Columbia County is looking for bids and a proposal for a complete camera head end upgrade, 5 new cameras installed, and switches to provide a migration path to IP.

The project consists of the following:

1. Provide, Install, and program (1) Pelco DS-SRV2-200 in server room of main courthouse building.
2. Provide, Install, and program (1) Pelco NET-5508-US and (1) NET-5504-US in locations TBD to tie in existing analog cameras thru-out the main courthouse building.
3. Provide, install, and program (1) D-Link DGS-1210-28P in server room of main courthouse building.
4. Provide, Install, and program (1) Seneca XVIEW-ENT-TWR-DUAL in Sherriff's office for viewing of cameras utilizing 2 monitors.
5. Provide, Install, and program (2) Totevision LED-4204UHDT monitors with WM-3207-AR mounts in Sherriff's office. (Final mounting location TBD)
6. Provide, Install, and program (5) IME-319-1EP (5) WMVE-SR to be mounted in these location; (exact location TBD)
    a. Outside Front Plaza
    b. West Side Alley (entrance)
    c. East Side Alley (south side)
    d. East Side Alley (side entrance)
    e. North Side of building
7. Provide and Activate (22) Pelco DS-SW-CAM in the DS-SRV2 for recording of all cameras (for a total of 30 cameras)
8. Provide, Install, and program (1) DGS-1210-28P in 911 center
9. Provide, Install, and program (1) NET-5508-US in 911 center and tie in all existing analog cameras
10. Provide, Install, and program (1) DGS-1210-28P in Annex
11. Provide, Install, and program (1) NET-5516-US in Annex and tie in all existing analog cameras
12. Work with Columbia County IT department and utilize existing "dark" fiber for connections between 911 Center, Annex, and Courthouse.
13. Provide, Install, and home run CAT5E minimum for all cameras, viewstation, and encoder connections to the switches for their appropriate building.
14. Final set-up, programming and training to be coordinated with Eric Boughner and Jay Hill.
15. All cameras will be recorded on the DS-SRV2-200 with a continuous frame rate of 1 FPS. The frame rates of all cameras will be increased depending upon scene and views via motion settings. The increased frame rate setting will vary individually per camera.

There are no exceptions permitted to the material listed above, and all ancillary items are the responsibility of the winning contractor/integrator. Winning of this project also locks in the contractor for the future IP migration path of the entire Columbia County Courthouse project.

All material quotes are to be directed to Graybar Electric Company, Inc. and your account manager will provide pricing at your request.

If you do not have an account with Graybar Electric Company, Inc. please email Jay Hill and he will assist you in getting an account set up. Jay.hill@graybar.com

Please forward any questions or to schedule a site walk thru to Eric Boughner. He can be reached at: eboughner@columbiapa.org

We at Columbia County look forward to your responses and look forward to working with you.

DIGITAL SENTRY® DSSRV2 NETWORK VIDEO RECORDER

TECHNICAL SPECIFICATIONS SECURITY SYSTEM
DIVISION – 28 ELECTRONIC SAFETY AND SECURITY
LEVEL 1_28 20 00 ELECTRONIC SURVEILLANCE
LEVEL 2_28 23 00 VIDEO SURVEILLANCE
LEVEL 3_28 23 19 DIGITAL VIDEO RECORDERS AND ANALOG RECORDING DEVICES

1 GENERAL

A. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts as long as the product is commercially available from the manufacturer.

B. All manufactured products shall be thoroughly tested and proven in actual use.

C. All manufactured products shall include, at no additional cost, online support services and availability of a toll-free (U.S. and Canada), 24-hour technical assistance program (TAP) for emergencies.

D. The manufacturer shall repair or replace without charge, manufactured products proven defective in material or workmanship for the stated warranty period from the date of shipment.

2 PRODUCTS

2.1 IP VIDEO MANAGEMENT SYSTEM

A. The IP video management system shall consist of Digital Sentry® NVs version 7 software operating on an optimized Pelco-supplied hardware platform. The NVs software shall consist of base software with individual, non-expiring licenses in the required quantity.

B. The IP video management system software updates shall be downloadable from a publicly available website.

C. The IP video management system shall support up to 128 combined IP and analog video streams, with up to 64 direct-attached analog cameras. Analog streams shall be supported using Pelco and/or third-party encoders.

D. The IP video management system shall provide 350 Mbps for RAID5, 300 Mbps for JBOD systems throughput for recording of analog and IP video streams, playback and export.

E. The IP video management system shall have a SSD system drive to increase responsiveness.

F. The IP video management system shall support recording of JPEG, MPEG-4 and H.264 IP streams.

G. The IP video management system shall support Pelco and third-party H.264 Megapixel video streams up to 10 Megapixel resolution with quantities based on a total system of 300 Mbps throughput for recording of analog and IP video streams, playback and export.

H. The IP video management system shall have a fully open architecture with support for both IP-specific camera as well as cameras with ONVIF compliance.

I. The IP video management system shall support automatic detection of Pelco IP cameras. Third-party IP cameras shall be automatically detected dependent on IP driver versions and manufacturers specifications.

