

CENTRAL OFFICE BUILDING STRUCTURE INSPECTIONS

EXPLOSIVE GASES PROTECTION

1. GENERAL

1.01 This section points out some of the major items to be inspected for protection against explosive gases that may be generated within central office buildings, and explosive gases and/or gasoline vapors which:

- (a) Enter central office buildings through openings in:
- Boiler rooms
 - Cable pits
 - Cable vaults
 - Engine rooms
 - Gas meter compartments (usually located in basements)
 - Oil tank enclosures
 - Power rooms
 - Storage vaults
 - Transformer vaults
 - Underground conduit entrances

(b) Collect within telephone building structures.

(c) Spread to other sections of the buildings.

1.02 It is reissued to:

- Update individual titles.
- Provide new issues of Forms E3923 and E3924.

- Include the appropriate legend on Page 1 in accordance with AT&Ts "Guidelines and Procedures for Safeguarding Information" and Pacific Company's System Instruction (SI) 178.

Note: Marginal arrows used to denote changes are omitted.

1.03 The term "central office building" as used in this section includes all company-owned buildings housing communication equipment, such as repeater stations, carrier huts, microwave and similar structures.

1.04 These inspections supplement, but *do not* supersede those required by other Bell System Practices (BSPs) in Division 770.

1.05 Forms E 3923, Notes on Inspection, and E 3924, Building Maintenance Inspection Report, shall be used as inspection reports (Exhibits 1 and 2). (Refer to Section 770-280-501.)

2. RESPONSIBILITIES

2.01 The District Manager Switching Maintenance is responsible for the completion of inspections in the district. This manager shall:

- (a) Have inspections performed quarterly.
- (b) Have inspections made *each day* during construction and on completion of any construction activity affecting seals on the ducts entering the cable vault or pit, ie, placing, removing or rerecking underground cables.
- (c) Maintain a file of unsatisfactory conditions reported on Form E 3924 until a subsequent report clears the file.

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2.02 The inspection of a central office building shall normally be performed by a Switching supervisor with the assistance of personnel of other force groups [see 3.01 (d)].

2.03 With the approval of the manager designated in 2.01, the inspection work may be delegated to a central office technician provided he/she is properly trained and supervised during this operation.

2.04 The "Action Taken" portion of form E 3924 shall be completed by the force group supervisor responsible for the repairs.

2.05 The Switching supervisor shall:

- (a) Forward completed E 3924 to reach the District Manager—Switching no later than one week following the completion of the inspection. This should include the disposition of unsatisfactory conditions previously reported.
- (b) Maintain a file of uncompleted unsatisfactory conditions as reported on E 3923.
- (c) Maintain a log showing signatures of persons borrowing key for entrance to cable vault and nature of work to be done.
- (d) Maintain a log showing results of inspection completed whenever there has been construction activity in the cable vault.

2.06 The central office technician performing the inspection shall:

- (a) Notify the Switching supervisor before starting (if performed by a technician).
- (b) Inspect all items listed or implied in this section.
- (c) Indicate on E 3923 and E 3924 the results of the inspection.
- (d) Forward completed E 3923 and E 3924 to his/her immediate supervisor.

2.07 On all jobs that add cable or in any way physically change the cable vault, the Distribution Services forces shall be responsible for placing and/or replacing all duct seals and floor plates that cover openings into the main frame work

area. When cable vault discrepancies are noted as a result of normal routine cable vault inspections, they will be referred to the responsible group for immediate corrective action, ie, Building Service, Western Electric or Distribution Services.

3. PRECAUTIONS

3.01 When circumstances require inspections in hazardous locations, the inspector shall:

- (a) Avoid exposure to personal injury at all times.
- (b) Exercise caution at all times for potential hazards of gas leaks.
- (c) Enter unattended buildings with extreme care.
- (d) Make inspections of cable vaults with detecting equipment, as outlined in Section 620-140-501, to determine if harmful quantities of gases are present.
- (e) Report any odor of gas immediately.
- (f) Open windows and exterior doors at once. Thoroughly ventilate areas in which escaping gas odor is detected.
- (g) Wear safety glasses or goggles.
- (h) Use a flashlight. Turn it on in a gas free area.

3.02 Always observe these *DO NOT's* in areas where gas odor is detected:

- (a) *Do not* use electric fans.
- (b) *Do not* turn on or off any electric lights or electrical apparatus.
- (c) *Do not* smoke or use any open flame in gas filled or surrounding areas.

