

# Origination Form

## Specifications

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<b>Date:</b>	2025-06-29T12:51:52Z	<b>Associated Specs:</b>	N/A

### Summary:

The proposed changes create separate subarticle headings for ITS UPS and Traffic Signal UPS (different runtimes and wattage) and clarify/consolidate requirements applicable to all UPS cabinets.

### Justification:

The language needs to be changed to update requirements to better meet stakeholder needs, reflect current technologies and practices, and incorporate lessons learned during product evaluations at the FDOT Traffic Engineering Research Lab.

### Do the changes affect other types of specifications?

Neither

### List Specifications Affected:

Other Affected Documents/Offices	Contacted	Yes/No
Other Standard Plans		No
Florida Design Manual		No
Structures Manual		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No
Materials Manual		No
Traffic Engineering Manual		No

**Are changes in line with promoting and making progress on improving safety, enhancing mobility, inspiring innovation, and fostering talent; explain how?**

Yes. Changes reflect stakeholder needs, update and clarify technical requirements, and improve consistency and quality of specification content.

**What financial impact does the change have; project costs, pay item structure, or consultant fees?**

No expected financial impact.

**What impact does the change have on production or construction schedules?**

No expected impacts to production or construction schedules.

**How does this change improve efficiency or quality?**

Changes improve efficiency and quality by updating requirements to address user needs, fostering consistency, and adhering to standardized formatting styles.

**Which FDOT offices does the change impact?**

Traffic Engineering and Operations Office

**What is the impact to districts with this change?**

Districts will benefit from updated requirements that address needs and reflect current products and industry practices.

**Does the change shift risk and to who?**

No expected shift in risk.

**Provide summary and resolution of any outstanding comments from the districts or industry.**

Comments and Responses are available on the Track the Status of Revisions hyperlink located on the Specifications landing page: <https://www.fdot.gov/programmanagement/Specs.shtm>

**What is the communication plan?**

Through the established specification revision process (e.g., Internal and Industry Review)

**What is the schedule for implementation?**

The Standard Specifications eBook and Workbook are effective July 1st every year.

## TRAFFIC CONTROL SYSTEM AUXILIARIES (REV 6-29-25)

ARTICLE 685-2 is deleted and the following substituted:

### 685-2 Materials.

**685-2.1: General:** Meet the following requirements:

Uninterruptible Power Supply\* .....Section 996

Remote Power Management Unit\* .....Section 996

\*Use products listed on the Department's APL.

**685-2.2 Uninterruptible Power Supply (UPS):** Use a line interactive or online/double-conversion UPS as shown in the Plans. UPS assemblies must be designed for installation in a roadside NEMA 3R enclosure to provide battery backup functionality for traffic control systems, including traffic signal and intelligent transportation system (ITS) devices. UPS assemblies must include batteries provided by the UPS manufacturer or in accordance with manufacturer's requirements. Batteries must be sealed and require no maintenance, cause no corrosion, and be capable of maintaining 80% of original capacity and performance for a minimum of five years.

Loss of utility power, transfer from utility power to battery power, and transfer back to utility power must not interfere with normal operation of connected equipment. In the event of UPS failure or battery depletion, connected equipment must be energized automatically upon restoration of utility power.

Removal and replacement of the UPS must not disrupt the operation of the equipment being protected.

All harnesses necessary to connect and operate the system must be included.

**685-2.2.1 ~~Electrical~~ UPS for ITS Cabinet:** UPS assemblies used to provide backup power in an ITS cabinet must provide a minimum of 350 watts (at 120 V<sub>AC</sub>) of continuous backup power for a minimum of two hours unless otherwise shown in the Plans.

**685-2.2.2 UPS for Traffic Signal Controller Cabinet:** —UPS assemblies used to provide backup power in a traffic signal controller cabinet must provide a minimum 400 watts (at 120 V<sub>AC</sub>) of continuous power for a minimum of 6.5 hours unless otherwise shown in the Plans.

**685-2.2. ~~23~~ Traffic Signal UPS Cabinets:** Cabinets used to house traffic signal UPS assemblies must be designed to be mounted to the side of a traffic cabinet or base mounted. ~~All UPS~~ cabinets must meet the requirements of Section 676 and must include shelves and rack rails to house all UPS system components including the UPS, batteries, harnesses, switches, surge protective device, power terminal block and a generator hookup with transfer switch. The UPS cabinet must allow a maintenance technician to safely insert power for ~~traffic signal~~ continued operation of connected equipment while the UPS or associated equipment is serviced or replaced.

A surge protective device must be installed where the supply circuit enters the cabinet in accordance with 620-2.7.1.

**685-2.2. ~~32.1~~ Transfer Switch and Generator Access Panel:** The cabinet must include an automatic transfer switch and generator access panel in accordance with Section 676. The generator access door must not protrude more than 1 inch when closed.

**685-2.3 Remote Power Management Unit (RPMU):** Use a RPMU as shown in the

Plans. The RPMU must be designed for installation in a roadside Traffic Cabinet to provide remote control of electrical receptacles.