J. The IP video management system shall support up to 64 looping analog camera inputs with direct-attached 16-channel encoders; up to four direct-attached units. The direct-attached 16-channel encoders shall support H.264 compression, CIF, 2CIF, and D1 resolutions at maximum 30ips, 16 audio inputs and RS422/485 PTZ control with Pelco P and D protocols and Coaxitron.

K. The IP video management system shall support an unlimited number of systems connected over a network. Each system shall contain two 1GB network ports; one for IP camera/encoder data, and one to connect to a network for client computer access.

L. The IP video management system shall be viewed, managed, and played back through a single user interface simultaneously with other Digital Sentry digital video management systems through supplied DS Admin or DS ControlPoint Client software.

M. The IP video management system shall operate on a 4th Generation Intel® Xeon processor and 8 GB of RAM.

N. The IP video management system shall contain two DVI-D ports.

O. The IP video management system shall utilize a Windows® 7 Ultimate 64-bit operating system.

P. The IP video management system shall support and have an option for an internal DVD+/-RW.

Q. The IP video management system shall allow expansion of IP video channel capacity through a licensing without any hardware modification.

R. The IP video management system shall be capable of continuous scheduled alarm/event and motion recording. Pre- and post- alarm recording shall also be available and shall be fully programmable on a per channel basis.

S. The IP video management system shall allow archival of video data to computers or SAN storage devices over a network connection with the optional DS Archive Utility. The archival schedule shall be either automatic at user-defined intervals or manual and shall be configurable per connected camera.

T. The IP video management system shall support network health and monitoring utilizing third-party SNMP monitoring tools.

U. The IP video management system shall indicate system performance and operation status utilizing a variety of HTML reports.

V. The IP video management system shall optionally support on-board video analytics in quantities of two or four channels with Active Alert software and the DS DataPoint interface. The DS DataPoint interface shall provide video analytics monitoring including tracking and counting objects and people.

W. The IP video management system shall support Lightweight Directory Access Protocol (LDAP).

X. System Specifications

1.	Processor	Intel® Xeon E3-1275 v3
2.	Operating System	Windows 7 Ultimate 64-bit

3. Internal Memory — 8 GB DDR3 non-ECC RAM; 16GB DDR ECC RAM for DSSRV2-RD models
4. Network Interface — Gigabit Ethernet (1000Base-T) ports (2x)
5. User Interface — DS Control Point
6. Internal Storage (JBOD or RAID 5)
   a. DSSRV2 — 500 GB, 4 TB, 8 TB, 12 TB, 16 TB, 20 TB
   b. DSSRV2-DVD — 500 GB, 4 TB, 8 TB, 12 TB, or 16 TB
   c. DSSRV2-RD — 12 TB, 16 TB, 20 TB, or 24 TB
7. Raid Level — Internal RAID 5 (requires DSSRV2-RAID controller card for hot swappable drives)
8. External Storage — Pelco's DX8100HDDI or third-party SCSI targets (requires optional DSSRV-SCSI)
9. System Drive — SSD
   a. DSSRV2 — 6, 3.5-inch hard drive bays
   b. DSSRV2-DVD — 4, 3.5-inch hard drive bays
   c. Optical Drive — DVD±RW with DSSRV2-DVD
   d. USB Ports — 3 USB 2.0 (1 front, 2 rear), 2 USB 3.0 (rear)
10. Power Input — 100 to 240 VAC, 50/60 Hz, autoranging
11. Power Supply — Internal
12. Power Consumption — Operating Max

	Watts	Amperes	BTU/H
a. 100 VAC / 50 Hz	222.0	2.22	758.0
b. 110 VAC / 50 Hz	224.0	2.02	759.4
c. 110 VAC / 60 Hz	223.0	2.03	761.4
d. 115 VAC / 50 Hz	217.0	1.89	740.8
e. 115 VAC / 60 Hz	215.5	1.87	735.7
f. 220 VAC / 50 Hz	213.0	0.97	727.2
g. 220 VAC / 60 Hz	204.1	0.93	696.8
h. 240 VAC / 50 Hz	211.9	0.88	723.4
i. 240 VAC / 60 Hz	207.6	0.86	708.8

13. Front Panel Indicators/Functions
   a. Buttons — Power
   b. Indicators
      1. Unit Status — Green, amber, red
      2. Primary Network — Green, amber, red
      3. Secondary Network — Green, amber, red
      4. Software Status — Green, amber, red (based on diagnostics)
      5. Hard Disk Status — Green, red, off (behind bezel)

Y. Video Specifications
1. Video System — Intel HD Graphics P4700 (shared memory)
   a. Maximum Resolution — 3840 x 2160 per DisplayPort output (2x)
      1920 x 1200 @ 60 hz on DVI-D output
      1920 x 1200 @ 60 hz on VGA output
2. Video Outputs — Supports up to 3 simultaneous displays using any combination of the four outputs
3. Video Standards — 60 Hz capable for NTSC; 75 Hz capable for PAL
4. Video Decoding Supported — MPEG-4 ASP; H.264 Baseline, Main, and High profiles
5. Decoding Performance — 16X real-time MPEG-4 streams at 704 x 480;
   12X real-time H.264 Baseline profile streams at 704 x 480;
   4X H.264 Baseline profile streams at 720p;
   2X real-time H.264 Baseline profile streams at 1080p

