support secondary fire alarm annunciation. A keyboard and mouse are installed on top of the workstation.

1.13 Telephone System

The MCCP is equipped with two (2) telephones; one is a Mitel SuperConsole handset used to direct dial select locations within the facility. There are three (3) PFV handsets located on top of the MCCP console.

1.14 Thermal Camera System

A 24” video monitor, keyboard, and mouse are located on top of Console Bay #5. The keyboard, monitor, and mouse are connected to a workstation located in Console Bay #6 via a KVM CAT extender. The CAT cable associated with the Thermal Cameras System KVM extender is patched into the rack mounted 24 port CAT6 patch panel located in the rear of Console Bay #1.

1.15 Technical Acceptability

CSC operational environment is unique for its diversity of locations, climate exposures and the physical restrictive construction techniques of penal institutions. Maintaining national security, the safety of staff and offenders alike is CSC's commitment to the government and public. Electronic security systems operating in this unique environment must maintain very high standards of dependability and reliability.

CSC Facilities Branch has established Statements of Work (SOW), technical specifications and standards for electronic security electronic systems, which are based on very specific, and restrictive operational performance criteria. Technical acceptability of these systems means that the systems equipment and components comply with the pertinent CSC SOW, specifications and standards.

2.0 APPLICABLE DOCUMENTS

2.1 Applicability

The provisions contained in the documents listed in the following paragraphs must apply to all aspects of this requirement, unless these provisions have been exempted or modified by this STR.

2.2 Applicable Standards and Specifications

ES/SOW-0101	Statement of Work for Electronic Systems for the Correctional Service of Canada Institutions
ES/SOW-0102	Statement of Work for Quality Control for the Installation of Electronic Security Systems in Federal Correctional Institutions
ES/SOW-0110	Statement of Work for Structured Cable Systems for Electronic Security Installations for the Correctional Service of Canada Institutions
EIA-310-C	Electronic Industry Association Standard for Racks, Panels and Associated Equipment
ES/SPEC-0006	Electronics Engineering Specification – Conduit, Space and Power Requirements for Security Systems for use in Federal Correctional Institutions
ES/STD-0228	Electronics Engineering Standard – Network Video User Station
ES/STD-0227	Electronics Engineering Standard – LCD Colour Computer Monitor

3.0 REQUIREMENTS

3.1 New MCCP Console

The contractor must supply and install a new MCCP console in accordance with the CSC Specifications, Statements of Work, and Standards noted in Section 2.2 of this STR.

