



FIRESAFETY
FIRE PROTECTION DURING CONTRACTED WORK OPERATIONS

<u>CONTENTS</u>	<u>PAGE</u>
1. GENERAL	2
2. SITE PREPARATION	2
3. FIRE LINES	3
4. PORTABLE FIRE EXTINGUISHERS	3
5. ACCESS TO FIRE EXTINGUISHING EQUIPMENT	3-4
6. EXITS	4
7. FIRE WARDEN	4
8. WATCHMAN SERVICE	4
9. WELDING AND CUTTING PERMIT	5-6
10. STORAGE OF PAINTS, OILS, ETC	6-7
11. STORAGE OF BUILDING MATERIALS	7
12. PROTECTION OF STRUCTURAL MEMBERS	7
13. HEATING DEVICES	9-10
14. TEMPORARY WIRING AND ELECTRICAL EQUIPMENT	10
15. TEMPORARY AND/OR DUST PARTITIONS	10-11
16. SCAFFOLDING AND FORM WORK	11
17. RUBBISH REMOVAL	11
18. TEMPORARY OFFICE AND TOOL HOUSES	11-12
19. FIRE DOORS	12
20. IMPAIRMENTS TO FIRE PROTECTION EQUIPMENT	12-13
21. REPORTING FIRES	13
22. REPORTING HAZARDOUS CONDITIONS	13
23. RESPONSE TO EMERGENCIES	13
24. ENGINEERING REVIEW OF CONSTRUCTION DOCUMENTS	13-14
25. BUILDING APPLICATION AND SITE OBSERVATIONS	14
26. SPECIFICATIONS	14
27. STATE FIRESAFETY COORDINATOR	15

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1. GENERAL

- 1.01 This section outlines certain precautionary measures intended to minimize the possibility of fire as well as the hazard due to fire in buildings where contract work operations are being performed. This includes new construction, additions, extensions, major alterations, repairs and general maintenance work that is often contracted.
- 1.02 This practice is being reissued to reflect the responsibility of the State Firesafety Coordinator in conjunction with this practice, and to outline provisions for providing protection to in-service fire protection systems during contracted work operations. Whenever this practice is reissued, the reason(s) for reissue will be stated in this paragraph.
- 1.03 The recommendations found in subsequent paragraphs are based, in general, on the National Fire Codes of the National Fire Protection Association (NFPA) and the Model Building Codes. All detail features of these source documents have not been covered herein; therefore, source documents should be reviewed for complete details.
- 1.04 Where local, state, or Occupational Safety and Health Act (OSHA) regulations require higher degrees of protection, the legislated criteria should be followed.
- 1.05 Buildings are inherently more hazardous when under construction. Building alteration and demolition hazards are also more severe. Construction operations can be made reasonably safe from a destructive fire by advance planning for fire protection.
- 1.06 During building construction activities, contractors must comply with accepted fire safety practices such as NFPA 241. This applies to company-owned and/or company-controlled buildings.

2. SITE PREPARATION

- 2.01 Brush, trees, tall grass, debris, and rubbish shall be removed from the area of operations prior to the start of construction activities.
- 2.02 Site preparation includes the safe location of temporary buildings and storage areas in relation to their hazards and the probability of damage to the building under construction.

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3. FIRE LINES

- 3.01 When standpipes are included in new buildings, additions, extensions, or major alterations, it is important that they be completed promptly as the work progresses and be available for use. Standpipes should be installed as construction progresses in such a manner that they are always ready for fire department use at the topmost floor, where structural slab has been completed. Buildings four stories and higher shall be equipped with a standpipe system as specified in the sections addressing Application Criteria, ie, Sections 760-600-210 through 760-600-300, and installed in accordance with Section 760-640-310, Standpipe and Hose Systems.