Z. Audio Specifications

1.	Audio Decoding	G.711 speech codec
2.	Audio bit-rate	64 kbps
3.	Audio Levels	
	a. Input	Electret microphone
	b. Output	Up to 3 Vp-p, adjustable, minimum load of 8 ohms
4.	Audio Connectors	2, 3.5 mm stereo jacks
	a. Connector Tip	Signal left (input and output)
	b. Connector Ring	Signal right (input and output)
	c. Connector Sleeve	Common
5.	Audio Inputs	Microphone
6.	Audio Outputs	Speaker or in line

AA. Environmental Specifications

1.	Operating Temperature	10º to 35ºC (50º to 95ºF)
2.	Operating Humidity	20% to 80%, noncondensing
3.	Maximum Humidity Gradient	10% per hour
4.	Operating Altitude	–15 to 3,048 m (–50 to 10,000 ft)
5.	Operating Vibration	0.25 G at 3 Hz to 200 Hz at a rate of 0.5 octave/minute

BB. Supplied Accessories

1.	Power Cord	1 USA standard, 1 based on country designation; all cables are 3 prong, molded connector, 1.8 m (6 ft)
2.	USB Keyboard and Mouse	1
3.	Bezel Key	2
4.	Rack Mount Kit	Brackets, rails, and hardware for mounting in a 2 RU rack
5.	DSSRV-LIT	Documentation
6.	USB-DS	Imaged with DS NVs and includes resource documentation

CC. Certifications

1. CE, Class A; meets EN50130-4 standard requirements
2. FCC, Class A
3. UL/cUL Listed
4. C-Tick
5. CCC
6. KCC

DD. Standards/Organizations

1. Pelco is a member of the MPEG-4 Industry Forum
2. Pelco is a member of the Universal Plug and Play (UPnP) Forum, Steering Committee
3. Pelco is a member of the Universal Serial Bus (USB) Implementers Forum
4. Pelco is a contributor to the Internal Standards for Organization/Electrotechnical Commission (ISO/IEC) Joint Technical Committee 1 (JTC1). “Information Technology”, Subcommittee 29, Working Group 11
5. Compliance, ISO/IEC 14496 standard (also known as MPEG-4)
6. Compliance, International Telecommunication Union (ITU), Recommendations G.711, “Pulse Code Modulation (PCM) of Voice Frequencies”
7. Pelco is a member of the ONVIF Open Industry Fourm

EE. IP Video Management Client Software requirements

1. The IP video management system shall provide the capability of running a client application in additional to the video management system.

2. A client computer with system compatible software shall be the user interface for viewing one or more systems. Live and recorded video and current event video shall be displayed on any client computer using a proper login and password. The client computer shall be able to connect to an unlimited number of recorders simultaneously to display live and recorded video.

3. Client Software shall be unlicensed and available to be installed on as many clients as required by the user.

4. Client Software shall be compatible with multiple DVR and NVR platforms to include all Pelco Digital Sentry®, Pelco DX8000/8100, DX4500/4600/4700/4800 and DX4700/4800HD.

5. Client Software shall be password controlled such that password functionality set at each connected system will be recognized at the client. Password shall limit the ability to access live or recorded video as well as the ability to export video.

6. Client Software shall allow multiple monitor support for up to four displays per client workstation, providing virtual matrix functionality.

7. Client Software shall allow the connection of Pelco KBD5000 keyboard controllers to the client workstation to control PTZ operations and camera call-up.

8. Client Software shall allow video streams to be selectable from a system tree on an individual camera, individual system, client defined local groups, or from predefined recorder based groups.

9. Client Software shall be a tab based work environment with the ability to undock the tabs creating a virtual workspace on single or multiple monitor clients.

10. Client tabs shall include system management, live, and search options. Tabs can be displayed simultaneously on the client.

11. Systems Tab shall display and sort available systems, connection status, system names, system IP addresses, and custom categories. This tab shall additionally allow:
    a. Manual connect and disconnect of systems to the client
    b. Virtual systems naming
    c. Auto Connecting
    d. Adding, deleting, and editing available systems
    e. Live video tab shall have the ability to be created up to four times on a single client workstation providing for video display combinations and simultaneous video streams from as many different systems with consideration for maximum client bandwidth.

12. Live video tab shall provide the following functionalities:
    a. Quick Review which shall display recorded video from the last 1, 5, 15, 30, 60 or 90 minutes, providing near instantaneous review of recent events
    b. One week graphical display of recorded video
    c. Borderless display option
    d. Screen layout selection
    e. On the fly on-screen display changes including time, date, camera name, frame rate, frame size, alarm display, and border indicators
    f. Digital zoom
    g. User selectable in-video PTZ control or dashboard style control

h. Drag and drop audio support associating any audio with any video
i. Search video tab shall allow for the search of one or multiple cameras from one or multiple systems simultaneously. Search tab shall provide the following functionalities:
j. Time and date search
k. Advanced data search with DataPoint interfaced software to Active Alert Intelligent Video and POS
l. Drag and drop audio support to associate audio with any video

13. Video export to any system accessible media including locally to HDD, CD/DVD, Flash USB device or to network storage.