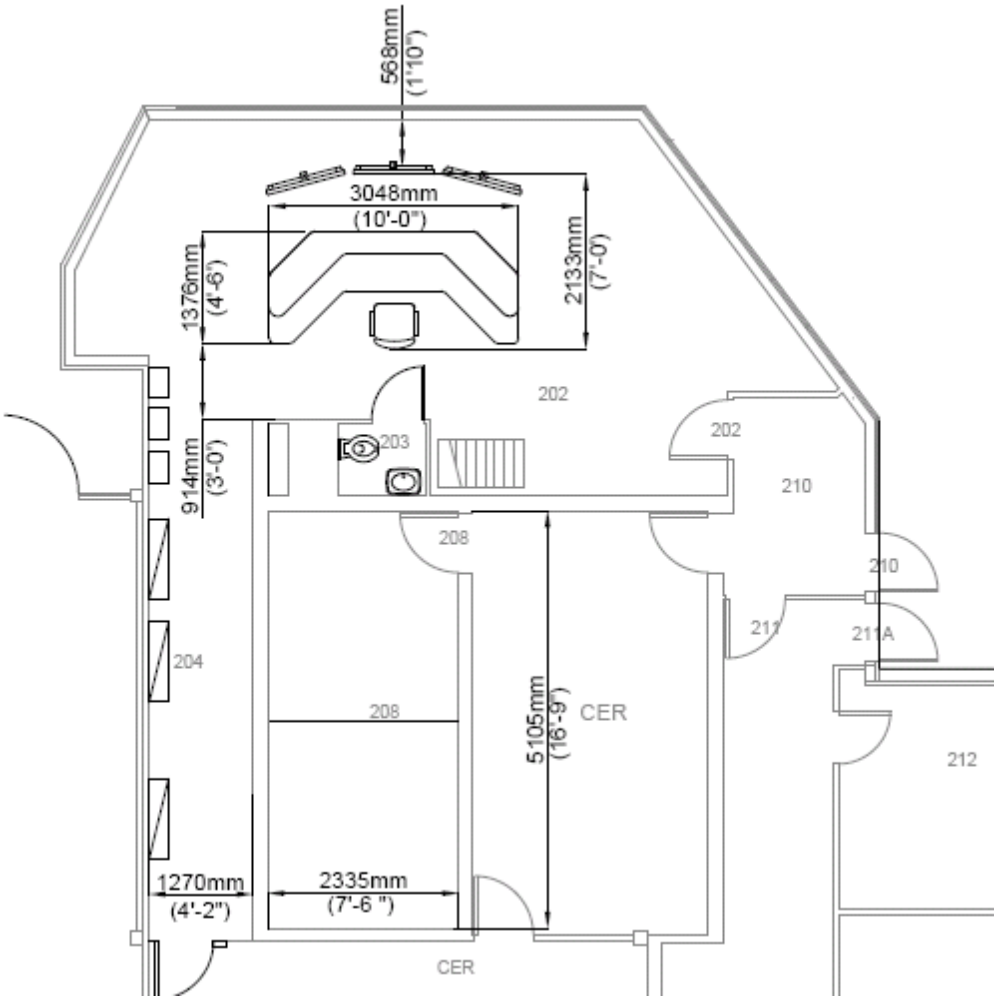

Figure No. 2: New MCCP Console Location

The new MCCP console must be based upon a flattened U-shaped desktop configuration with a maximum footprint of 3048 mm (10') long by 1376 mm (4'6"') wide as shown in Figure No.2. The console is designed to support one (1) operator in normal operations or a second operator on an emergency basis. The desktop is divided into six (6) user interface stations and has an arrangement of video monitor displays mounted to the rear of the desktop at a maximum distance of 2133 mm (7') from the Operator. A user interface station is defined as either a 22" video monitor (16:9 aspect ratio). The video monitor arrangement at the rear of the desktop consists of four (4) 22" video monitors arranged in a 2x2 monitor configuration flanked on each side by a 42" video monitor as shown in Figure 3.

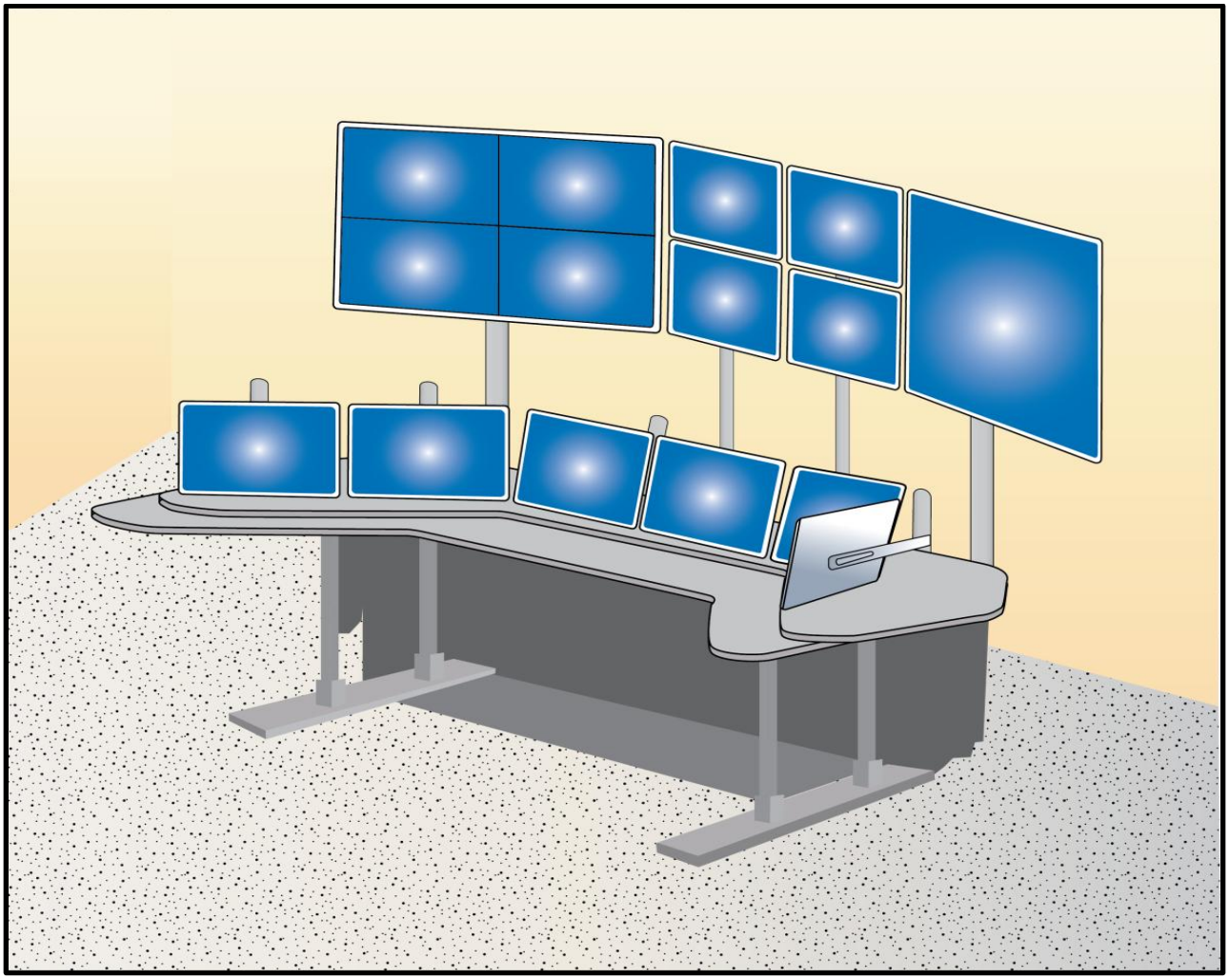

Figure No. 3: Conceptual drawing of updated MCCP Console

The six (6) desktop user interface user stations at Mission Institution must be configured as follows:

