POWER PANEL AND REGULAR CONTROL EQUIPMENT

1. GENERAL

1.01 This section describes the routine tests and inspections of Power Panel and Regular Control Equipment used in Central Office Power Plants.

1.02 In the course of tests and inspections, care should be exercised that no fuses are removed, switches opened or other apparatus removed from circuits until close observance has been made that no interference with service will result.

1.03 The various items listed under Methods are enumerated to outline the principal items to be inspected and tested. The inspections and tests shall be a definite check up to see that the requirements of the Div. A400. section applicable are met and not a casual inspection, accordingly, reference shall be made to the Div. A300. section for operating methods, Div. A400. section for requirements and adjusting procedures, Div. A500. section for piece parts and replacements procedures, and Div. A700. section for tools, gauges, materials and lubricants. The section or sections applicable will depend on the particular item and type of apparatus being inspected.

2. APPARATUS - TOOLS AND MATERIAL

2.01 Portable Light or Extension Cord.

2.02 Cheesecloth or other approved cleaning material.

2.03 No. 528 receiver or equivalent with test picks.

2.04 Test lamps, two 120-volt lamps in series, with test picks.

2.05 Special tools, gauges, materials and lubricants as listed in the Div. A400. section applicable to the particular item of equipment being routined and as listed in the Div. A700. section covering Power Plant Materials general and Power Plant Materials, Oils and Greases.

3. SAFETY MEASURES

3.01 See that safety catches on fuse panel doors operate freely and catch properly.

3.02 Inspect rubber matting or other floor covering both in the front and rear of power panels for holes, curled edges or other conditions which might cause tripping or impair the insulating properties of the covering.

3.03 Extreme care shall be used at all times in the use of tools to avoid accidental contact with electrical circuits. Tools shall not be carried with ends protruding from pockets.

3.04 Test receivers shall not be used to test commercial power circuits. A properly insulated test lamp shall be provided for this purpose.

3.05 When using a test receiver for the purposes for which it is provided, the receiver shall not be placed directly over the ear until it is determined that the click will not be loud enough to cause an accoustic shock.

3.06 Care should be exercised in all tests to avoid shock or accident. Under all circumstances, use

tools for testing and NOT FINGERS. The attendant should acquaint himself scrupulously with all equipment before proceeding with any tests or inspections.

4. METHODS

GENERAL INSPECTION OF APPARATUS USED IN BATTERY SUPPLY CIRCUITS

4.01 Assure that all connections, including clamp, nut, clip, soldered or other type are secure mechanically. Special attention should be given to the tightness of solderless connectors, busbar clamps and parallel gutter taps. These should be checked periodically for the first few years after installation. A bridge receiver test of fuses in all battery supply circuits should be made to insure that a good contact is made at the terminals. (This test is made by connecting the receiver clips to the ferrule and clip and listening for any noise. Note Paragraph 3.04 above.)

4.02 Note that fuses are of the proper type and capacity.

4.03 Note that fuses are properly designated.

4.04 Note that all bus-bar equipment is securely fastened and properly supported and that no heating exists at bus-bar or switch and fuse contacts.

4.05 Note that voltmeter leads and ammeter leads at the shunts are fastened securely. Slight heating may exist at the shunts but observation should be made that this is not excessive. Temperature range of shunts is covered in B.S.P. A401.562.

4.06 Inspect to see that switch and rheostat handles are tight and that switchblade contacts do not heat. Where worn switch blades cannot be repaired, they should be replaced.

4.07 See that relay contacts are not burned, pitted or loose in their supports and that they are free of dust or other accumulations.

4.08 See that switches do not bind or cut at the contact and are properly lubricated and adjusted.

See that no deposit of excess lubricant is on switch apparatus.

4.09 See that rheostat contacts are clean and smooth and lubricated with a small amount of clean, clear grade of vasoline.

4.10 See that voltage regulators run smoothly and all gears are properly lubricated. A slight irregularity of voltage should be introduced in order to insure that the regulator is operating properly.

4.11 See that the front and rear of power panel equipment and wiring is free of dust and dirt, that the metal parts are free of corrosion and clean and that the slate panels have a clean, neat appearance. (Asbestos panels should not be oiled or polished.)

General Inspection of Apparatus Used in Commercial Power Supply Circuits

4.12 Inspect the safety devices provided on Commercial Power Supply cabinets for proper functioning and that they provide protection against accidental contact.

4.13 Inspect switches, hand starting compensators and rheostat handles for tightness and see that switchblade joints are not loose or cause heating. Testing for heating shall be done after a test operation with the power removed from the contacts to be tested.

4.14 Check starting compensators against the requirements of the

A400. section applicable to the particular type of equipment being inspected.

4.15 Replace the oil in compensators as required in the A400. section applicable.

4.16 Check fuses for proper size and capacity and that they are properly designated.

4.17 With the power removed from the circuit, inspect the fuses for being tight in their ferrule or blade mounting.

4.18 Note that fuse for equipment is properly insulated, securely fastened and that connections are tight.

Operation Tests

4.19 Test the continuity of ammeter and voltmeter switch circuits by operating them in their different positions and noting the readings on meters when they are cut into service.

4.20 Test the circuit breakers on both in overload and underload condition, using caution that injury is not occasioned to the equipment or the attendant. It is desirable that the supervisor be present when this test is made. The operation of the circuit breaker is quite violent and the attendant should stand safely to one side when making the test.

4.21 Test starting rheostats for the locking and releasing features.

4.22 Test electrically operated transfer switches and control relays for proper functioning.

4.23 Have local operating Power Company inspect for correct size fusing of meter transformers. Have Power Company check the fusing of primary transformers that feed Telephone Company buildings by individual secondary feeders.

5. RECORDS

5.01 The required record of tests should be entered on the proper forms.