14. Video authentication of exported video via check sum verification.

15. Alarm video tab shall allow for alarm pop-up and playback of active alarms. Alarms may be based on motion activity, an external software trigger from Active Alert analytics or a preset data alarm from DS DataPoint. An alarm list pane shall be displayed for playback of queued alarms.

16. The Client shall incorporate virtual matrix functionality whereby camera sequences may be created on the monitoring workstation with the following functionalities:

17. Each sequence shall have a maximum of 500 cameras.

18. Each camera in the sequence shall have its own individual dwell time, from 1 to 60 seconds.

19. Each entry in a sequence shall have the capacity to trigger PTZ camera presets, patterns, or auxiliaries.

20. The Client shall have the capability to display recorded video with full VCR controls. This feature shall display video from multiple cameras simultaneously. The user shall be able to play video as fast as possible (all images), in real time, or by skipping a selectable number of seconds.

21. The Client shall support simultaneous playback of up to sixteen cameras all synchronized with each other. Non-synchronous playback of multiple cameras shall not be acceptable.

22. The Client shall support tours of multi-camera displays.

FF. Warranty
1. 3 year parts and labor

GG. Pelco Model Numbers **NO EXCEPTIONS**

1.	DSSRV2-005	NVR without optical disk drive, 500 GB storage
2.	DSSRV2-040	NVR without optical disk drive, 4 TB storage
3.	DSSRV2-080	NVR without optical disk drive, 8 TB storage
4.	DSSRV2-120	NVR without optical disk drive, 12 TB storage
5.	DSSRV2-160	NVR without optical disk drive, 16 TB storage
6.	DSSRV2-200	NVR without optical disk drive, 20 TB storage
7.	DSSRV2-120RD	NVR with RAID configuration, 12 TB storage
8.	DSSRV2-160RD	NVR with RAID configuration, 16 TB storage
9.	DSSRV2-200RD	NVR with RAID configuration, 20 TB storage
10.	DSSRV2-240RD	NVR with RAID configuration, 24 TB storage
11.	DSSRV2-005DV	NVR with optical disk drive, 500 GB storage
12.	DSSRV2-040DV	NVR with optical disk drive, 4 TB storage
13.	DSSRV2-080DV	NVR with optical disk drive, 8 TB storage

14. DSSRV2-120DV — NVR with optical disk drive, 12 TB storage
15. DSSRV2-160DV — NVR with optical disk drive, 16 TB storage

HH. Optional Accessories
1. DS-SW-CAM — DSSRV2 models include eight IP licenses for Pelco and third party IP cameras; additional DS-SW-CAM licenses can be purchased separately
2. ENC5516 — Direct-attached analog encoder
3. ENC5400-4PORT — 4-port host card; connects ENC5416 or ENC5516 encoders
4. DSSRV-RAID — LSI 3Ware 9750-8i RAID controller card
5. DSSRV-SCSI — Adaptec® SCSI Card 29320LPE
6. DSHDD-005 — 500 GB upgrade/replacement drive
7. DS-EN-HDD-TB — 4 TB upgrade/replacement drive

DIGITAL SENTRY® NVs NETWORK VIDEO SOFTWARE

TECHNICAL SPECIFICATIONS **SECURITY SYSTEM**
DIVISION – 28 ELECTRONIC SAFETY AND SECURITY
LEVEL 1_28 20 00 ELECTRONIC SURVEILLANCE
LEVEL 2_28 23 00 VIDEO SURVEILLANCE
LEVEL 3_28 23 19 DIGITAL VIDEO RECORDERS AND ANALOG RECORDING DEVICES

3 GENERAL

A. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts as long as the product is commercially available from the manufacturer.

B. All manufactured products shall be thoroughly tested and proven in actual use.

C. All manufactured products shall include, at no additional cost, online support services and availability of a toll-free (U.S. and Canada), 24-hour technical assistance program (TAP) for emergencies.

D. The manufacturer shall repair or replace without charge, manufactured products proven defective in material or workmanship for the stated warranty period from the date of shipment.

4 PRODUCTS

4.1 IP VIDEO MANAGEMENT SYSTEM

A. The IP video management system shall consist of Digital Sentry® DS NVs version 7.x software.

B. The IP video management system software updates shall be downloadable from a publicly available website.

C. The IP video management system shall support up to 64 video channels per server when loaded on commercial off-the-shelf (COTS) hardware. Analog streams shall be supported using Pelco and/or third-party encoders.

D. The IP video management system shall support recording of JPEG, MPEG-4 and H.264 IP streams.

E. The IP video management system shall support Pelco and third-party H.264 Megapixel video streams up to 10 Megapixel.

F. The IP video management system shall have a fully open architecture with support for both IP-specific camera as well as cameras with ONIVIF 1.02 compliance.

G. The IP video management system shall support automatic detection of Pelco IP cameras. Third-party IP cameras shall be automatically detected dependent on IP driver versions and manufacturers specifications.

H. The IP video management system shall support an unlimited number of systems connected over a network.

I. The IP video management system shall be viewed, managed, and played back through a single user interface simultaneously with other Digital Sentry digital video management systems through supplied DS Admin or DS ControlPoint Client software.

J. The IP video management system shall utilize a Windows® 7 Ultimate 64-bit operating system.

K. The IP video management system shall support audio recording from Pelco cameras with Sarix technology in addition to third-party manufacturer's audio recording.

