82B1 TELETYPEWRITER SWITCHING SYSTEM PROCEDURES TO BE FOLLOWED DURING PERIODS OF EXCESSIVE ROOM TEMPERATURES AT SWITCHING CENTERS AND TRIBUTARY STATIONS

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1. GENERAL

1.01 The compact design of the 82B1 Teletypewriter Switching System concentrates a large number of heat producing elements in a few cabinets.

1.02 This is particularly significant in the design of the switching center. It is engineered to be operated in a location which is provided with a continuous, reliable, air conditioning system.

1.03 Reliable operation of the tributary stations associated with the system also depends upon control of room temperature.

1.04 Excessive temperatures will cause the reliability of the system to deteriorate. First indication of difficulty as the temperature rises will be erratic operation. As the temperature continues to rise individual units of the system will completely fail and at extremely high temperatures, permanent damage to the components may result.

1.05 This section, together with customer coordinal abnormal condition operating instructions, covers procedures to be followed by Bell System maintenance forces and the customer during an abnormal operating situation caused by excessive room temperatures in switching centers and associated tributary stations.

1.06 In a switching center, such a condition might arise from failure of interconnecting regular or emergency power switching devices, inadequate capacity of the spare air conditioning plant, failure of a common unit serving both the regular and spare air conditioning installations, etc.

2. SWITCHING CENTERS

2.01 Normal operation of a switching center may be expected until the temperature exceeds 90°F at the air filter intake location, below the doors enclosing the reperforator-transmitters in the lower front section of the incoming and outgoing line cabinets.

2.02 Determine by comparative measurements which cabinet has the highest temperature at its air intake filter, and install a thermometer at this cabinet for all future temperature readings. The thermometer may be placed at a more convenient location than the filter if the difference in temperature between that at the filter and that at the location selected is determined and marked on the thermometer. The 90°F, 105°F, and 120°F temperature points as would exist at the air intake filter should also be indicated on the thermometer.

2.03 Temperature readings should be made and recorded at 15-minute intervals when it is noticed that the room temperature is higher than normal, or when it is known that the air conditioning system is not functioning normally. Readings should be continued until temperatures return to normal.

2.04 When the thermometer indicates that the temperature at the air intake location of the selected incoming or outgoing line cabinet exceeds 90°F, Bell System maintenance forces should:

(a) Advise the local customer operating supervisor of the abnormal temperature condition. A plan for action based on the joint procedures and existing situation should be agreed upon and placed in effect. If the customer can provide increased temporary air circulating equipment such as fans and air conditioners, he should do so at this time.

(b) Obtain customer agreement to initiate the following Telco action to provide for increased air circulation for the reperforator-transmitters.

(1) Open doors of the cabinets housing the reperforator-transmitters.

(2) Slide the reperforator-transmitters forward, out of the cabinets.

Caution: The sudden rush of hot air released as the cabinet doors are opened and the reperforator-transmitters extended from the cabinet may cause the thermometer to register high until this air becomes mixed with the air in the room.

(3) Slide the rear gates from the incoming and outgoing line cabinets.

(c) Furnish the following information to the serving test center.

(1) Present temperature and trend as indicated by prior readings.

(2) Cause of condition.

(3) Action taken.

(4) Present situation and prospects for relief.

(5) Local weather.

(6) Keep the test center advised of the situation.

2.05 If the temperature continues to rise above 90°F after the action in 2.04 is completed, the Bell System maintenance forces should:

(a) Advise the local customer operating supervisor that the abnormal temperature condition continues. Consult with him to consider additional measures which might be feasible.

(b) Take following action:

(1) Open upper front cabinet flaps.

(2) Open top of line cabinet flaps.

2.06 If the temperature reaches 105°F, the Bell System maintenance forces should:

(a) Notify the local customer operating supervisor that the temperature is now at an emergency point where erratic operation of the switching system may occur, and that if it rises to 120°F permanent damage to the equipment may result. Suggest that he consider and apply at this time extraordinary measures which might lower the room temperatures.

(b) Consult frequently with the customer, exploring all possible temporary measures which might safely provide relief.

(c) Advise the serving testroom of the temperature and of the action taken or proposed.

2.07 Should the temperature reach 120°F, advise the customer that continued operation may cause permanent damage which might take months to repair. Advise the test center of the situation, and of any further steps being taken to lower the temperature.

3. TRIBUTARY STATIONS

3.01 The station control equipment is designed to function normally at room temperatures up to 105°F. Above this point erratic operation may occur, and should the temperature reach or exceed 120°F there may be permanent damage to the equipment.

3.02 It is expected that the station will generally be installed in quarters where the temperature is controlled for the comfort of the operating personnel, and that excessive temperatures will only occur if the cooling or ventilating arrangements fail.

3.03 The maintenance people will normally be aware of high temperatures only if they happen to be in the station in connection with a trouble or a routine inspection.

3.04 If the temperature appears excessive during such visits, or if it is thought that erratic operation of the station control unit is caused by overheating, the temperature at the station control cabinet should be measured.

3.05 When the measurement equals or exceeds 105°F, proceed as follows:

(a) Advise the customer's supervisor that the temperature has reached the point where erratic operation may result. Suggest that he place in effect any plans for reducing the room temperature.

(b) With his permission:

(1) Open the rear door of the station control cabinet.

(2) Open the covers of the 28ASR, RO and other teletypewriters.

(c) Notify the STC of:

(1) Temperature in the station.

(2) Cause of condition and action taken.

(3) Present situation and prospects for relief.

(4) Local weather.

3.06 Should the temperature reach 120°F advise the customer that permanent damage to the equipment may result if operation is continued. Discuss with him any further measures which may be feasible. Advise the STC of the situation.