1) IMS Workstation (22" Touch screen supplied under this project)
2) Motorola Radio Touch screen (22"' Touch screen unit supplied under this project)
3) PIDS Touch screen (22" Touch screen supplied under this project)
4) FAAS Touch screen (22" Touch screen supplied under this project)
5) Video Management System (VMS) monitor (22" unit being supplied under this project)
6) Aggregator Monitor (door & gate controls, intercom paging system, FDS Audio Controls, miscellaneous monitoring/control using new 22" Touch screen supplied under this project))

Notes:

1) The final position of each Operator-User Interface Monitor is subject to change based upon further design review and will be confirmed following the provision of the Preliminary Design Report
2) The VMS monitor will provide the operator with a camera tree for selecting views and posting them to an available monitor/viewing pane.
3) The function of the "Aggregator" is to collect together one or more control User Interfaces that have typically been deployed using diverse new and legacy systems/technologies and develop the application and appropriate interfaces to allow the "Aggregator" to manage these disparate sub-systems.

3.2 Scope of Work

In order to obtain the configuration shown in Figure No. 3, the Contractor must modify the existing security sub-systems and supply any new hardware, software, cabling, installation, testing, training and documentation as detailed in Section 3 of this STR.

3.3 General Requirements

The Contractor must:

a. Carry out a review and analysis of the existing MCCP Console and its associate electronic security sub-systems, including all components not being replaced under this contract.
b. Review the CSC standards and documents noted in Section 2.2 of the STR and incorporate them into the system and implementation.
c. Design, supply, assemble, and install a MCCP Console (complete with operator chair and durable protective mat for the floor area) as noted in the STR and related documentation.
d. Design, supply and install new ceiling tiles consistent with the design of the Control Post.
e. Supply and install new computer flooring (similar to existing) as required.
f. Conduct pre-testing on all existing MCCP electronics prior to commencing with any cutover work.
g. Provide a cutover plan that clearly identifies all systems that will be affected, the timing, duration and associated risks. In addition, a back out plan and a description of the capabilities that will be unavailable to CSC operational personnel for the duration of the cutover must also be provided.
h. Modify, upgrade, relocate, or decommission existing security electronics as noted in this STR.
i. Appropriately package, clearly label and deliver all decommissioned equipment to ADGA.

j. Use existing copper cables wherever possible. Potential bidders must familiarize themselves with the existing cabling during the mandatory site visit. If the existing cabling is not of sufficient length, provide additional hardware/materials and copper cabling as required.
k. Provide operational training to Correctional Staff and maintenance training for the Electronic Security Systems maintenance technicians that are provided by the National Maintenance Service Provider.
l. Provide one year of full warranty support of the MCCP Console Upgrade, once it has been accepted by CSC. This support must include troubleshooting, the correction of any deficiencies and the resolution of operational or technical problems.

3.4 Network CCTV System

The Contractor must:

a. Decommission the three (3) existing ceiling mounted video monitors and two (2) monitors rack mounted in Console Bay #1. Supply and install two (2) 42" video monitors to the rear of the console and one 22" video monitor for the desktop. The two (2) 42" video monitors must be located as illustrated in Figure No. 3. These monitors must be mounted in accordance with CSC Standard ES/STD-0801.
b. The desktop 22" monitor must be mounted to an available VESA mount provided by the contractor with the MCCP console. This monitor must be configured to allow the operator to manage the camera configuration/selection to select available cameras and camera/monitor layouts.
c. Program selectable camera/monitor layouts associated with the Genetec Omnicast® VMS to replace the fields of view and tile layouts that were available on the removed video monitors.

3.5 PIDS CCTV System

The Contractor must:

a. Decommission the four (4) existing 15" PIDS CCTV video monitors. Supply and install four (4) 22" video monitors arranged in a 2x2 monitor configuration mounted above and behind the MCCP console as shown in Figure No. 3.
b. Relocate the existing two PIDS CCTV Genetec Omnicast® workstations (NVUS 3 and 4) to the CER and extend the video signals to the new monitor location.

3.6 PIDS/FAAS Integration Unit (PIU/FIU)

3.6.1 PIDS/FAAS Touch Screens

The Contractor must:

a. Decommission the existing PIDS and FAAS touch screens.
b. Supply and install two (2) new S100 compatible 22" capacitive touch screens on articulating VESA mounts. Align the new PIDS and FAAS touch screens using the existing Senstar 100® maintenance feature and install at the locations detailed in Figure No. 3. Elo Accutouch®, Elo SmartSet®, and Elo IntelliTouch® are the serial touch screen protocols supported by Senstar 100®. In the event that a

capacitive compatible touch screen is not available, the Contractor must clearly identify the touch screen technology being proposed in the Preliminary Design Report. The touch screens must be equipped with integral speakers compatible with the existing Senstar 100® computer speaker outputs.

