STORAGE BATTERIES

LEAD - ACID TYPE

REQUIREMENTS AND PROCEDURES

1. GENERAL

1.001 This Addendum supplements Section 157-601-701.

1.002 This addendum is reissued to delete all reference to the use of IGEPAL detergent.

Add the following caution notes to Paragraph 1.05.

Caution D: In order to avoid possible serious cuts from broken glass, extreme care should be used in assembling the Hydrometer Syringe. If the Hydrometer has previously been used and may possibly contain some electrolyte clinging to the wall of the glass barrel or rubber hose, goggles should be used in assembly operations to protect the eyes. (See steps below).

(1) Remove any mold seam fins from those surfaces of the rubber parts which in assembly fit against the glass barrel.

(2) Before assembling any rubber parts to the glass barrel wrap several thicknesses of heavy cloth around the barrel to protect the hands.

(3) Always wet the rubber parts and that portion of the glass barrel where the fitting is to take place, prior to assembly operations.

(4) Refer to Section 084-550-101 for replacement parts ordering information.

Caution E: Accidental grounding of test leads while making individual cell voltage readings or average battery float voltage readings can result in serious interruption to service. In order to avoid this possibility extreme caution should be taken when taking these readings. Connections at the meter end should be secure and free of any possibility of touching or becoming grounded. In no case should connections at the meter end be removed without first disconnecting the test leads from the battery. The test lead connections at the battery should be removed immediately after each reading is taken.

Caution F: Before performing each individual work operation, firmly touch an intercell connector near the grounded end of the battery to discharge the static electricity on your body. Keep open flames and arc producing equipment away.

Correct Paragraph 1.11 first sentence to read:

> A strong soda solution is 2 pounds of table soda (bicarbonate), or 1 pound of washing soda, or 1/2 pound of Bell System Pyrophosphate cleaner to 1 gallon of water.

Change paragraph 2.08 to read:

2.08 Battery connections shall be tight and free from dirt and corrosion. Connections should be checked annually during periods of charge or discharge with a millivoltmeter to determine continuity of connection.

Add under paragraph 3.001 - Gauges

Millivoltmeter, DC, Weston Model 281 - Range 100 Millivolts or KS-14510, List 1 or List 5 volt-ohm-milliameter. (0.3 volt scale)

Add the following to Paragraph 3.001

> Materials:
> Scott Wipers No. 590
> 3M Tape, Type 472, 2 inch width

Change paragraph 3.08 (2) to read:

(2) Since lead is a soft metal subject to cold flow, lead to lead or lead to other metal connections require periodic checking. Battery connections should be checked visually for corrosion or

damage and measured for continuity using a millivoltmeter (observe polarity). Although no limits have been established for reading connector resistance using millivoltmeters, based on a switchgear equipment contact resistance requirement of 50 millivolts, a limit for intercell connectors might possibly be in the order of 10 to 20 millivolts. Until limits have been established, checks for excessive voltage drop should be based on an average office reading. If a connection is corroded, damaged or shows high voltage drop, open up the connection, taking precautions that service will not be interfered with and that there will not be an arc causing an explosion. Wipe off excess products of chemical action from posts, intercell connectors, and terminal details. Neutralize with strong soda solution, rinse, and dry. Scrape or sandpaper post contact area to a bright finish and coat immediately with NO-OX-ID A grease. Contact areas of intercell connectors and terminal details should be wiped or brushed with a soft brush and coated with NO-OX-ID A grease. Do not scrape, use sandpaper, or wire brushes on connectors or terminal details. Tighten connections securely and wipe off excess grease. Recheck connection with millivoltmeter after work is completed.

Add the following to Paragraph 3.10:

Instructions for cleaning battery jars and applying tape patches as emergency repairs to cells, to permit their continued use until replacement can be made:

1. Cover open cracks temporarily with a narrow strip of 3M type 472 tape prior to cleaning to eliminate accidental contamination of the electrolyte by neutralizing solutions.

2. Wipe the surface carefully with a soft clean absorbent material such as "Scott Wipers" No. 590 to remove any accumulations of grease or other foreign materials. Care must be taken not to spread any greasy material over the surface to be coated.

3. Rinse with "Scott Wiper" dampened with tap water and dry with "Scott Wiper".

4. Neutralize with a weak soda solution.

5. Rinse and dry as in Item 4 using distilled water or the available battery make up water instead of tap water.

6. Remove protection strip applied in Item 1. The area covered by the tape is sufficiently cleaned by the removal of the tape to permit final application of clean tape.

7. Cut the tape to appropriate size allowing a small portion at each end for handling so as to prevent finger contact with the adhesive. Apply tape to the cracked area assuring that the tape extends beyond the crack in all directions with a minimum overlap of 1/2". A back up piece of tape for extra support can be used to cover the initial piece especially where compound angles demand tape stretching.

   Note: Ordering information for the 3M tape is as follows:

   (Quantity) Roll(s) Tape, Minnesota Mining and Mfg. Co. No. 472, Black, 2 in. X 36 yards.

   If No. 472 tape is not available, Scotch, No. 22 Plastic electrical tape may be used.