

6820000 VIDEO EQUIPMENT
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Comments: (3-22-17, Internal)

I have the following comments/concerns:

1. 682-1.2.2: The addition of the statement ‘Fixed cameras must be have a 3-9mm varifocal lens with automatic iris unless shown otherwise in the Plans’ has the potential to effect previously products on the APL. We need to discuss and agree on a plan of APL implementation for this change.

Response: This addition will not affect anything currently listed on the APL because there are no fixed cameras currently listed on the APL.
No change made.

2. 682-1.2.5: The addition of the statement ‘The camera must implement all objects, operations, and commands required by SR-682-1.2.1-01, Supplemental CCTV Camera NTCIP and ONVIF Requirements, as published on the Department’s State Traffic Engineering and Operations Office web site at the time of Contract letting.’ Is in conflict with the general APL requirements. APL requires products to meet requirements at the time of placement. We need to discuss this addition.

Response: “At the time of Contract Letting” will be deleted.
Change made.

3. (Also submitted on 4-20-17) In section 682-1.2.5 Communication, 3rd paragraph, it states 'at time of Contract letting.' This language needs to be deleted to be in conformance with Section 6. When the old APL Traffic Operations equipment were merged with the old QPL the results was that all approved products are now subject to Section 6 requirements which are at time of use.)

Response: At the time of Contract Letting” will be deleted.
Change made.

Paul Webb
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Comments: (4-19-17)

1. As currently written language in 682-1.2.3 last paragraph appears to be confusing. It currently states "The positioner within the dome-type CCTV camera must have a minimum automatic pan speed of 240 degrees per second to a preset camera position, a maximum manual pan speed of 80 degrees per second minimum, and that maximum manual tilt speed of 40 degrees per second minimum." Why not just state as " The positioner within the dome-type CCTV camera must have a minimum automatic pan speed of 240 degrees per second to a preset camera position, a

minimum manual pan speed of 80 degrees per second, and minimum manual tilt speed of 40 degrees per second.”?

Response: ONVIF streaming is required media streaming using RTSP. Video access on desktop computers will use RTSP for IP cameras.

No change made.

2. Should a hyperlink be provided to the State Traffic Ops webpage to access the supplemental requirement?

Response: Link will be provided.

Change made.

Peter Vega
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Comments: (4-19-17)

1. I see that they're requiring both NTCIP AND ONVIF protocols? Sunguide supports both for PTZ, but while they call out ONVIF Core, Streaming, and Media Service specifications, I don't believe Sunguide currently supports anything for the streaming side of the protocol. I wonder if they have a specific reason in mind.

Response: ONVIF streaming is required media streaming using RTSP. Video access on desktop computers will use RTSP for IP cameras.

No change made.

2. 682-2.2.2 Video Wall Display: "Furnish and install a video wall display consisting of tiled, rear projection video display cubes arranged in a wall, as shown in the Plans, together with a video display control system. " It then goes on to have sections 682-2.2.4 (Rear Projection Video Display) and 682-2.2.5 (Flat Panel Display), although 682-2.2.2 explicitly calls out rear projection cubes. It sounds like 682-2.2.2 needs to be changed to something like "...consisting of video display devices as described below...", otherwise you're explicitly calling for rear projection devices then contradicting that by saying "here's the spec for flat panels that you can't use because of -2.2.2"

Response: Change will be made to clarify that rear projection and flat panel displays are allowed.
Change made.

3. For section 682-3 Warranty, it calls for a 3-year warranty from the manufacturer starting at final acceptance. Would this be the place to make mention of any manufacturer EOL issues? (Ex: We have product going in on one project that has already been EOL'd by the manufacturer. Does warranty replacement cover extension of EOL support for the warranty period, or replacement with an equivalent model that is not end of life?)

Response: Manufacturers must support all warranties and end of life issues for the remaining period of warranty. To date, we have successfully held manufacturers accountable numerous times in the past.
No change made.

