7810301 ITS – MOTORIST INFORMATION SYSTEMS
COMMENTS FROM INDUSTRY REVIEW

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David O'Hagan
State Roadway Design Engineer
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Comment: (Internal Review)
781-3.1.2, 3rd paragraph: Why are we making these specifications? Is it known that this will support the sign for the AASHTO & Structures Manual -specified design criteria? The supplier should simply provide a Z shape necessary to accommodate the specified design criteria.

Response:
The Z bars given in the Specifications are a minimum. In the APL application, the fabricator must provide calculations substantiating that the bracing provided is adequate for the design.
Andre Pavlov

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Comments:
Good afternoon. I realize the documents referenced below are being distributed for industry review and comment however I hope you will consider my informal comments below for your consideration in the final versions.
Have a safe and happy New Year...

Most manufactures offer a GUI (graphical user interface) for local (serial connection) management of field devices. Would a requirement to provide a 32 bit GUI in lieu of a simple command line or 8/16 DOS type menu be of any benefit to (field) technicians? For remote management SunGuide would of course provide the GUI to TMC operators.

Document "Proposed Specification: 7810301 ITS Motorist Information Systems"

Section 781-4.2.9 Power System;
This section appears to contains a possible grammar error (fragmented sentence) in the last sentence as indicated in the image below.

the flashing beacons can be operated locally and remotely.

781-4.2.10*9* Power *System*~~Distribution~~: *Provide a solar or AC power system as shown in the plans.* ~~*Both solar and AC powered sites must be provided with*~~Provide a power distribution system*, for both solar and AC powered sites, that includes*~~with~~ automatic *battery* charging circuitry. *Ensure that b*~~*B*~~*attery chargers* ~~*must to*~~ prevent overcharging and *provide*~~with the capability~~ *a means* of ~~low-voltage~~ battery disconnection and isolation.

Provide external AC power supply module with backup batteries as shown in the plans. Ensure that *AC powered systems* ~~the power supply module~~ *utilize* ~~is a nominal~~ 120 volts of alternating current (V_{AC}) *nominal input voltage*. Ensure that the *HAR* ~~power supply module~~ operates *from 89-135VAC with a frequency* ~~at 50~~*of* ~~to~~ 60 *+/-3* Hz ~~and a maximum of 150 watts~~. Provide batteries that can continuously operate the HAR system at full power for a minimum period of three days without an external power source. Ensure that *loss of AC power to the system does not* ~~the system has an automatic charging unit and automatic power changeover with no~~ interrupt~~ion to~~ HAR transmissions.

Section “781-5.2.3 ESS, Item 1, data description B;
In the description of the surface data should the statement “percent of ice”” be replaced with “presence of ice” as indicated in the image below?

781-5.2.3 ESS: Install an ESS having the sensors necessary to collect, store, and transmit the following data:

1. Roadway data, including:
   - A) Temperature
   - ~~B) Subsurface temperature~~
   - ~~C~~*B*) *Surface*~~Precipitation~~ data that includes ~~precipitation type,~~ percent of ice, and precipitation depth/amount.
2. Atmospheric data, including:
   - A) Temperature
   - B) Relative humidity
   - C) Barometric pressure
   - D) Precipitation data that includes type and intensity
   - E) Visibility as affected by fog, smoke, or a combination thereof
   - F) Wind data, including direction and average speed
   - G) Solar radiation (optional)
3. Subsoil data *(optional)*, including:
   - A) Temperature
   - B) Moisture ~~(optional)~~
4. High water data

Section 781-5.2.4 Communications;
The acronym “RPU” does not appear to be defined within this document (Plain Language Initiative).

781-5.2.4 Communications: Use an RPU capable of transmitting all collected data to the transportation management center (TMC) using the National Transportation Communications for ITS Protocol (NTCIP) over any of the following media, as detailed in the plans:

1. Microwave communications, specifically, Florida's statewide Motorist Aid System (MAS) microwave communication infrastructure.
2. Ethernet communications over single-mode fiber optic cable that transfers data at a minimum rate of 10 megabits per second (Mbps).
3. Twisted-pair copper wire capable of transferring data at a rate of up to 128 kilobits per second (kbps).
4. Cellular mobile telephone service with data transmission rates of up to 56 kbps.

