

**STATEMENT OF WORK
FOR
NCTC HIGH RISK ENTRY FACILITY
AFTER ACTION REVIEW SYSTEM**

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1 System Requirements

This document lists the specifications for the Northeast Counterdrug Training Center (NCTC) PA High Risk Entry Facility (HREF) full digital network-based audio and video recording training aid system. The existing analog camera and encoder based training aid system shall be upgraded to an all-digital system. The training aid system shall be installed in the NCTC HREF, building located in Fort Indiantown Gap, PA.

1.1 Software Requirements

The audio and video recording training aid system shall use the latest version of Milestone XProtect Enterprise 2016. The contractor shall upgrade the existing NCTC Milestone Enterprise 7.0 Base License (SLC: 7A0-EBB9-07BC) and 95 camera licenses to Milestone 2016, and add 1 new camera license. The audio and video recording training aid system shall include 3 years of Milestone Care Plus for the Milestone XProtect Enterprise 2016 Base License. The audio and video recording training aid system shall include a total of 96 Milestone XProtect Enterprise camera licenses with 3 years of Milestone Care Plus. The 96 camera licenses include 94 licenses for the 94 Government Furnished cameras/devices and 2 spare licenses for future optional use.

1.2 Audio and Video Recording Aid System

The audio and video recording training aid system shall be based on the Milestone XProtect Enterprise Video Management System. The audio and video recording training aid system shall incorporate the following 94 devices provided by NCTC: 90 Sony SNC-VM632R Power Over Ethernet plus (POE+) cameras, 3 existing Sony SNC-RZ50N PTZ cameras, and one existing Sony SNT-EX104 audio/video encoder. All provided camera models are subject to change.

The audio and video recording training aid system shall include a new Ethernet network infrastructure designed to power the 90 new POE+ cameras (Sony SNC-VM632R) and allow for Ethernet streaming of all cameras to the Milestone server(s). The audio and video recording training aid system shall include properly configured server(s) capable of receiving and storing Ethernet streamed video and audio from all cameras simultaneously at an image resolution of 1080P, h.264, and 20 frames per second (fps).

The audio and video recording training aid system shall incorporate 49 unidirectional pickup microphones with a rotation adjustment mechanism that will be in ceiling, flush mounted. The microphones shall have a frequency response from 300 Hz to 10,000 kHz. The 49 microphones shall be connected to and powered by the NCTC provided SNC-VM632R camera's 3.5mm microphone input port.

The audio and video recording training aid system shall include two Milestone SmartClient computers capable of meeting the SmartClient Live Viewing and Playback Requirements in Section 1.3. The configuration of the SmartView clients shall include installation of the Government Furnished Information (GFI) Milestone plug-ins for audio control and scenario event recording provided by the government.

1.3 SmartClient Live Viewing and Playback Requirements

The audio and video recording training aid shall be capable of live viewing and playback of 20 time-synched, 1080P, h.264, 20 fps simultaneous camera streams on each Milestone SmartClient computer. Live viewing and playback of the video includes audio and video.

The SmartClient presentation of the video and audio shall be time-synched such that all video images and audio are synchronized. The display of the video streams on the SmartClient shall not exhibit video frame drops such that the video images jumps to a point in time without displaying the intermediate video frames. The SmartClient video displays shall not exhibit video image freezing such that the video image stops for a period of time and then resumes at a new point in time.

1.4 Camera and Microphone Mounting Requirements

The 90 NCTC provided SNC-VM632R cameras and 49 microphones shall be placed in the predetermined locations as identified in GFI Reference 1. All SNC-VM632R cameras shall be wall mounted according to the manufacturer's specifications. All height requirements for the cameras shall be determined onsite by the NCTC subject matter expert (SME). The cameras' optical alignment, field of view, and focus shall be adjusted such that the training areas are visible and clear based on the coverage required by the NCTC SME. The camera infrared (IR) emitters shall be adjusted according to the manufacturer's specifications such that adequate illumination is provided to the cameras for night time viewing and recording. All microphones shall be mounted to the drop ceiling tile according to the manufacturer's specifications. The microphone pickup direction shall be adjusted in a manner that covers points of interest as determined by onsite government SMEs.

1.5 Network Infrastructure for Cameras

The network infrastructure shall be comprised of one level 3 Main Aggregation Ethernet switch and two layer 3 or layer 2 Ethernet POE+ switches. The two POE+ Ethernet switches shall have 48 POE+ enabled ports each that shall connect and power the new 90 SNC-VM632R cameras. The POE+ switches shall have power supplies installed that provide sufficient power to all 48 POE+ ports simultaneously. The camera POE+ switches shall provide a minimum of a 1Gb/s uplink and a minimum data rate of 100 Mb/s per port.

