

CHARGING STORAGE BATTERIES

VOLTAGE MEASUREMENTS

CONTENTS

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|-----------------------|--|
| 1. GENERAL | 3. VOLTAGE READINGS |
| 1.1 Scope | 4. ADVANCE TURNOVER |
| 2. TOOLS AND SUPPLIES | 5. VARIATION DUE TO REMOVAL OF SINGLE CELL CHARGER |

1. GENERAL

1.1 Scope

1.11 The purpose of this section is to describe the method of obtaining voltmeter readings, making corrections for temperature and determining average cell voltage.

2. TOOLS AND SUPPLIES

2.1 Required tools and supplies are listed in Section 18A.

3. VOLTAGE READINGS

3.1 Measuring and reading cell voltages is a precise operation. The inaccuracies of the meter and the human error in reading and interpolating the indications can condemn a cell falsely. Knowledge of the proper use and care of the meter is essential. Most portable meters encountered by the installer are designed and calibrated to operate in a horizontal position. When reading the voltmeter view the needle as squarely as possible.

3.2 Read the meter to the nearest hundredth (0.01) volt.

3.3 Temperature correction of voltage provides comparable readings for cells operating at different temperatures. To the individual cell voltage reading, add .01 volt for each 30°F the electrolyte in that cell is higher, than the lowest temperature cell of the string. See Examples.

3.4 Average cell voltage for recording on ID-1285 and for calculating voltage requirements, is determined by adding together all corrected cell voltages and dividing by the number of cells. This calculated average cell voltage shall be to the nearest thousandth (.001) for record on ID-1285 and to the nearest hundredth (.01) when determining the average for requirements.

EXAMPLES

TEMPERATURE Degrees F	CORRECTION VOLTAGE Add To Voltage Reading
69 79	0
70 80	0
71 81	0
72 82	.01
73 83	.01
74 84	.01
75 85	.02
76 ETC.	.02

3.41 The average determined from individual cell readings is not necessarily the same average found by dividing the number of cells into the float voltage on the panel meter. A difference in these averages indicates meter errors or errors in reading and interpolating the meter and therefore are not necessarily comparable. If the voltage of the string as indicated on the panel meter differs significantly from the total voltage as determined by adding all cell readings together the meters should be checked for accuracy.

3.5 Pilot cell voltage is the actual voltage of the individually selected pilot cell. It is used in the charge sections to determine the number of hours of charge and is recorded on ID-1285 as a part of the measurements indicating the progress of the initial charge.

4. ADVANCE TURNOVER

4.1 When the battery is turned over in advance of the central office equipment it supplies, the telephone company

should be warned that turning off the charging equipment may cause voltage irregularities between cells and necessitate boost charges.

4.2 If the telephone company requests 24-hour float before the alarms are connected they shall arrange for coverage by ~~an~~ attendant.

→ Arrowed lines indicate new or changed information.

5. VARIATION DUE TO REMOVAL OF SINGLE CELL CHARGER

5.1 When the voltage of a cell added to an existing string varies, after a single cell charger is removed at the end of the charge period, it will first drop and then slowly rise.

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Reason for Reissue:

To remove charge voltage and float voltage requirements which are now contained in Sections 18B and 18C.

Replaces Section 18D dated 6-16-60.