4. INSPECTIONS

4.01 Items to be inspected may be included under these headings:

- (a) Cable vaults and pits.

- (b) Seals of ducts between the conduit system and the building.
- (c) Seals of ducts not connected to the conduit system.
- (d) Other inspections.

Under the subheadings for these items are conditions to be on the lookout for and points to check for proper seals.

4.02 Report promptly through lines of organization:

- (a) Items found on inspection so the corrections can be made without delay.
- (b) Any detected odor of gas. This shall be investigated and the leak corrected immediately.

Cable Vaults and Pits

4.03 Cable vaults having self-closing or Class B fire doors:

- (a) Do not block the doors open.
- (b) Keep the doors locked when the vault is not occupied.
- (c) The responsible Switching supervisor shall keep the key for periods when authorized activities are being performed.

4.04 The Distribution and Switching supervisors shall make inspections of the cable vault or pit each day during and upon completion of any construction activity affecting seals in the duct entrances, ie, placing, removing, or reracking underground cables. Inspections are also made quarterly to conform with the requirements of this section. Check:

- (a) Dowel pin holes, cracked conduit walls, or porous areas in the masonry adjacent to conduit entrances for proper seals.
- (b) Duct plugs for placement, proper seal, and for shrinkage, settlement, or other cracks.
- (c) Cable vault or pit walls, floor slabs, etc, for cracks.

4.05 In cable vaults:

- (a) Avoid the installation of gas, water, or steam pipes. This is not permitted *in any case* without the permission of the Chief Engineer.
- (b) Never locate gas outlets or valves.
- (c) Avoid locating electric switches.
- (d) Prohibit the storage of combustible materials.
- (e) Keep drain traps filled with water as required.

Seals of Ducts Between Conduit System and Buildings

4.06 The following points shall be sealed in the approved manner:

- (a) Conduit connecting directly between manholes and the building at the end of the building.
- (b) Occupied ducts extending from manholes and terminating at the ground line in cast iron bends on the outside building wall at the end of the bend.
- (c) Occupied ducts extending from manholes and terminating on outside building wall. If steel pipe cable guards are used, the seal should be placed in the end of the guard.
- (d) Unoccupied ducts extending from manholes and terminating at the ground line in conduit bends on the outside building wall. If steel pipe cable guards are used, the seal should be placed in the end of the guard.

Seals of Ducts Not Connected To Conduit System

4.07 Observe the following:

- (a) Occupied ducts extending between poles and buildings or between buildings should be sealed at each end.
- (b) Outside terminations of unoccupied ducts extending between poles and buildings or

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between buildings should be plugged in accordance with approved methods. Terminations extending through a building wall should be sealed at the building entrance.

(c) Entrances for buried cables into repeater stations or other buildings, either through conduit extending from manholes or through conduit bends, should be sealed at the building in accordance with approved methods.

Other Building Inspections

4.08 Check:

- (a) Underground conduit entrances for services, ie, power, water, etc, for a tight seal in and around the conduit or piping.
- (b) The building foundation for cracks that extend below the ground level.
- (c) For shrinkage, settlement, or other cracks that might occur at any time in or between basement walls, partitions, or floor slabs, etc. All should be promptly and tightly cemented up or otherwise permanently sealed.
- (d) Dry floor drain traps in wash rooms and repeater huts.

4.09 Keep boiler room door closed (see Section 760-550-151).

4.10 Cable openings under main frame, formed by use of removable aluminum cores, intended for future use should be closed temporarily in the approved manner (see Section 760-330-150).

4.11 Keep all ducts entering central offices or other buildings sealed at all times except when necessary to have them open for construction or maintenance work. If work extends over several days, have all seals temporarily replaced at night (see Section 628-220-200).

4.12 The Supervisor of Building Maintenance is responsible for the annual inspecting and testing of all piping used to distribute natural, manufactured, and bottled gas in telephone buildings.

- (a) The actual work shall be done *only* by an experienced (licensed) company, ie, local gas company or a qualified plumbing contractor.
- (b) Initial testing of gas piping in new buildings or major additions to a building shall be made by the Contractor under the supervision of the Engineering Department.
- (c) Piping, meters, and other units dismantled from a gas piping system shall be removed from the building at once, idle branches of the system disconnected at the main line, and all openings carefully closed.