L. The IP video management system shall be capable of continuous scheduled alarm/event and motion recording. Pre- and post- alarm recording shall also be available and shall be fully programmable on a per channel basis.

M. The IP video management system shall allow archival of video data to computers or SAN storage devices over a network connection with the optional DS Archive Utility. The archival schedule shall be either automatic at user-defined intervals or manual and shall be configurable per connected camera.

N. The IP video management system shall support network health and monitoring utilizing third-party SNMP monitoring tools.

O. The IP video management system support for Pelco Sarix analytics at no additional licensing cost

P. The IP video management system shall indicate system performance and operation status utilizing a variety of HTML reports.

Q. The IP video management system shall optionally support on-board video analytics in quantities of two or four channels with Active Alert software and the DS DataPoint interface. The DS DataPoint interface shall provide video analytics monitoring including tracking and counting objects and people.

R. The IP video management system shall support Lightweight Directory Access Protocol (LDAP).

S. IP Video Management Clint Software requirements

1. The IP video management system shall provide the capability of running a client application in additional to the video management system.

2. A client computer with system compatible software shall be the user interface for viewing one or more systems. Live and recorded video and current event video shall be displayed on any client computer using a proper login and password. The client computer shall be

able to connect to an unlimited number of recorders simultaneously to display live and recorded video.

3. Client Software shall be unlicensed and available to be installed on as many clients as required by the user.

4. Client Software shall be compatible with multiple DVR and NVR platforms to include all Pelco Digital Sentry®, Pelco DX8000/DX8100, and Pelco DX4100, DX4500/DX4600, DX4700/DX4800.

5. Client Software shall be password controlled such that password functionality set at each connected system will be recognized at the client. Password shall limit the ability to access live or recorded video as well as the ability to export video.

6. Client Software shall allow multiple monitor support for up to four displays per client workstation, providing virtual matrix functionality.

7. Client Software shall allow the connection of Pelco KBD5000 keyboard controllers to the client workstation to control PTZ operations and camera call-up.

8. Client Software shall allow video streams to be selectable from a system tree on an individual camera, individual system, client defined local groups, or from predefined recorder based groups.

9. Client Software shall be a tab based work environment with the ability to undock the tabs creating a virtual workspace on single or multiple monitor clients.

10. Client tabs shall include system management, live, and search options. Tabs can be displayed simultaneously on the client.

11. Systems Tab shall display and sort available systems, connection status, system names, system IP addresses, and custom categories. This tab shall additionally allow:

    a. Manual connect and disconnect of systems to the client
    b. Virtual systems naming
    c. Auto Connecting
    d. Adding, deleting, and editing available systems
    e. Live video tab shall have the ability to be created up to four times on a single client workstation providing for video display combinations and simultaneous video streams from as many different systems with consideration for maximum client bandwidth.

12. Live video tab shall provide the following functionalities:
    a. Quick Review which shall display recorded video from the last 1, 5, 15, 30, 60 or 90 minutes, providing near instantaneous review of recent events
    b. One week graphical display of recorded video
    c. Borderless display option
    d. Screen layout selection
    e. On the fly on-screen display changes including time, date, camera name, frame rate, frame size, alarm display, and border indicators
    f. Digital zoom
    g. User selectable in-video PTZ control or dashboard style control
    h. Drag and drop audio support associating any audio with any video
    i. Search video tab shall allow for the search of one or multiple cameras from one or multiple systems simultaneously. Search tab shall provide the following functionalities:
    j. Time and date search
    k. Advanced data search with DataPoint interfaced software to Active Alert Intelligent Video and POS

l. Drag and drop audio support to associate audio with any video

13. Video export to any system accessible media including locally to HDD, CD/DVD, Flash USB device or to network storage

14. Video authentication of exported video via check sum verification

15. Alarm video tab shall allow for alarm pop-up and playback of active alarms. Alarms may be based on motion activity, an external software trigger from Active Alert analytics or a preset data alarm from DS DataPoint. An alarm list pane shall be displayed for playback of queued alarms.

16. The Client shall incorporate virtual matrix functionality whereby camera sequences may be created on the monitoring workstation with the following functionalities:

17. Each sequence shall have a maximum of 500 cameras

18. Each camera in the sequence shall have its own individual dwell time, from 1 to 60 seconds

19. Each entry in a sequence shall have the capacity to trigger PTZ camera presets, patterns, or auxiliaries

20. The Client shall have the capability to display recorded video with full VCR controls. This feature shall display video from multiple cameras simultaneously. The user shall be able to play video as fast as possible (all images), in real time, or by skipping a selectable number of seconds

21. The Client shall support simultaneous playback of up to sixteen cameras all synchronized with each other. Non-synchronous playback of multiple cameras shall not be acceptable

22. The Client shall support tours of multi-camera displays

23. Remote Client Minimum PC Requirements

a.	Processor	2nd Generation Intel® Core i7 processor with integrated graphics
b.	Memory	4 GB or higher
c.	Graphics Card	Graphics controller card with 512 MB (or greater) dedicated video memory
d.	Optical Drive	DVD
e.	Operating System	Windows XP Professional SP2, Windows Vista (32 or 64 -bit), Windows 7 (32 or 64 bit)