Pete Ganci
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Comments: (4-24-17)

We suggest adding the following requirement:

1. CCTV must be a fully compliant SMPTE HDTV Video Camera (SMPTE 274M for 1920 x 1080, SMPTE 296M for 1280 x 720). This is important because the Society of Motion Picture & Television Engineers is an organization that established standards in High Definition Video. The four primary components of the referenced SMPTE standards are: o Resolution o Aspect Ratio o Frame Rate o Digital Representation (color rendering) This SMTPE standard provides a guaranty of color rendering, resolution, frame rate and aspect ratio. By complying to this standard a camera manufacturer can guaranty that the red car is in fact red, that the frame rate listed is indeed verified, and your specific resolution is consistent and steady. (This is especially important when dealing with any type of software analytics that rely on industry standard video streaming like vehicle counting, classification, Automated Incident reporting, etc).

Response: We will be researching this for a future specification addition.
No change made.

2. CCTV must have an open source API platform that allows 3rd party and non-proprietary software to reside onboard the camera or at the central TMC.

Response: At this time we will not be requiring open source API on cameras.
No change made.

3. CCTV must have multi-stream formats allowing the user to customize multiple, independently configured, separate streams (5+ Streams) in any way they desire....16:9, 4:3, SD, HD, Low Res, High Res, etc. This is extremely important when working with legacy video products/ video walls and allows for maximum adaptability.

Response: Because these Specifications are minimum requirements, this change would require a statewide discussion with input from all stakeholders.
No change made.

Kat Simpson
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Comments: (4-25-17)

Responding on behalf of April Blackburn, Chief of Transportation Technology: Change the document heading to state 'Video Display Equipment' instead of 'Video Equipment'.

Response: (per Dan Hurtado) Thank you for your comment on Specification 682 – Video Equipment. Per our conversation, this document deals with Intelligent Transportation System components and associated hardware installed on the State Highway System. Renaming the Specification would not be appropriate.

No change made.

Craig Waltzer
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Comments: (5-5-17)

1. Section 682-1.2.2 Lens – In my opinion, a 3 ~ 9mm varifocal lens is insufficient for a fixed roadside camera. The fixed cameras GovComm has at TERL are 2.8 ~ 12mm and we have found that this focal length is insufficient for distances greater than 100'. For example, GovComm tested our 2.8 ~ 12mm fixed camera to read a full-sized walk-in DMS at 500' on SR 836 in Miami. The image size of the DMS on the viewing screen (fully zoomed-in optically) was approximately 10%. GovComm changed formats to our newer model fixed camera with a motorized varifocal lens length of 8 ~ 32mm with better results. I noticed that one of our competitors has a good lens calculator tool on their website (<https://www.axis.com/gb/en/tools/lens-calculator>) that calculates required focal length based on the size of the object you are viewing, distance from the object and the processor (camera specific). I have seen similar tools that show actual objects at different distances that are zoomed with different focal lengths. Feel free to contact me if you want some more links to help better evaluate focal lengths.

Response: A lens 3-9 mm is very specific and may be too restrictive. We may investigate this for future change to a performance requirement.

No change made.

2. Section 682-1.2.5 Communication - Fixed cameras cannot support many of the mandatory requirements of SR-682-1.2.1-01. Fixed cameras have the ability to remotely zoom but do not have the ability to pan, tilt or go to a preset coordinate.

Response: This is explained in the second paragraph of the specified SR-682-1.2.1-01.

No change made.

Craig Carnes
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Comments: (5-10-17)

1. 682-1.2.1 - Last paragraph - In addition to programmable titles it would be nice if the 511 and/or agency logo could be embedded within the image.

Response: Because these specifications are minimum requirements, this change would require a statewide discussion with input from all stakeholders.
No change made.

2. 682-1.2.6 - Suggest adding the ability for POE operations

Response: The Specification as written may not mention PoE, but it does not restrict PoE. There are cameras already listed on the APL that utilize PoE.
No change made.

3. 682-1.2.9.3 - Suggest adding the ability to adjust the frames per second remotely

Response: We will investigate revising the specification to also allow adjusting the frames per second.
No change made.

4. 682-1.2.9.4 - Suggest the minimum be 10/100/1000

Response: Because these specifications are minimum requirements, this change would require a statewide discussion with input from all stakeholders.
No change made.

5. 682-2.2.2 Video Wall Display - Do not limit to rear projection video displays. These are costly to purchase and maintain.

Response: Change will be made to clarify that rear projection and flat panel displays are allowed.
Change made.