3.6.2 Senstar 100® Maintenance Station

The Contractor must:

a. Supply and install in a location within the MCCP designated by the Design Authority a wall mounted fold out desktop unit that will be used by CSC trainers for setting up a Senstar 100® alarm simulation monitor and keyboard.
b. Supply and install a VGA and keyboard jack inside the foldout desktop unit.
c. Supply and install a 22” desktop maintenance monitor and keyboard for deployment and use by CSC trainers as required.

3.6.3 Senstar® PIDS PA/FDS Audio Panel

The Contractor must:

a. Decommission the existing 2RU PIDS PA/FDS Audio Panel.
b. Supply and install an Aggregator Display consisting of a 22" touch screen monitor (installed on a contractor supplied VESA desktop mount), an industrial rack mount computer installed in the CER, and software configurable I/O. Program soft keys on the aggregator display to provide the FDS Audio controls (OFF, SECTOR, ALL, ALL MASK, and ALL SECURE) previously provided by the removed FDS Audio Panel. Make use of existing available LTU I/O and/or new configurable I/O to fully implement all FDS audio controls.
c. Supply and install a female XLR bulkhead connector at a location on or immediately below the new console desktop (location subject to Design Authority approval) and connect it directly to the PIDS PA switcher microphone input located in the CER. Connect the existing microphone (equipped with a male XLR plug) to the mating female XLR bulkhead connector..
d. Replace the existing FDS volume control potentiometer and speaker with a desk top speaker equipped with an integral volume control potentiometer.

3.6.5 Senstar Sennet® Large Transponder Units

The Contractor must:

a. Supply and install in the CER new LTU I/O cable/terminal block assemblies to replace all existing BIX terminal block cable assemblies.
b. Pre-install and configure (termination jumpers and address) two (2) spare LTUs provided by CSC from the regional inventory in order to limit downtime.
c. Deliver the removed LTUs to CSC/ADGA at the time of their removal.
d. Within the existing Senstar 100® database, configure and program the two (2) spare LTUs prior to commencing with any LTU I/O cable cutovers.

e. Program redundant input points, logically OR'd with the inputs programmed on the existing LTUs prior to cutting over any existing input cables.
f. Test all input and output (I/O) points at the completion of the LTU I/O cutover prior to deprogramming the original LTU I/O points from the Senstar 100® site creation database .
g. Disconnect Input/Output cables that are of sufficient length from their current BIX terminal block termination position and reroute to the new termination blocks in the CER.
h. Extend Input/Output cables that are too short to reach the new CER termination blocks using a secured junction box located at a suitable and accessible location below the MCCP computer flooring.
i. Install each I/O cable entering and exiting the junction box with strain relief and label in accordance with CSC Standards.
j. Clearly label the exterior of the junction box to identify the inner contents.

3.7 Motorola® Radio System

The Contractor must:

a. Upgrade the existing Motorola® touch screen monitor to a 22" unit and install it at the location detailed in 3.1
b. Relocate the two (2) existing speakers (SELECT and UNSELECT) to the new desktop immediately to the left and right of the new radio system touch screen monitor.
c. Relocate the existing Motorola® Device/Network Switch to a contractor supplied shelf installed in available CER equipment cabinet space. Reconnect the existing extenders to re-establish connections with the new touch screen monitor location.
d. Reinstall the existing PTT microphones (desktop and pedal) in close proximity to the new touch screen monitor location. In the event that any of the existing cables are too short, the Contractor must supply and install new cables. Any new cables must be installed and terminated prior to relocating the radio system equipment.
e. Reinstall the desk mounted connector that can be used to connect a hand held Motorola® radio antenna socket to the main antenna in the event of a power failure adjacent to the Motorola® Radio System location.

3.8 Public Address System

The Contractor must:

a. Decommission the existing 2RU custom Public Address Control Panel and microphone and replace with software on the Aggregator Monitor.
b. Relocate the existing PA amplifier to the CER.

3.9 Door Intercom System

The Contractor must:

a. Decommission the existing 3RU custom intercom panel and replace with software on the Aggregator Monitor.

3.10 Information Management Services (IMS) Workstation

a. The existing administrative monitor and computer are supplied and maintained by IMS. The Contractor must install this computer on a Contractor supplied shelf below the desktop in close proximity to the monitor. The shelf and (location of the shelf is subject to Design Authority approval). CSC will arrange to have the existing monitor upgraded to a 22" VESA unit and fastened to the contractor provided mounting hardware at the location shown in Figure No. 2. The Contractor must coordinate this work with CSC to ensure that is completed in concert with the overall project schedule.