T. Warranty
1. 3 year parts and labor

U. Pelco Model Numbers **NO EXCEPTIONS**

1.	DS-NCS-NC	Video Recording Software Solution
2.	DS-SW-CAM	IP camera license for an IP camera and/or each analog camera connected to an IP encoder

IME SERIES SARIX® FIXED DOME NETWORK CAMERA

TECHNICAL SPECIFICATIONS SECURITY SYSTEM
DIVISION – 28 ELECTRONIC SAFETY AND SECURITY
LEVEL 1___28 20 00 ELECTRONIC SURVEILLANCE
LEVEL 2___28 23 00 VIDEO SURVEILLANCE
LEVEL 3__28 23 29 VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS

5 GENERAL

A. Equipment and materials used shall be standard components that are manufactured and available for purchase as standard replacement parts as long as the product is commercially available from the manufacturer.

B. All manufactured products shall be thoroughly tested and proven in actual use.

C. All manufactured products shall include, at no additional cost, online support services and availability of a toll-free (U.S. and Canada), 24-hour technical assistance program (TAP) for emergencies.

D. The manufacturer shall repair or replace without charge, manufactured products proven defective in material or workmanship for the stated warranty period from the date of shipment.

6 PRODUCTS

6.1 ENVIRONMENTAL, VANDAL-RESISTANT, NETWORK DOME CAMERA

A. The environmental network dome camera shall offer multiple simultaneous video streams with 3 megapixel (MPx) 2048 x 1536 resolution, auto iris and varifocal lens.

B. The environmental network dome camera shall provide a manual 3-axis (pan/tilt/rotation) positioning to allow adjustment for optimum camera rotation and placement.

C. The environmental network dome camera shall provide options for clear and smoked lower dome.

D. The environmental network dome camera shall provide SureVision™ 2.0 technology that seamlessly delivers extended True Wide Dynamic Range (WDR), low-light performance, anti-bloom technology, 3-D noise filtering, and enhanced tone mapping, all operating simultaneously.

E. The environmental network dome camera shall feature an unsupervised/supervised alarm input, relay output and line level/external microphone input connections.

F. The environmental network dome camera shall provide a removable, local storage medium (Micro SD) for scheduled and event-based recording of images.

G. The environmental network dome camera shall provide a service video stream in addition to and independent of the video streams.

H. The environmental network dome camera shall provide advanced low-light capabilities for day/night models with sensitivity down to 0.005 lux in color and 0.0013 lux in monochrome.

I. The environmental network dome camera shall support industry standard Power over Ethernet (PoE) IEEE 802.3af, Class 3 to supply power to the camera over the network.

J. The environmental network dome camera shall provide True Wide Dynamic Range (WDR) up to 100 dB with dynamic adjustments through the User Interface.

K. The environmental network dome camera shall have a mechanical IR cut filter mechanism for increased sensitivity in low-light installations. Set points for the IR cut filter feature shall be configurable through an embedded Web browser.

L. The environmental network dome camera shall support H.264 High, Main or Base profiles, using constrained variable bit rate (CVBR) as the default, variable bit rate (VBR), or constant bit rate (CBR) with target range.

M. The environmental network dome camera shall support two simultaneous, configurable video streams. H.264 and MJPEG compression formats shall be available for primary and secondary streams with selectable Unicast and Multicast protocols.

N. The environmental network dome camera shall support configurable frame rates, bit rates and group of pictures (GOP) structures for additional bandwidth administration.

O. The environmental network dome camera shall be conformant to the ONVIF Profile S and Profile G, and support open architecture best practices with a published API available to third-party network video recording and management systems.

P. The environmental network dome camera shall provide 802.1x port security to establish point-to-point access through a wired or wireless port using Extensible Authentication Protocol (EAP). Supported EAP methods shall include EAP-MD5, EAP-TLS, EAP-TTLS, EAP-PEAP and EAP-FAST.

Q. The environmental network dome camera shall support SNMP v2c and v3.

R. The environmental network dome camera shall support IPv6 configurations in conjunction with IPv4.

S. The environmental network dome camera shall provide Auto or Manual exposure settings for adjusting the amount of light detected by the camera sensor.

T. The environmental network dome camera shall provide user-selectable configurations for day/night auto mode. Transitional levels shall be used to set the desired light level for transitioning to night mode. Transition detect time shall control the length of time that the camera is exposed to a light level before changing to color or monochrome mode.

U. The environmental network dome camera shall provide flicker correction.

V. The environmental network dome camera shall provide motorized zoom capabilities with a Web browser interface for remote configuration and administration.

W. The environmental network dome camera shall provide autofocus capabilities with a Web browser interface for remote configuration and administration. User-selectable options for full-range auto-focus and quick auto-focus shall be available.

X. The environmental network dome camera shall provide autofocus options based upon a manual trigger, day/night transition upon every 10-degree C temperature change, and once every 24 hours to ensure focus.

Y. The environmental network dome camera shall support 16 window blanks to conceal user-defined privacy areas that cannot be viewed by an operator.

Z. The environmental network dome camera shall provide I-Frame interval configuration to increase or decrease the number of I-Frames per second.

AA. The environmental network dome camera shall provide User and Group settings to assign permissions and access levels to the camera. The camera shall provide local management where the camera manages the access levels or remote mode where the camera authenticates the user through a Lightweight Directory Access Protocol (LDAP) server.