4. PORTABLE FIRE EXTINGUISHERS

- 4.01 One standard listed multipurpose dry chemical fire extinguisher, with a minimum rating of 2A:20B:C, should be provided and located for each 3000 square feet of new construction floor space or fraction thereof. Additional extinguishers shall be provided at each tool house, temporary office, storage room, dressing room, or workshop on the premises. In lieu of the above, one standard 2-1/2 gallon water and one 10B:C rated carbon dioxide type extinguisher mounted as a pair may be used. Caution should be exercised in the placing of water extinguishers in areas exposed to below freezing weather.

Note: The above requirement is the maximum permitted area of coverage per fire extinguisher location. Depending on partition arrangements, amount and location of barricades, obstructions, and combustible materials, additional fire extinguishers may be required. Sound engineering judgment should be used to assure adequate coverage.

- 4.02 All workers should be instructed in the proper use of fire extinguishing equipment.

5. ACCESS TO FIRE EXTINGUISHING EQUIPMENT

- 5.01 Free access shall be provided and maintained at all times from the street to fire hydrants, to outside standpipe connections, and to other fire extinguishing equipment, whether permanent or temporary. No material storage or construction equipment should be located within 10 feet of hydrants or standpipe connections extending to the curb line.

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- 5.02 Free access shall be maintained at all times to control valves, hose stations on fire standpipe systems, and portable extinguishers within the building.
- 5.03 Signs designating the location of fire-extinguishing equipment and standpipe connections should be conspicuously displayed. Fire Department connections should be illuminated at night.

6. EXITS

- 6.01 For projects involving alterations or enlargements to occupied buildings, it is essential that all necessary measures be taken to maintain full exit facilities at all times. For example, the removal of a fire escape should not be undertaken until equivalent exit facilities are provided elsewhere. Exitways leading to building exits shall be maintained and kept free of all debris, materials, and equipment.
- 6.02 Buildings under construction shall not be occupied in whole or in part until all exit facilities required for the area to be occupied are completed and ready for use.

7. FIRE WARDEN

- 7.01 The contractor's superintendent or assistant superintendent shall be appointed as the fire warden. In large building projects, a full-time fire warden or a combination safety engineer and fire warden may be warranted.
- 7.02 Observations shall be made frequently during working hours to determine whether appliances, extension lights, flammable liquids, torches, welding and metal cutting apparatus, etc, are being used safely. Corrective measures, when necessary, shall be taken promptly.

8. WATCHMAN SERVICE

- 8.01 For major building projects where watchman services are provided, the watchman must include firesafety in the normal activities, especially when welding or cutting has been performed during that day.

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9. WELDING AND CUTTING PERMIT

- 9.01 A welding or cutting permit, as shown in Fig. 1, shall be issued to contractors or subcontractors who perform any welding or cutting operation within company-owned or leased buildings. Contractors shall not be allowed to perform welding or cutting operations without an approved permit for the work area location.
- 9.02 Authority to issue the welding or cutting permit shall be delegated to personnel having knowledge of the hazards concerned and are capable of assuming responsibility for adherence by the contractor to the terms of the permit.
- 9.03 Prior to issuance of the welding/cutting permit, the following procedures should be followed:
- (a) Review the requirements listed on the permit with the contractor.
 - (b) Establish the fire watch, furnished by the contractor, and review the following with the contractor and the fire watch:
 - (1) Continuously monitor the work area for potential fire hazards or combustible materials.
 - (2) Have in hand a portable fire extinguisher sized in accordance with the welding permit.
 - (3) Inspect the work area at the completion of operations for any live sparks or embers.
 - (4) Reinspect the work area 1/2 hour (30 minutes) after completion of work.
 - (5) Reinspect the work area 1 hour (60 minutes) after completion of work.
 - (c) Inspect the work area to determine if all procedures and requirements are being performed.
- Note: Should the welding/cutting operation be performed so that a potential fire hazard may exist on another level, then that level may also require a fire watch as well as the follow-up inspections.
- 9.04 Where welding or cutting operations are being performed above or within 10 feet of combustible material, a shield of noncombustible material shall be provided to protect against fire damage or injury due to sparks and hot metal.