3.11 Telephone System

The Contractor must:

a. Relocate the two (2) existing telephones and their telephone jacks to the new console desktop. Should the existing cable be of insufficient length to reach the new console, a telephone splice jack may be installed under the existing flooring. The junction box must be clearly labelled and all cabling must be dressed and equipped with strain relief in accordance with CSC Specifications.

3.12 Thermal Camera System

The Contractor must:

a. Install the Thermal Camera System software on the Aggregator Monitor User Interface.

3.13 Secondary Fire Alarm System

The Contractor must:

a. Supply and install in a location within the MCCP designated by the Design Authority a wall mounted fold out desktop unit (monitor, keyboard and mouse) that is accessible to the Operator but not included in the MCCP console.
b. Relocate the existing Secondary Fire Alarm system unit to the CER and connect to the desktop unit in the MCCP remotely using a KVM extender.

3.14 MCCP Operator Chair

The Contractor must supply and install a new MCCP Operator chair that meets or exceeds the following criteria:

a) Durability: Intensive Use Rated (24/7/365)
b) Warranty: Five (5) years on all components including parts and labour.
c) Construction:
- Standard Seat Dimensions: >20" (508 mm) Width x >19" (483 mm) Depth.
- Seat: Dual density moulded polyurethane foam with 8-ply hardwood.
- Base: Five (5) point base with heavy duty castors.

- Backrest Dimensions: >19” (483 mm) Width X >24.5” (622 mm) Height.
- Weight Capacity: >350lbs (158.8kg).
- Fabric: Abrasion resistant
- Fabric Colour: Black or Charcoal

d) Adjustability:
- Backrest: Fully upholstered backrest system with a minimum 5” (127 mm) range of vertical adjustment.
- Headrest: Mechanical vertical control
- Lumbar: Adjustable (air) support
- Seat Height: Adjustable to between 17.5” (445 mm) to 22.5” (572 mm).
- Back/Seat Angle: Heavy duty, 3-lever independent back/seat angle control.

e) The Contractor must supply and install a diamond plate 100% vinyl mat to protect the floor from the Operator’s chair . The mat must be at least 1/8” thick and cut from a 10’ x 10’ piece to fit the floor area that the Operator’s chair would normally come into contact with.

3.15 Stationery Storage/Shelving

To accommodate office supplies (logbooks, paper, stapler, clipboards, etc), the Contractor must supply and install a credenza equipped with lockable castors.

The provided credenza must meet the following criteria:

- Overall Height (including castors): Maximum 24” (610mm)
- Overall Width: Minimum 19” (483mm)
- Overall Depth: Maximum 24” (610mm)
- Frame: Fully welded, steel construction
- Top Surface: Thermo laminated Finish (colour matched to new console)
- Sides/Rear: Laminated Wood Grain Finish (colour matched to new console)
- Access: Equipped with two drawers on sliders or height adjustable shelving and a hinged front door.

4.0 ADDITIONAL REQUIREMENTS

4.1 Communications

The Contractor must adhere to the following Communications Requirements:

a. Communications between the Contractor, the Institution Representative and the Maintenance Technician(s) is of the utmost importance during interruptions to existing systems to ensure that additional and/or alternative security procedures can be engaged during the interruption of individual systems.
b. The Contractor must work in liaison with the Maintenance Technician(s) during interruptions to existing systems. The on-site Electronics Maintenance Contractor responsible for the maintenance of all security systems with the institution is currently “the ADGA Group”. If the service provider changes during the course of these projects this information will be provided to the applicable contractor.
c. Prior to commencement of each work period, the Contractor must advise the institutional Representative and Maintenance Technician(s) of the work that will be performed during that period.
d. During the work day the Institutional Representative and Maintenance Technician(s) must be kept regularly informed of the progress being made and will be notified prior to any required disruption in system availability.
e. As a minimum, the parties must meet at the beginning and end of the working day.
f. The Contractor is responsible for briefing institution staff prior to leaving the work site for the day. The briefing must be given to the Correctional Manager in charge of the day to day operation of the Institution (or their designate) and must include, as a minimum:
    - Work performed that day
    - Operation status of the system, including any limitations in functionality or peculiarities
    - Contact name and number in the event of a system failure
    - Emergency contact numbers of installation technicians
g. The contractor must address all requests for change or deviation from this STR with the Design Authority before any on site discussions, to ensure all changes are consistent with National Policy and Technical Standards, and to ensure the Design Authority maintains a complete awareness of the project expectations and time-line.

4.2 Cable Labels & Label Installation

The Contractor must adhere to the following cable label requirements:

a. The labels must be bold face laser quality, black print on white background.
b. The labels must be self-adhesive, one piece, label and clear cover wrapped around cable.
c. The wording on the labels must be approved by the Design Authority prior to manufacture.
d. The contractor will install labels on each end of the cable.
e. The contractor will install labels not less than 150 mm from termination end of cable.
f. All labels must be clearly visible and readable after final termination of cables without having to move or rotate cables.