The Ethernet cable for each camera on the 1st floor shall have a home run to the 48-port POE+ network switch installed in the control room rack in room 102. The 48-port POE+ switch in the control room shall be powered via an existing 3000VA Uninterruptible Power Supply (UPS) in the Control Room rack. The cameras on the 2nd floor shall have Ethernet cables home run to a 2nd 48-port POE+ network switch located on the 2nd floor in Room 207. The 48-port POE+ switch in the 2nd floor shall be mounted on a 3U vertical wall-mount bracket. A 1500 VA UPS shall be provided to power the 2nd floor 48 port POE+ switch. The 1500 VA UPS shall be floor mounted

and shall operate on 120VAC, 20A power circuit using a 5-20R receptacle provided at the HREF facility.

The Main Aggregation Ethernet Switch shall be a layer 3, 24-port Ethernet switch that will be located in the Control room rack according to the GFI References 1, 3, and 4. This Main aggregation Ethernet switch shall provide network connectivity for the existing Internet Protocol (IP) edge devices (3 PTZ cameras and 1 encoder), the clients, and the server network connections. A 1GB Uplink shall be routed from each 48 port POE+ network switch the Main Aggregation switch.

1.6 After Action Review (AAR) Control Room

The AAR Control Room shall be capable of managing all aspects of the audio and video recording training aid system.

1.6.1 Server(s)

The Milestone server(s) shall be rack mounted in the AAR Control Room rack. The number of server(s) shall be selected based on the processing and network demands required by the system's (93) cameras and (1) encoder managed by Milestone XProtect Enterprise 2016. The server(s) operating system shall be Windows Server 2012 or Windows 10 Enterprise (x64). The server(s) disk storage capacity shall be sized accordingly to record video and audio from (93) NCTC provided cameras at 1080P, H.264, and 20 Hz for 24hs a day for 7 days. The server(s) shall have a 1Gb/s connection to the Main Aggregation network switch. The server(s) shall be powered via a 3000VA UPS. The 3000VA UPS shall be rack mounted and operate on 120VAC, 30A power circuit using a L5-30R receptacle provided at the HREF facility.

1.6.2 SmartClient

The Control Room shall be equipped with one AAR SmartClient computer capable of replaying and displaying the camera audio and video from live or captured video during scenario runtime via the Milestone SmartClient viewer software. The Operator SmartClient operating system shall be Windows 10 Enterprise (x64). The Operator SmartClient shall meet the SmartClient Live Viewing and Playback Requirements of Section 1.3. The Operator SmartClient shall be capable of simultaneously displaying independent extended SmartClient views on two NCTC provided 55" 1080P HDMI wall mounted displays and one NCTC provided 24" 1080P HDMI desktop display. The Operator SmartClient shall have a 1Gb/s connection to the Main Aggregation network switch.

1.7 Trainee AAR Room

The Trainee AAR Room shall be equipped with one AAR SmartClient computer also capable of replaying and displaying the camera audio and video from live or captured video during scenario

runtime via the Milestone SmartClient viewer software. The AAR Room SmartClient operating system shall be Windows 10 Enterprise (x64). The AAR Room SmartClient shall meet the SmartClient Live Viewing and Playback Requirements of Section 1.3. The AAR Room SmartClient shall be capable of simultaneously displaying independent extended views on two NCTC provided 55" 1080P HDMI wall mounted displays and one NCTC provided 24" 1080P HDMI desktop display. The AAR Room SmartClient shall have a 1Gb/s Ethernet connection to the Main Aggregation network switch.

1.8 Wiring and Labeling

Wiring for the audio and video AAR system shall be accomplished in accordance with applicable building code requirements and in a manner as to minimize the impact to the training areas. All network cables shall be CAT6 and terminated with CAT6 rated RJ-45 plugs. All CAT 6 cables routed through plenum spaces shall be plenum rated indoor cable.

All camera CAT6 cables shall be wire-wrap labeled 12 inches from the Ethernet switch end with "From-To" Reference Designator information (SW#P###-RM###C##) (*Switch#Port##-Room###Camera##*), e.g. SW2P24-RM122C24. All cameras shall be labeled such that the camera number is visible to a person standing in front of each installed camera. All new microphone cables shall be neatly routed to the camera's audio input above the drop ceiling. All CAT 6 cables from each POE+ network switch to each camera shall be neatly routed through the existing cable trays in the ceiling. A 6 foot service loop of the CAT6 cable shall be left in place above the drop ceiling for each camera.