Ensure that all communications, including those between sensors and the RPU, are nonproprietary and compatible with the Department's SunGuide℠ Software System.

In certain cases, provide peer-to-peer wireless communication between RPUs at a maximum distance of 5 miles. Ensure that the RPU is capable of, or adaptable to, providing this type of communication.

Response:

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Specifications / Design Review
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Comments:
Difficult to review as there are duplicate portions.

Compare sections 781-3.1.3.3 & 781-3.2.3.2
Compare sections 781-3.1.3.4 & 781-3.2.3.3
Compare sections 781-3.1.8 & 781-3.2.8
Compare sections 781-3.1.10 & 781-4.2.110

781-3.1.1 Last paragraph – Suggest combining sentences and adding "and" between the two.

781-3.1.10 Control Cabinet Specifications – Suggest removing "Specifications" from the title.

Consider replacing the entire spec as the changes appear extensive although

Response:

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Chris Sweitzer
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Comments: (1-11-10)
The legibility distance range in the (proposed) last paragraph of 781-3.1.1 differs from the one listed in 781-3.1.4 (3rd paragraph).

Response:

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James T. Barfield, P.E.
District 3 Secretary

Comments:

MEMORANDUM

DATE: January 7, 2010

TO: Duane F. Brautigam, P.E., State Specifications Engineer, MS 75

FROM: James T. Barfield, P.E., District Secretary

COPIES: See Distribution List

SUBJECT: **Proposed Specification Change:** 7810301
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We have retrieved the referenced document from the State Specifications Office's Industry Review intranet website. Pursuant to request, we have reviewed the document, entitled "ITS-Motorist Information Systems" and offer the following comments for your consideration.

Confirm with the State Structures Office that the referenced horizontal aluminum Z members are indeed satisfactory for use. These were rejected as a satisfactory mounting method on a recent D3 project, and the Central Structure Office commissioned a study to evaluate the use of the horizontal Z members statewide. It is understood that the findings of the study did not support the continued use of the horizontal Z member in this application.

Thank you for the opportunity to provide input. If you have any questions or need additional information, please do not hesitate to contact me, at (850) 415-9200.

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Response:

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Comments:

Daktronics has reviewed the proposed specification changes by the Florida Department of Transportation, and we have put together the following list of suggestions.

1. Section 781-3.1.2 Sign Housing (paragraph 3) has an addition to state minimum specific dimension of 4”x3”x5/16” for the structural aluminum Z members on the rear of the sign housing. Could you please state the reasoning behind having this specific dimension listed in the specifications? Our suggestion is to remove both the dimensions of the Z bracket and their location. Instead, we would suggest requiring P.E. AASHTO calculations to ensure the design meets the intent of the specifications.

2. Section 781-3.1.3.4 Optical, Electrical, and Mechanical Specifications for Display Modules. Paragraph 5 has a requirement removed that called for the easy removal from the display module PCB without tools. We wanted to clarify that this requirement was for individual LEDs to be removed from the PCB board without tools, and this is why it was removed from the specification.

3. Section 781-3.3 TMC Communication Specifications for all DMS (Table 1 – Range Deviances for Objects) has had the required number of brightness levels changed from 255 to 16. Why has this specification been reduced to 16 levels of light? This is not consistent with a number of other state specifications and industry standard practice. The 16 level requirement was used years ago, and has since been phased out or changed to a minimum of 200 levels.

4. Section 781-3.3 TMS Communication Specifications for all DMS. Under Table 2-NTCIP 1203 Standard Software Tags, a requirement has been added to ensure the controller’s internal time clock can be configured to synchronize to a time server using the Network Time Protocol (NTP). It also states that the NTP synchronization frequency must be configurable and permit polling intervals from once per minute to once per week in 1-minute increments. Does this requirement need to support DNS, Static IP, or both? Please clarify.

Thank you for the opportunity to provide our comments regarding changes to the 781 Specifications. We appreciate that you value our input on these items, and we are

happy to work with the Florida DOT in any way we can to help with the process.
Please let me know if any of the above items require further clarification.

Response:

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