

approved by the Underwriters Laboratories for use in locations where explosive atmospheres of ethyl ether vapor, gasoline, petroleum, naphtha, alcohols, acetone, lacquer solvent vapors, or natural gas, as outlined in Class 1, Groups C and D, and Class 2, Group G, of the National Electrical Code may exist. These bells shall be provided at all new installations subjected to fumes of the foregoing types when a remote signal bell is required. Existing installations of older types of bell should not be replaced with the explosion proof bells unless the replacement is authorized by Private Line Service Order.

* 1.05 Because of the small difference in cost between the 10 inch and the 8 inch sizes of the explosion proof bells, the 10 inch size shall be provided in all cases unless the Private Line Service Order specifies the other size.

1.06 Where new remote bells are being ordered from the Western Electric Co. for installations to be located out of doors in nonexplosive areas, the outdoor type of explosion proof bell shall be ordered, because the older type of bell requires a separate weather protective hood for out of doors use. However, for new installations of loud ringing remote bells located indoors in nonexplosive areas, the older type of bell (80563M, 80564M and 80565M) may continue to be used.

* 1.07 Because of possible difference in charges to the customer for the new type of bell as compared to the older types, and also for the indoor type as compared to the outdoor type, the type of bell to be provided will be specified in the Private Line Service Order if the Commercial Department knows in advance the exact conditions at the customer's station. If the Order does not specify the type of bell to be provided, or if conditions at the customer's station are such that the use of a bell of a type other than that specified in the Order appears desirable, the type of bell it is proposed to use should be reported to the Division Plant Superintendent's Office in the usual way in connection with the initial investigation of the service involved. This report should also include the reasons for the proposed deviation from the Order if a deviation is being proposed.

*1.08 Whenever Private Line Service Orders are received involving new installations at, or moves to, locations where teletypewriters, remote signal bells, or other telegraph station apparatus are likely to be exposed to an explosive atmosphere, follow the procedure outlined below:

- * (1) The regular action toward obtaining all the material required shall be taken. The actual installation or move shall not be made, however, until the Area Plant Manager's approval of the customer's station layout, based on the sketches or information outlined in Paragraphs (2) and (3) below, has been obtained.
- * (2) In connection with new services a sketch showing the complete details of the layout of the customer's premises shall be forwarded, via regular organizational channels, to the Area Plant Manager's Office. Paragraph 1.09 describes the information required. Such sketches should be forwarded far enough in advance of the requested service date to permit consideration by the Area Plant Manager and the Area Chief Engineer.
- * (3) In connection with moves, sufficient details shall be forwarded, via regular organizational channels, to the Area Plant Manager's Office to indicate the new location of the apparatus on sketches previously furnished. If this is not practicable, a new sketch shall be prepared and forwarded.
- * (4) After the sketches or information have been reviewed by the Area Plant Manager and the Area Chief Engineer, the Area Plant Manager should notify the Division Plant Superintendent whether or not it will be satisfactory to proceed with the installation and will include any comments or suggestions he has to offer. Any comments or suggestions regarding the layout or arrangement of the customer's premises or equipment that the Area Chief Engineer or Area Plant Manager has to offer should be referred to the Commercial Department people for discussion with the customer.

*Note: At some locations involving new services it may be difficult to obtain complete details to permit the preparation of sketches along the lines of Paragraph 1.09 at the time such Private Line Service Orders are issued. This would be especially true where the apparatus is to be installed in a temporary shack pending the construction of the permanent building or where the permanent building is only partially completed. It is believed, however, that from discussions of the matter with the customer's representatives at the substation and consulting architectural drawings of buildings and other drawings that the customer may possess showing the layout of the operating area of the pumping station, sufficient information can be obtained to permit preparing a preliminary sketch. This preliminary sketch aside from being helpful in considering the installation of the apparatus with respect to its exposure to an explosive atmosphere will afford an opportunity for the customer to make any changes in, or additions to, his installations that he may consider desirable in accordance with any suggestions made by the Engineering people. Final sketches should be forwarded however, as soon as it is possible to obtain the complete information.

1.09 The details regarding the sketches referred to in Paragraph 1.08, are as follows:

(1) The sketch should be prepared in such form as to permit duplicating. It should show the general relation of the building in which the telegraph station apparatus is installed with respect to storage tanks, loading platforms, pits, pump houses, storage sheds and any other pertinent objects that would influence the location of the telegraph apparatus from the standpoint of its exposure to explosive fumes. Indicate on this sketch the distances from the building housing the telegraph apparatus to these objects. Also indicate the compass directions.

(2) On the same sketch or an additional sketch show the detailed floor plan of the building housing the telegraph apparatus. Indicate on this sketch the following:

- (a) Type of construction of building, i.e., brick, frame, concrete or other.
- (b) Type construction of partitions, i.e., brick, wallboard, glass or wire mesh or other.
- (c) The various rooms should be designated such as pump room, furnace room, office, wash room, corridor, etc.
- (d) Show location of windows and doors in inside and outside walls or partitions.
 - (1) Indicate if the windows are permanently closed and fume proof, or if they can be readily opened and in the latter case, whether they are fume proof when closed. (2) Indicate direction of swing of doors, whether they are self-closing and whether they are fume proof when closed.
- (e) If the pump is located in a room of the same building housing the telegraph apparatus and is driven from another room, show whether the driving shaft enters the pump room through a fume proof bearing or housing. Indicate type of driving agent: whether an electric motor, diesel engine, gas or gasoline engine.
- (f) State, if possible whether electrical lighting wiring, fixtures and fittings are of an explosion proof type.
- (g) If the remote signal bell is to be installed indicate the proposed location, taking into consideration the distance from the floor or ground line. If the bell is to be located indoors or out of doors on a pump room wall or other wall where explosive fumes can be expected, state whether fume proof conduit will be provided through the wall.

(h) If a ventilating system is provided for the room in which telegraph apparatus is installed, indicate whether it is a pressure or suction type and show air intakes and outlets. Also show general direction of the flow of air.

(3) State whether gas, gasoline, oil or other explosive fumes are noticeable and in the opinion of the Telephone Company's representative, or of the customer, they are apt to be present in the locations selected for the telegraph apparatus.

(4) State any special local rules and regulations governing installations at locations where explosive fumes are likely to exist.

*1.10 All teletypewriter apparatus installed in explosive atmospheres must be fused. On apparatus where the fusing arrangements are not a standard part of the machine or table, as for example No. 14 Teletypewriters mounted on 14 type tables, the fusing arrangements should be added to the table. Refer to the applicable standard instructions for the value of Fusetrans to use, and for information on ordering, installing and wiring the parts.

*2.01 Add the following to this paragraph:

Vibrating type and single stroke type bells are understood to be obtainable for operation on 25 cycle and 50 cycle power supply also. To obtain them, use the same ordering information as for 60 cycle bells but specify that they are for operation on 115 Volt, (specify) cycles, AC.