4.3 Equipment Installation

The contractor must adhere to the following equipment installation requirements:

a. Install all existing equipment in/on the new console or in security equipment cabinets located in the CER as indicated by the Design Authority in the STR.
b. Install all MCCP/CER cabling beneath the computer flooring and fasten it using Velcro type tie-wraps.
c. If any existing cable that is contained entirely within the MCCP/CER is of insufficient length to connect any new or relocated equipment, the entire length of cable must be replaced with new cable and connectors to match the existing cable.
d. Except as noted in item c) above, if any existing cable that is connected to equipment in other areas of the institution from equipment in the CER/MCCP is of insufficient length to connect to the new or relocated equipment location, it may be spliced.
e. Splices may be made by using switchable DIN rail mounted terminal blocks or connectors compatible with the existing cabling.
f. Splices to existing cable must be kept to an absolute minimum and must be identified by the Contractor in the Preliminary Design Report for review.

4.4 Project Review Meetings

The contractor must adhere to the following project review requirements which are above and beyond those identified in document ES/SOW-0101.

a. Upon contract award the Contractor must meet with CSC and/or their designated representative to discuss the scope of work and develop a full understanding of the parameters of the project.
b. On a regular basis the Contractor must meet with CSC and its representatives to discuss security requirements, shut downs, cutover strategies, temporary measures, and other similar requirements.
c. The Contractor must meet with CSC and/or their representatives prior to making any Genetec Omnicast®, DYNATROL LANSER, or Senstar 100® configuration changes to ensure that said changes are agreeable to Design Authority.

4.5 Cutover Planning

The Contractor must adhere to the following cutover planning requirements:

a. Ensure that at no time will the institution be without a 100% functional Fence Detection System (FDS), Radio System, or Motion Detection System (MDS).
b. No disruptions will be allowed without receiving written permission from the Design Authority at least 48 hours in advance. Permission must be requested at least 48 hours advance notice of any disruptions in service to any sub-system(s).
c. Make provisions for the possibility that, while all necessary preparations may be conducted during regular working hours, the final cutovers for any sub-system(s) might need to be between 23:00 and 06:00.
d. Ensure that the existing sub-systems remain fully operational until the migration from the old console to the new console commences.

e. Coordinate with CSC/ADGA the issuance of GFE handheld radios to the MCCP operator for use during the cutover process.
f. Consider the CSC guidelines provided below as a suggested methodology for the MCCP console cutover. However, CSC is willing to consider other cut over plans.
   - Pre-install any required junction (splice) boxes.
   - Pre-install and terminate any new or replacement cables.
   - Conduct a pre-cutover test of the existing sub-system(s).
   -
   - Verify two (2) way radio transmissions are functional on all institutional base channels.
   - Supply and install a temporary workstation table in the MCCP and temporarily relocate the remaining existing MCCP electronics to the temporary location. The supplied workstation table must be heavy duty, sturdy, and capable of supporting (as a minimum), twice the load of the equipment placed upon it.
   - Assemble and install the new MCCP console at the designated location.
   - Assemble and install any and all new monitors, monitor mounts.
   - Route pre-installed cables (low voltage and power) from beneath the computer flooring to the MCCP console.
   - Relocate the MCCP security electronics from the temporary workstation table to the new console.

g. Perform a full functionality check on all components associated with the various MCCP sub-systems prior to commencing with any cutover related tasks and submit the results to the Design Authority. Sub-system cutovers will not commence until the Design Authority has provided authorization to proceed.
h. Perform a full functionality pre-Site Acceptance Test (SAT) check on all components associated with the various MCCP sub-systems upon completing the cutover process and prior to commencing with the final SAT.
i. Submit the completed pre-SAT to the Design Authority for review prior to the completion of a final SAT at which time the Design Authority may ask the Contractor to perform a sample of the tests carried out in the pre-SAT, or, depending on system performance, all of the tests may be repeated. (See section 4.7 below for SAT requirements.)

4.6 Institution Operations

The Contractor must adhere to the following on site operational requirements:

a. The Contractor must take every precaution to minimize any disturbance to institutional operations.
b. The Contractor and his staff must cooperate fully with operational staff and conform to all security requirements.
c. As the existing MCCP is in operation 24/7/365 special attention must be paid to ensure that any upgrades, relocations, or cutovers have limited impact on the operation of the existing systems and that when cutovers are required, the cutover time is kept to a minimum.
d. The Contractor must ensure that the number and duration of interruptions to existing systems are kept to an absolute minimum.
e. The Contractor must ensure that all cabling and cabinet preparations required for the relocation of existing equipment is completed prior to the interruption of any sub-system.

f. All down time must be coordinated with the Assistant Warden Operations on site or his/her designate.
g. The Contractor must submit to the Design Authority, for review and approval, a detailed schedule indicating when an interruption to each system is to occur and the duration of the interruption.
h. The Contractor must submit to the Design Authority, for review and approval, a detailed description of the proposed procedures to be followed for each interruption.
i. The Contractor's staff may be required to work during evenings, nights and/or weekends to reduce the amount of down time and to meet operational requirements.
j. Interruptions to the following systems are to take place during normal working hours of the institution:

   NOTE: Interruptions to the following systems must be done individually. During interruption of one system all other systems must be fully operational.