BB. The indoor network camera system shall provide integrated video analytics with the ability to provide hardware and software alarms based on the analytic behaviors.

1. Pelco Analytic Suites shall be configured and enabled using a standard Web browser.

2. Pelco Analytic Suites shall allow remote operation and alarm notification when used with an Endura system or a third-party system that supports Pelco's Analytics API.

3. Pelco Analytics include:

a. Abandoned Object: Detects objects placed within a defined zone and triggers an alarm if the object remains in the zone longer than the user-defined time allows. An airport terminal is a typical installation for this behavior. This behavior can also detect objects left behind at an ATM, signaling possible card skimming.
b. Adaptive Motion: Detects and tracks objects that enter a scene and then triggers an alarm when the objects enter a user-defined zone. This behavior is primarily used in outdoor environments with light traffic to reduce the number of false alarms caused by environmental changes.
c. Camera Sabotage: Detects contrast changes in the field of view. An alarm is triggered if the lens is obstructed with spray paint, a cloth, or a lens cap. Any unauthorized repositioning of the camera also triggers an alarm.
d. Directional Motion: Generates an alarm in a high traffic area when a person or object moves in a specified direction. Typical installations for this behavior include an airport gate or tunnel where cameras can detect objects moving in the opposite direction of the normal flow of traffic or an individual entering through an exit door.
e. Loitering Detection: Identifies when people or vehicles remain in a defined zone longer than the user-defined time allows. This behavior is effective in real-time notification of suspicious behavior around ATMs, stairwells, and school grounds.
f. Object Counting: Counts the number of objects that enter a defined zone or cross a tripwire. This behavior might be used to count the number of people at a store entrance/exit or inside a store where the traffic is light. This behavior is based on tracking and does not count people in a crowded setting.
g. Object Removal: Triggers an alarm if an object is removed from a defined zone. This behavior is ideal for customers who want to detect the removal of high value objects, such as a painting from a wall or a statue from a pedestal.
h. Stopped Vehicle: Detects vehicles stopped near a sensitive area longer than the user-defined time allows. This behavior is ideal for airport curbside drop-offs, parking enforcement, suspicious parking, traffic lane breakdowns, and vehicles waiting at gates.

CC. The environmental network dome camera shall be vandal and tamper resistant with an impact resistance exceeding rating of K10++ (50 Joules) per IEC 62262.

DD. The environmental network dome camera shall be plenum-rated per 2008 NEC article 300.22(C)(2).

EE. The environmental network dome camera shall be NEMA-4X, IP66 rated.

FF. The environmental network dome camera shall provide a 3/4-inch NPT conduit attachment on the side and top of the back box for in-ceiling and surface mounted applications.

GG. The environmental network dome camera shall attach to a standard 4-inch square box or standard 2-gang electrical box for surface mounted applications.

HH. The environmental network dome camera shall provide a 1.5-inch NPT conduit attachment for pendant mounted applications.

II. The environmental network dome camera shall be capable of firmware upgrades through a network using a software-based device utility.

JJ. The environmental network dome camera shall meet or exceed the following design and performance specifications.

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1. Camera Specifications

a. Imaging Device	1/3-inch
b. Imager Type	CMOS
c. Imager Readout	Progressive scan
d. Maximum Resolution	
1. 4:3 Aspect Ratio	3.0 MPx (2048 x 1536) 1.9 MPx (1600 x 1200) 1.2 MPx (1280 x 960) 0.5 MPx (800 x 608) 0.3 MPx (640 x 480) 0.08 MPx (320 x 240)
2. 16:9 Aspect Ratio	1080p MPx (1920 x 1080) 720p MPx (1280 x 720) 0.5 MPx (800 x 448) 0.2 MPx (640 x 352) 0.06 MPx (320 x 176)
e. Signal-to-Noise Ratio	>60 dB
f. Auto Iris Lens Type	DC drive
g. Electronic Shutter Range	0.5 ~ 1/48,000 sec
h. True Wide Dynamic Range	Up to 100 dB
i. White Balance Range	2,000° to 10,000°K
j. Sensitivity 3~9 mm	f/1.2; 2,850°K; SNR >20 dB
1. Color (33 ms)	0.1 lux
2. Color (500 ms)	0.005 lux
3. Mono (33 ms)	0.05 lux
4. Mono (500 ms)	0.0013 lux
k. Sensitivity 9~22 mm	f/1.6; 2,850°K; SNR >20dB
1. Color (33 ms)	0.4 lux
2. Color (500 ms)	0.009 lux
3. Mono (33 ms)	0.09 lux
4. Mono (500 ms)	0.002 lux
l. Day/Night Capabilities	Yes
m. Mechanical IR Cut Filter	Yes, (ON/OFF/AUTO selectable), with different set points on lux
n. Available Languages	Chinese, English, French, German, Italian, Portuguese, Russian, Spanish, and Turkish