1.9 Equipment Removal

All the old analog cameras, including the camera mounts shall be removed. All existing cabling for the analog cameras and old IR illuminators shall be physically and electrically secured. The old equipment from the control room rack shall be removed in accordance with GFI reference 3.

1.10 Warranty

The AAR training aid system shall have at least a 3 month warranty covering any problems that arise from the system installation. The installation warranty shall apply to software and hardware supplied by the contractor. All servers and clients shall have an extended 3 year hardware warranty with next business day repair. Warranty documentation shall be provided to NCTC for all commercial items purchased.

2 Program Requirements

2.1 Program Management

The contractor shall organize, coordinate, and control all program activities to ensure compliance to, and timely installation and operational capability of the required After Action Review system. The contractor shall provide the necessary technical, management, and clerical support for the efforts described in this SOW. The contractor shall monitor the progress of all the work performed and cost incurred under this contract. The contractor shall be prepared to explain the reasoning, assumptions, and methodologies in arriving at any particular conclusion, recommendation, or alternative in the accomplishment of the tasks required by this contract. The contractor shall assign appropriate personnel in order to fulfill the technical and managerial requirements of this contract. Personnel to participate in the on-site installation shall meet access requirements for NCTC.

2.2 Technical Certification

The contractor shall have proven experience with installing Milestone XProtect Enterprise Software within the Training System domain. The Government requires that the contractor shall either (1) be a Professional Certified Milestone Platinum level reseller, or (2) subcontract this task to a Professional Certified Milestone Platinum level reseller.

2.3 Final AAR System Design

The contractor shall work with Naval Air Warfare Center Training Systems Division (NAWCTSD) engineers and NCTC personnel to finalize the installation plan for the AAR system to meet the requirements of Section 1 of this SOW.

2.4 Purchasing

The contractor shall procure all software, equipment, and materials necessary to fulfill the requirements of this SOW except for those items noted in Section 3 of the SOW.

2.5 Transportation and Travel

The contractor shall arrange transport of all materials and equipment necessary to complete the tasks of this SOW to the NCTC HREF facility at the Pennsylvania installation site. The contractor shall make all special arrangements necessary to fulfill the transportation and travel requirements of this SOW.

2.6 Installation, Configuration, Start-up, and Testing

The contractor shall install and terminate all the AAR system data cables and low voltage wiring as required by the AAR system design and the requirements of Section 1.8 of this SOW. This shall include all camera connections, recording server and client connections, audio connections, low voltage wiring, patch connections, edge device connections, and network connections. The contractor shall configure and mount the cameras and microphones within the training areas as specified by the AAR system design and requirements of Section 1.8 of this SOW. The contractor shall integrate all rack equipment into the Control Room and AAR Room racks. GFI Reference 3: NCTC PA HREF Rack Elevation Revisions and GFI Reference 4: NCTC 2016 Rack Elevation provides details on revisions to the existing Control Racks and the final Rack Elevation configuration. The contractor shall configure and install all components of the Milestone video management system on all servers and clients.

The contractor shall perform start-up and testing of all equipment and components of the AAR system. The contractor shall demonstrate to the government that the requirements of Section 1.3 of this SOW are met. The contractor shall generate and deliver a Milestone Configuration Report to document the as-delivered system configuration.

2.7 Training

The contractor shall conduct at least a two hour training class for NCTC personnel to learn and operate the AAR training aid system to include the new Milestone XProtect 2016 features. This training shall be provided after successful installation of the Milestone software and equipment upgrade and shall be coordinated with NCTC personnel.

3 Government Furnished Information

The following information and software will be provided to the contractor:

- 1) NCTC PA HREF 2016 System Design and Layout Drawings
- 2) NCTC PA HREF AAR System Equipment List
- 3) NCTC PA HREF Rack Elevation Revisions
- 4) NCTC 2016 Rack Elevation
- 5) Government provided Audio Control and Scenario Event Plug-ins for Milestone software

4 Schedule/Delivery Date

Delivery of the AAR audio/video recording system for NCTC HREF, Pennsylvania shall be completed on 22 July 2016, with onsite installation commencing on or before 11 July 2016. Installation prior to 11 July 2016 shall be coordinated with NCTC and shall not impact training.

5 Location

The AAR audio/video recording system shall be delivered at the NCTC HREF, Ft. Indiantown Gap, Annville, PA. Installation, final configuration, start-up, testing, and training shall be conducted at the NCTC HREF, Ft. Indiantown Gap, Annville, PA 17003.

All materials are to be shipped to:

POC: SFC Ryan Piersol

e-mail: c-rpiersol@pa.gov

PH: 717-861-2197, or (717) 861-2486

PA Department of Military and Veterans Affairs

Northeast Counterdrug Training Center

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