   - Two-way Radio System.
   - Facility Alarm Annunciation System (FAAS).
   - Perimeter Intrusion Detection System (PIDS).
   - Fence Detection System (FDS).
   - Perimeter Motion Detection System (MDS).
   - PIDS CCTV System.

k. Interruptions to the following systems are to take place between the hours of 23:00 and 05:00.
   - Personal Portable Alarm (PPA) System.
   - Non-PIDS CCTV System.
   - Thermal Camera System.
   -
   -

l. The timing and scheduling of these interruptions is subject to review and approval of the Institutional management and may be subject to change to accommodate site specific operational requirements.

4.7 Testing and Acceptance Procedures

The Contractor must adhere to the following on site testing requirements:

a. The Contractor must provide a detailed editable draft SAT plan to the Design Authority, or his designated representative, by mail or email, for approval at least two weeks prior to the start of any installation requirements.
b. The draft SAT must detail tests and procedures to be undertaken by the Contractor and witnessed by the Design Authority, Institutional Representative and Maintenance Technician to demonstrate that each system is fully functional and operational as it was prior to relocation to new equipment cabinet.
c. The Design Authority must review the draft SAT, and may request revisions or additional tests to ensure all required testing is performed prior to accepting the work as completed.
d. The draft SAT must be provided by the Contractor to the Design Authority in an itemized format indicating each test to be performed and the method in which it is to be performed.
e. The Contractor must complete one hundred percent of the tests included in the SAT approved by the Design Authority prior to the final SAT being carried out for the Design Authority.
f. The Contractor must provide a fully completed and signed copy of the final SAT to the Design Authority, or his designated representative, by mail or email, within two weeks of completing the final SAT.

g. In the case where subcontractors have been used, the Contractor must provide written confirmation that the work of their subcontractor has been inspected and verified. This verification must be sent to the Design Authority or his designated representative, by mail or email, at least two days prior to the start of the final SAT.
h. Testing may be witnessed by the Design Authority, a designated representative or a third party contractor.
i. If an unacceptable level of failed tests is encountered during the final SAT the testing must be halted until the contractor has corrected the failures.
j. If a minor deficiency that does not affect the operational effectiveness of the equipment installation is encountered during the final SAT, the testing may continue. If a major deficiency is found during the testing that does affect the operational effectiveness of the installed equipment or system; the testing must cease until the deficiency has been corrected.
k. The final SAT must be conducted during normal working hours, 08:00 to 16:00, Monday to Friday. Testing at other times will only be done in an emergency situation or when stipulated by the Design Authority.
l. The Design Authority or designated representative must sign-off on the final SAT upon the successful conclusion of the testing. Any minor deficiencies identified during the testing must be indicated on the final SAT form. This signature indicates the Conditional Acceptance of the system.
m. The installed systems will be subjected to operational testing for a period of two (2) weeks following the Conditional Acceptance of the system. CSC will formally accept the system from the Contractor at the end of this two (2) week period, but only if all deficiencies have been corrected.
n. Any deficiencies noted by CSC during this two (2) week operational testing period will be communicated to the Contractor, who must then correct the deficiencies. The two (2) week operational testing period will begin again after all deficiencies have been cleared.
o. Equipment warranty period will start on the date the system is formally accepted.

4.8 Mounting

The Contractor must adhere to the following requirements when installing equipment in the racks in the CER.

a. Install all existing equipment in the new console or in security equipment cabinets in the CER as indicated.
b. Route all cabling through cable chases and neatly fasten using Velcro type tie-wraps.

5.0 SUPPORT AND TRAINING

5.1 Support

The Contractor must meet the following support requirements:

a. CSA/CUL Certification:
    I. Given the sensitive nature of all electronic components and the need for high reliability and safety, it is a requirement that all material and equipment be CSA/CUL certified.
    II. Evidence of compliance must include certified test reports and definitive shop drawings.
b. The Contractor is fully responsible for all work performed by a Contractor-provided subcontractor.
c. System Support:
    I. The Contractor must provide full support of the system through completion and acceptance by CSC and for one full year after acceptance (warranty period).
d. This support must include applicable system upgrades (as they become available), troubleshooting, the correction of any system bugs or deficiencies, and the resolution of any operating problems.

5.2 Operator Training

In accordance with ES-SOW/0101 the Contractor must prepare and present two (2) two-hour operator training courses to the trainers responsible for training MCCP staff. The training course must be provided at the site to two (2) groups of five (5) operator-trainers in English. The course must provide a general functional overview of the operation of all subsystems relocated to the new console with a detailed focus on the specific changes implemented as a result of the MCCP console reconfiguration, which includes the following:

a. Operation of the VMS desktop monitor (with camera tree and preconfigured layouts) to call up camera views/layouts on the two (2) large video monitors,
b. Operation of Genetec Omnicast® for viewing preset layouts,
c. Deployment of the Senstar 100® Training Station,
d. Operation of the Secondary Fire Alarm wall mounted desktop unit,
e. Operation of the soft keys on the Aggregator touch screen, and
f. Use of adjustable features associated with the new MCCP operator chair.