2. Lens Specifications

a. Lens Type	Built-in; varifocal
b. Focal Length	f/1.2, 3 ~ 9 mm, or f/1.6, 9 ~ 22 mm
c. Focus	Autofocus, motorized

d. Zoom	Remote
e. Auto Iris Type	DC drive P-iris lens

3. Video Specifications

a. Video Streams	Multiple simultaneous streams with up to 2 different configurations plus service stream; the second stream is variable based on the setup of the primary stream
b. Available Resolutions	Two configurable streams as follows:
1. 4:3 Aspect Ratio	3 MPx (2048 x 1536) 1.9 MPx (1600 x 1200) 1.2 MPx (1280 x 960) 0.5 MPx (800 x 608) 0.3 MPx (640 x 480) 0.08 MPx (320 x 240)
2. 16:9 Aspect Ratio	1080p MPx (1920 x 1080) 720p MPx (1280 x 720) 0.5 MPx (800 x 448) 0.2 MPx (640 x 352) 0.06 MPx (320 x 176)
c. Frame Rate	Up to 30, 25, 15, 12.5, 10, 5, 1 (depending on the coding, resolution, and stream configuration)
d. Video Encoding	H.264 High, Main, or Base profiles and MJPEG
e. Bit Rate Control	Constrained variable bit rate (CVBR), constant bit rate (CBR), and variable bit rate (VBR) with target range
f. Service Stream	JPEG stream; the aspect ratio will be consistent with the independent streams
g. Supported Protocols	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, IPv6, SNMP v2c/v3, QoS, HTTP, HTTPS, LDAP (client), SSH, SSL, SMTP, FTP, ARP, ICMP, and 802.1x (EAP)
h. Users	
1. Unicast	Up to 20 simultaneous users depending on the resolution settings
2. Multicast	Unlimited H.264
i. Security Access	Password protected
j. Software Interface	Web browser view and setup
k. Pelco System Integration	Digital Sentry 7.3 (or later); Endura 2.0 (or later); DX4700/DX4800
l. Open API	Pelco API or ONVIF Profile S and Profile G
m. Mobile Application	Integrated with Pelco Mobile Application
n. Minimum PC Requirements	
1. Processor	Intel® Core™ i3 processor, 2.4 GHz
2. Operating System	Microsoft® Windows® 7 (32- and 64-bit), or Windows Vista®; or Mac OS® X 10.4 (or later)
3. Memory	4 GB RAM
4. Network Interface	100 Megabits (or greater)
5. Monitor	Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution
6. Web Browser	Internet Explorer® 7.0 (or later) or Mozilla® Firefox® 3.5 (or later); Internet Explorer 8.0 (or later) is recommended for configuring analytics

7. Media Player	Pelco Media Player or QuickTime® 7.6.5 for Windows 7, XP, or Vista; or QuickTime 7.6.4 or Mac OS X 10.4 (or later)

4. Electrical Specifications

a. Network Port	RJ-45 for 100Base-TX, Auto MDI/MDI-X
b. Accessory Port	Micro B USB connector for Pelco accessories
c. Cable Type	Cat5 cable or better for 100Base-TX
d. Input Power	PoE (IEEE802.3af, Class 3)
e. Power Consumption	8.5 W nominal
f. Current Consumption	350 mA maximum
g. Local Storage	Micro SD, SDHC
h. Alarm	Unsupervised/supervised modes
1. Unsupervised	Detects open or closed alarm state
2. Supervised	Detects open and short alarm state with external 1 kohm resistor
3. Input	3.5 VDC maximum, 3.5 mA maximum
i. Relay Output	±32 VDC maximum, 150 mA maximum
j. Audio	
1. Streaming	Bidirectional; full or half duplex
2. Input/Output	Line level/external microphone input; 600-ohm differential, 1 Vp-p max signal level
3. Compression	G.711 PCM 8 bit, 8 kHz mono at 64 kbit/s

5. Analytic Specifications

a. Required Systems for Pelco Analytics	
1. Pelco Interface	WS5200 Advanced System Management Software on an Endura 2.0 (or later) system
2. Open API	The Pelco API can transmit behavior alarm data to third-party applications, available at *pdn.pelco.com*

6. Mechanical Specifications

a. Dome Attenuation	
1. Clear	Zero light loss
2. Smoked	f/1.0 light loss
b. Pan/Tilt Adjustment	Manual
1. Pan	355°
2. Tilt	180°
3. Rotation	360°

7. Environmental Specifications

a. Operating Temperature	–40º to 50ºC (–40º to 122ºF)
b. Cold Start	–20ºC (–4ºF)
c. Operating Humidity	10 to 95%, RH condensing
d. Impact Resistance	K10++ 50 Joules per IEC 62262
e. Shock and Vibration	EN50155 Category 1, Class B; IEC 60068:2-6 and 2-27

8. Certifications
   a. CE, Class A
   b. FCC, Class A
   c. ICES-003, Class A
   d. UL/cUL Listed
   e. KCC
   f. C-Tick

g. CB
h. Meets NEMA Type 4X
i. IP66 standards
j. IP56 standards
k. Compliant with applicable immunity sections of EN50155, EN 50121-3-2, and EN 50121-4
l. ONVIF Profile S and Profile G Conformant

KK. Warranty
1. 36 months, parts and labor

LL. Pelco Model Numbers

1.	IME319-1EP Series	Environmental, Vandal-resistant, 3 MPx resolution network dome camera IME319-1EP
2.	WMVE-SR	Wall Mount