District 5 Construction Operations Office
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Comments: (5-12-17)

1. In the first sentence of 682-1.2.1 Camera, should Contract Documents just be listed as Plans is already incorporated in the Contract Documents?

Response: Reference to Plans will be deleted.
Change made.

2. 682-1.4.2 Field Test Requirements: Perform local field operational tests at CCTV field sites to verify and confirm the following: 1. Physical construction has been completed as specified in the Plans Recommend to add: and all existing and proposed lanes are clearly visible with no line of site obstructions.

Response: Change will be made to require a field test to ensure unobstructed views from the camera.
Change made.

Katie King
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Comments: (5-15-17)

District 5 Comments Combined as a Group

682-1.1 Description: Insert the text “at the TMC or RTMC” after operator in the last sentence.

1. 2nd Paragraph of 682-1.2.1 Camera: Are we accepting any new analog cameras? If not can this be removed from the specification entirely since the legacy equipment specification information would be in past years copies of the spec book for reference.

Response: TMC/RTMC may be too restrictive. Will contact Katie to see if adding “locally” or “remotely” would be sufficient.

No change made.

2. 682-1.2.5 Communications: Recommend separating the communications specifications for analog and digital in order to avoid confusion.

Response: We are in agreement, but because these Specifications are minimum requirements, this change would require a statewide discussion with input from all stakeholders. There may be a different way to approach this issue that may present itself in the discussion.

No change made.

3. 682-1.2.6 Electrical Specifications: Some of the new cameras support PoE and DC power. Is that going to be addressed? Especially since some cameras may be in a remote location to the MFES and will support the use of a composite cable that provides DC power and copper/fiber Ethernet communications.

Response: All cameras must support NTCIP. In addition, IP cameras must also support ONVIF. We will discuss further to see if there is anything we can do to help with clarity.

No change made.

4. 682-1.2.9. Additional Requirements for IP Cameras: Can requirements be added to provide at a minimum: CCTV CAMERA CAPABLE OF SUPPORTING 30FPS 720P MULTICAST STREAMING WITH A 1000 kbps MAX BANDWIDTH AND 30FPS 1 CIF UNICAST STREAMING WITH A 250 kbps MAX BANDWIDTH SIMULTANEOUSLY VIA UNIQUE URLS. Recently in D5 we have been experiencing issues with CCTV cameras not supporting simultaneous feeds in low and high resolution in multicast and unicast. This functionality is needed for SunGuide, 511, and iVDS to all work together.

Response: Because these specifications are minimum requirements, this change would require a statewide discussion with input from all stakeholders.

No change made.

5. 682-1.2.9.1 Encoding Video Specifications: Change the Table 1.1 – Minimum Resolution Requirements table to read “1080P capable that allows for simultaneous low resolution streaming of multicast 480.

Response: Because these specifications are minimum requirements, this change would require a statewide discussion with input from all stakeholders.
No change made.

6. 682-1.2.9.4 Network Interface: In the second paragraph, second sentence, add conformance to IPv6 (this is because the USDOT CV pilot projects are requiring IPv6) and IGMP Version 3. Consider including the following for RTSP conformance: provides an RTSP video stream without the use of the "HTTP" protocol. (Network security is becoming an issue and if a camera requires http to initiate an RTSP stream it creates a security issue if the video passes through a firewall.)

Response: We are in agreement, but because these specifications are minimum requirements, this change would require a statewide discussion with input from all stakeholders.
No change made.

7. 682-1.4.2 Field Test Requirement: Is this test to be done at each "local" CCTV field site? If so, then you may want to add the word "local" to clarify as it could be interpreted as allowing remote testing from any field site.

Response: Change will be made to clarify tests are to be performed at each local CCTV site.
Change made.

Katherine Chinault
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Comments: (5-15-17)

1. 682-1.1 Description. Update second sentence to the following: The installed equipment must provide unobstructed video images of the roadway, traffic, and other current conditions around a roadside CCTV field site; respond to camera control signals from the operator; and transmit video images to remote locations for observation. (remove "capable of" since that statement sometimes leads to interpretation the equipment is capable, but with added features or upgrades not included with the provided product)

Response: Change made.

2. 682-1.2.2 Lens: Update third sentence to remove the word 'capable'. Just state the lens must provide automatic and manual focus, and iris control.

Response: Change made.
