9960100 Intelligent Transportation System Device Materials
COMMENTS FROM INDUSTRY REVIEW
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Comments: (11-7-23)
996-1.2: Should “as listed in table” be added to the section? Table 996-1: Should configuration be included? Table 996-1: Above in Section 996-1.1 you require manufacturer name OR trademark but here it appears both are required. Verify the other requirements match. 996-2.2: Analog camera produces National Television System Committee (NTSC) composite video output of 1V peak-to-peak (Vp-p) at 75 ohms with a minimum resolution of 470 horizontal and 350 vertical TV lines. Should “shall” be added so it reads “Analog camera shall produce a National Television System.” 996-2.2.2: should “unless otherwise shown in Plans” be “in Contract Documents”. 996-2.2.5: May need to add “or greater” so it reads “TIA/EIA-422 with a data rate of 9600bps or greater.” 996-2.2.9.1: "unicast and multicast sessions" does this mean these sessions need to be established at the same time or be capable of both types of connections? 996-2.2.9.2: Is there a minimum bit rate? 996-2.2.9.3: Most connections are terminated with ANST/TIA-568B standard. 996-2.3: Is this "32 inputs simultaneously" per display or across all displays? 996-2.3.3: The first line contradicts 996-2.3.1 996-2.3.3: Is there a latency requirement between input and output? 996-2.3.3: Is this "32 inputs simultaneously" per display or across all displays? 996-2.3.3.1: S-Video doesn't use BNC? Are these 50 or 75ohm 996-2.3.3.2: should this read Standard HDMI (as opposed to Dual-Link, Mini, or Micro) or are all HDMI connector types acceptable? 996-2.3.3.4: Verify, should this include MPEG4v10 or H.264? 996-3.2.1: provides at a minimum wire speeds.... I believe some of the APL listed devices provide Gigabit ethernet interfaces? 996-3.2.2: Should fiber specification be included? 996-3.2.3: MFES shall provide at a minimum two minimum 100BaseFX. 996-3.2.4: a minimum of four 10/100BaseTX copper ports/ 996-3.3.2: This contradicts the sentence before which states to provide Type LC connectors. 996-3.3.4: minimum of 12 10/100/1000BaseTX copper ports. The last sentence refers to 10/100/1000 Base TX ports but are not connected to the 12 copper ports. I feel adding the above text clarifies. 996-3.4.2: Should we list a minimum data rate? Do we want to set an upper limit? should the serial port support EIA-232 and 422 also?

Response: Changes to 996-1 will need to be coordinated with multiple FDOT Offices and will also impact similar requirements in other sections. We will consider making coordinated changes in a future revision, but no changes will be introduced at this point during the current update cycle. Agree that grammar can be improved for clarity in 996-2.2.1. The specification is stating minimum requirements, so data rates including 9600bps and greater are allowed by existing content. The intent is that cameras are required to support both types (unicast and multicast). This functionality is verified during evaluation for listing on the APL. Updated references to reflect EIA/TIA-568-B. The minimum requirement is that 32 video windows containing different content can be displayed on a single display as well as across all displays. While not contradictory, we will consider making changes to clarify and update 996-2.3.1 and 996-2.3.3 in a future revision (e.g., removal of S-Video and other obsolete interfaces, etc.), but no changes will be introduced at this point during the current update cycle. Correct, there are MFES on the

APL that support Gigabit speeds that exceed the 100M minimum requirement. The references to networking standards in 996-3.2.2 are sufficient, no changes will be introduced at this point during the current update cycle. The content in 996-3.3.3 has been updated for clarity (LC is preferred and most common but others can be shown in the Plans if needed). Added 10/100/1000 Base TX reference for copper ports for clarity as suggested. EIA-485 must support both 2-wire or 4-wire.

Action: Draft updated for clarification and to address comments as noted above.

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Comments: (10-24-23)
1.Should the environment specifications (996-3.3.8) be written the same as for other device testing as in 996-3.2.8?
Response: The TERL thoroughly reviews NEMA test reports when certifying devices. The MHES device type will not be reviewed by the TERL, so we want environmental requirements that can be verified by the CEI. These environmental requirements could be verified by reviewing a data sheet.

Action: No change.

2.I think 996-3.3.3 needs to be clarified. It states that LC connectors should be supplied, but support for ST, SC, LC and FC. This is confusing when read.
Response: The content in 996-3.3.3 has been updated for clarity (LC is preferred and most common but others can be shown in the Plans if needed).

Action: Draft updated for clarification and to address comment noted above.

3.I would consider adding 40G and 100G support for MHES as well, or stating that 10/100/1000/10000 is a minimum support level.
Response: The specification is stating minimum requirements, so support of faster data rates are allowed. The phrase “unless otherwise shown in the Plans” has been added to corresponding requirements in Section 684 per the FDOT Specification Style Guide to allow flexibility.

Action: Draft updated for clarification and to address comment noted above.

4.SNMP V2 should be dropped based on current Cybersecurity standards as it does not support encryption or authentication
Response: We will consider making changes to remove legacy SNMP requirements in a future revision, but no changes will be introduced at this point during the current update cycle. The device is currently required to support V2 and V3. The Contractor must coordinate configuration of these devices with the Department, at which point SNMP encryption and authentication settings can be agreed upon and implemented.

Action: No change.

5.In section 996-3.3.1 I think the statement should say “shall be performed in hardware”
Response: Agree.

Action: Draft updated to correct typo noted above.

6.Clarify this is for cabinets and not shelters are related to MHES specifications
Response: The specification will be used in conjunction with the Plans and other Contract Documents that will indicate the location where these devices are to be installed. The environmental requirements ensure equipment can tolerate installation in field cabinets with no HVAC as well as shelters or other locations with climate control.

Action: No change.

7.If the L3 switch specification is for cabinets and not shelters, why is the port requirements so much higher than that of a Layer2 LHES? These should be on par physically as they are serving the same area and only represent a change from Layer2 switching to Layer3 routing at the site.
Response: Agree. The port requirements were based upon multiple MSPs that have been used on prior FDOT projects. However, there could be instances where having more or less ports is appropriate on a specific project design. The phrase “unless otherwise shown in the Plans” has been added to corresponding requirements in Section 684 per the FDOT Specification Style Guide to allow flexibility.

Action: Draft updated for clarification and to address comment noted above.
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