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- 9.05 Tanks supplying gases for gas welding or cutting shall be placed at no greater distance from the work than is necessary for safety. They shall be securely fastened and maintained in an upright position where practicable. Such tanks when stored should be remote from combustible material and free from exposure to the rays of the sun or temperatures in excess of 125° F.
- 9.06 Suitable fire extinguishing equipment shall be maintained in the construction area near all welding and cutting operations. When operations cease for the noon hour or at the end of the day, the construction area adjacent to welding and cutting operations should be thoroughly inspected for any smoldering embers or live sparks.

Warning: Under no condition shall dry chemical type extinguishers be used for fire suppression purposes within the confines of existing telephone equipment areas.

- 9.07 The original permit form shall be signed by the contractor and telephone company representatives in charge and kept in the building project file until the project has been completed. Copies of this form shall be distributed to the contractor and telephone company representatives for their records and maintained in a local site project file. The local site project file copies shall be available for review by telephone company management to ensure compliance with this procedure and in conjunction with company firesafety inspections at the building project site. The permit copies may be discarded once work has been completed at the permit work area location.
- 9.08 Permit conditions shall be re-inspected and approved by the telephone company representative at least every week until work has been completed. This is a minimum requirement and may require more frequent inspection if conditions are not being followed. Each re-inspection shall be noted on the telephone company representative's copy retained in the local site project file.

10. STORAGE OF PAINTS, OILS, ETC

- 10.01 The storage of oil base paints, varnishes, volatile oils, etc, within the area of construction, shall be limited to 60 gallons stored in an approved storage cabinet (not more than three storage cabinets may be located in one area). Quantities in excess of this shall be stored in a 1-hour rated storeroom with a 4-inch high liquid-tight sill at the entry door. Outside storage of such liquids shall not be within 20 feet of the building.

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- 10.02 A minimum rated 2A:20B:C fire extinguisher shall be mounted just outside the doors to flammable liquid storage rooms.
- 10.03 Gasoline and other flammable and volatile liquids having low flash point and ignition temperatures shall not be stored or handled in the building. Reserve storage drums stored on the construction site shall be kept well away from the structure and under lock and key.
- 10.04 The preparation of flammable compounds inside the building is not permitted due to the serious explosion and fire hazard potential involved in the mixing process.
- 10.05 Cutback compounds used in connection with the installation of floor tile are sometimes highly flammable. Caution should be exercised while applying it, particularly when open flame devices are being used. The fire hazard potential can be intensified by the common practice of using blowtorches for softening tiles. Where open flame devices are used, extreme care should be exercised. However, strong consideration should be given to the use of a heating medium which does not make use of an open flame.
- 10.06 Flammable or explosive materials, used for repairs or alterations, shall not be introduced into occupied building. Should the use of these materials be required, the proper safeguards shall be employed to minimize this hazard.
11. STORAGE OF BUILDING MATERIALS
- 11.01 Canvas tarps used for construction operations shall be flameproofed in accordance with Part 15 of this section.
- 11.02 No part of a building where forms are in place should be used for the storage of combustible or flammable materials of any type.
- 11.03 Combustible storage within a building should be held to a minimum; however, where such storage is required, the material shall be contained within a rated enclosure.
12. PROTECTION OF STRUCTURAL MEMBERS
- 12.01 It is important that all structural steel members of fire-resistive buildings be encased in fireproofing material as rapidly as conditions permit.
- 12.02 Forms made of combustible material shall be stripped from the concrete and removed from the building as soon as practicable.