The course must be presented on site within two weeks of successful acceptance testing of the system. Training sign-in sheets and a hard and soft copy of the training material must be included in the final documentation package, clearly identifying the name, date, institution, printed name of attendees, signature of attendees, and attendees' comments on training.

In addition, the Contractor must provide short informal operator training sessions as systems are cutover and at shift change to ensure on duty operational staff are informed of any reconfiguration changes to MCCP operations. As part of the informal training sessions the Contractor must provide a written description documenting the before and after system status and configuration for the changes implemented to MCCP operations after a system cutover. The total number of informal sessions provided by the contractor should coincide with the contractors' proposed cutover schedule.

5.3 Maintenance Training

In accordance with ES/SOW-0101 the Contractor must prepare and present a four (4) hour training course to individuals responsible for maintenance of the equipment. The training course must be provided to one group of five (5) technicians in English. The course must provide a general functional overview of the maintenance and operation of all subsystems relocated to the new console with a detailed focus on the specific changes implemented as a result of the MCCP console reconfiguration, which includes the following:

a. Detailed review of any and all implemented operational changes (refer to Section 5.2 of this STR),
b. Procedures for making console adjustments to the console actuators, sliding desktop surface and monitor mounting hardware,
c. Location, function, and interconnect details of any and all deployed MCCP junction boxes,
d. Review of the implemented S100 programming modifications, and
e. Thorough review of the updated as-built documentation provided by the Contractor.

The course must be presented on site within two (2) weeks of the successful acceptance testing of the system. The course syllabus must be presented to the CESM for approval at least two (2) weeks prior to training commencement. Training sign-in sheets and a hard and soft copy of the training material must be Included in the final documentation package and must clearly identify the name, date institution, printed name of attendees, signature of attendees, and attendees' comments on training.

6.0 DOCUMENTATION

6.1 Operator Manuals

In accordance with specification ES/SOW-0101, the Contractor must provide an Operator Manual that includes an overview of the functionality of all security systems that were cutover to the new MCCP console as well as a detailed description of any operational changes implemented as a result of the MCCP console reconfiguration. The provided Operator Manual must refer the reader to the original Operator Manuals for specific information related to the operation of any security systems that existed prior to the MCCP console reconfiguration. The Contractor must provide ten (10) hard copies and one (1) soft copy of the updated documentation in English. The Contractor must provide one (1) soft copy of the updated documentation in English to each of the Design Authority, CESM, the REPO, and the National Maintenance Service Provider Headquarters (attn: Project Manager, CSC National Maintenance Program).

The operator manual updated documentation must include a drawing of the new console with each user interface clearly identified by name, purpose, and function. Any and all new operational features that have been introduced to the MCCP console must be clearly detailed using suitable text and screenshots.

6.2 Maintenance Manuals

The Contractor must provide Maintenance Manuals, in accordance with specification ES/SOW-0101, that includes an overview of the functionality of all security systems that were cutover to the new MCCP console as well as a detailed description of the equipment and maintenance changes implemented as a result of the MCCP console reconfiguration. The provided Maintenance Manual must refer the reader to the original subsystem Maintenance Manuals for specific information related to the maintenance of any security subsystem electronics that existed prior to the MCCP console reconfiguration.

The Contractor must provide all copies of the Maintenance Manual updated documentation in English. The Contractor must provide one (1) hard copy of the Maintenance Manual updated documentation to the site and four (4) soft copies of the Maintenance Manual updated documentation on CD or DVD as follows: one (1) soft copy to the Design Authority, one (1) soft copy to the CESM, one (1) soft copy to the CSC project engineer and one (1) soft copy to the National Maintenance Service Provider Headquarters (attn: Project Manager, CSC National Maintenance Program).

The Maintenance Manual updated documentation must include the duly completed and approved copies of the SAT and copies of the SAT results.

The maintenance manual updated documentation must contain a Contractor generated maintenance handover report which includes details of the equipment, dates of warranties, Contractor contact information and other project information.

6.3 As-Built Drawings

The Contractor must provide amended copies of the as-built drawings provided to prospective Bidders at the Mandatory Site Visit that reflect all of the changes completed during the execution of the project.

The Contractor must provide copies in AutoCAD 2013 format of the updated as-built drawings of the site installation and in accordance with specification ES/SOW-0101. The Contractor must provide one (1) hard copy and one (1) soft copy of the as-built drawings to the site, one (1) hard copy to the CESM, one (1) hard copy to the REPO and one (1) hard copy to the National Maintenance Service Provider Headquarters (attn: Project Manager, CSC National Maintenance Program)."

The as-builts must form part of the requisite Maintenance Manual updated documentation detailed in Section 6.2 of this STR.