# LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE

For The Technical Direction Of The LTPP Program

| | | | |
|---|---|---|---|
| Program Area: | Monitoring | Directive Number: | SM-5 |
| Date: | November 1, 1994 | Supersedes: | n/a |
| Subject: | Reset and Battery Replacement for the ONSITE CR10 Datalogger | | |

---

Whenever the ONSITE CR10 datalogger is reset or power is turned off, the data stored in the datalogger's memory is erased. The hourly readings for MRC temperature sensors 1 through 5, air temperature, and rainfall are contained in the file uploaded prior to the reset; however, the temperature measurements for MRC temperature sensors 6 through 18 performed since the previous midnight are lost and the daily summary statistics for the day the CR10 datalogger was reset are incorrect since they do not contain any data prior to the reset. Further, this reset generally occurs on the SMP test day, which is the most important day for these measurements. In order to prevent data loss, the ONSITE CR10 datalogger should not routinely be reset during monitoring visits. **The ONSITE CR10 datalogger should be reset only when equipment problems are experienced and parts of the instrumentation must be replaced or rewired.**

Notes: (1) Since the CR10 datalogger is not reset, operators should take care not to trigger the tipping bucket rain gauge during checking or cleaning. If the rain gauge is inadvertently tripped, the operator must note this on the summary data form so that these data can be removed in the office.

(2) The ONSITE data should be collected after completion of the last FWD test for the day so that the ONSITE data file will contain the hourly measurements made during FWD testing. If the last FWD pass is completed after 30 minutes past the hour, then the operator should wait until the top of the hour (i.e., 4:00, 5:00 p.m., etc.) to collect the ONSITE data. If the last FWD pass is completed prior to 30 minutes past the hour, then the ONSITE data can be collected immediately after the termination of the last FWD pass, unless other activities will cause the

operator to be on the site past the next hour interval. The objective is to have all of the hourly instrumentation measurements made during FWD testing contained in the upload file. This prevents the loss of these data due to any unforeseen circumstances that can occur between site visits.

Instructions provided in the CR10 manual indicate that lead acid batteries should be recharged prior to dropping below 11.76 volts. If the present voltage of a battery in the PS12 power supply is 11.80 volts or below, it must be replaced. When it becomes necessary to replace a battery, the following procedure MUST be followed:

- Do not turn the PS12LA's power switch OFF; leave it in the ON position.
- Connect an external 12V battery to the port labeled EXT with the supplied 1.5 m (5 ft) cable.
- Remove the old battery from the PS12 holder and remove the connector from the INT port.
- Replace the old battery with a new or recently charged lead acid battery.
- Make sure the power connector for the new or recently charged lead acid battery is secured in the port labeled INT once again.
- Remove the external battery from the EXT port.

Notes: (1) The PS12LA has two connectors labeled INT and EXT. These are for connecting the internal (power supply) battery and an external battery, respectively. A 1.5 m (5 ft) cable, with connector, is included with the power supply for connection to an external battery.

(2) Do not connect two batteries simultaneously to the INT and EXT ports without one of the batteries connected being diode protected. Otherwise, it is the same as connecting two batteries in parallel, which causes one battery to drop voltage and the other to raise voltage. Alkaline batteries connected to the external port must have a diode in series to block charging, which could cause an explosion.

When the above procedure is followed, continuous power is supplied to the CR10 datalogger and the ONSITE program does not have to be reset.

Prepared by: Aramis Lopez, Jr.

Approved by:

Paul Teng
Chief, LTPP Division