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WELDING OR CUTTING PERMIT

Contractor _____ Valid From _____ To _____

Work Location _____

CONDITIONS TO BE FOLLOWED

1. Work area shall be kept free of all combustible material.
2. Fire-retardant tarpaulins are acceptable and shall be used.
3. All welding and cutting equipment shall be kept outdoor whenever possible.
4. If acetylene and oxygen tanks are required indoors, they shall be kept as far from the actual work location as possible.
5. All welding and cutting equipment shall, wherever practical, be removed from the building daily.
6. All equipment such as cables, hoses, regulators, etc, shall be in good condition.
7. A fire watch furnished by the contractor, consisting of at least one man with no other assigned duties, shall be posted at all times to stand by and observe area for any potential hazards while welding or cutting is being done.
8. The fire watch shall be equipped with suitable personal eye protection and fire extinguishers as follows:

WORK AREA	TYPE EXTINGUISHERS	NO. REQD.
Equipment spaces	CO2 (15 lb)	2
Other spaces	Water (2 1/2 gal)	1
	CO2 (15 lb)	1

9. All extinguishers are to be furnished by the contractor.
10. Two inspections of the work area shall be made upon completion of the welding/cutting operation. The first shall be made 1/2 hour after completion of work followed by another inspection 1/2 hour later.

I hereby agree to perform the necessary welding or cutting operations as outlined in this permit.

CONTRACTOR'S SIGNATURE

DATE

The work area involved has been inspected by a Telephone Company representative, and all requirements outlined have been explained.

APPROVED BY

DATE

XEROX FOR FILE COPY AFTER APPROVED SIGNATURE

- 1 - Copy - File Copy
- 1 - Copy - Contractor's Copy

Fig. 1 - Welding or Cutting Permit

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13. HEATING DEVICES

- 13.01 The permanent heating equipment should be installed and put in operation as soon as practicable.
- 13.02 The use of stoves, salamanders, tar pots, etc, inside buildings is generally not recommended. If the use of such devices is required within the structure, special permission shall be obtained from the building engineer and special precautions taken to minimize the additional hazard. Where the use of such devices is required, they shall be listed.
- 13.03 Listed temporary heating devices should be restricted to the use of electricity, oil, natural gas, or Liquefied Petroleum Gas (LPG) as fuel. They should be under constant supervision during the entire period of their use.

Note: Propane fired units are not recommended.

- 13.04 These devices shall be located so that there is a clearance of not less than 6 feet above nor less than 2-1/2 feet on all sides between the device and unprotected woodwork, combustible material, equipment, or construction.
- 13.05 Temporary heating devices should not be set on combustible floors or platforms.
- 13.06 The use of LPG fired portable heaters should be kept to a minimum and should be used only when other types of temporary heat are unsatisfactory. They should not be used once the permanent exterior walls are in place. When they are used, the following safety requirements shall be adhered to.
- (a) All tanks, tubing, heaters, and appurtenances shall comply with the recommendations outlined in the latest issue of NFPA Bulletin 58. Contractors should be required to indicate that they are familiar with the latest NFPA recommendations.
- (b) The heating devices and storage containers must be out of the traffic flow of people and machines. The heaters must be positioned so as not to directly heat other storage containers or combustible building materials.
- (c) Portable heaters shall be listed and/or approved.

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- (d) Hose and hose connections used with portable heater units shall be listed for working pressures of at least 250 psig. Provisions shall be made to protect the hose from physical damage such as kinking, straining, or causing the hose to be too close to the burner to be damaged by heat.
- (e) The LPG cylinders shall be equipped with approved automatic devices designed to shut off the flow of gas in the event of flame extinguishment or excessive gas flow from the cylinders.
- (f) Cylinders, tanks, or other containers filled with LPG shall stand on a firm and substantially level surface and be securely held in an upright position by means of stands, brackets, or similar devices.
- (g) Provide proper maintenance and supervision when portable heaters are being used to provide temporary heat. At the end of each working day, the heater units and associated hoses and controls should be checked by supervisory personnel to assure proper operating condition. Under no circumstances shall heaters be left operating during an unattended period.
- (h) The number of replacement containers of LPG shall be as few as possible and conform to local codes where more restrictive. Storage of containers on construction projects, either awaiting use or empty, shall be located to minimize exposure to physical damage, tampering by unauthorized persons, or excessive temperatures. Empty and/or unused containers shall be stored outside the new building or building addition. Full and empty cylinders should be separately grouped.

14. TEMPORARY WIRING AND ELECTRICAL EQUIPMENT

- 14.01 Temporary wiring, where required, is preferably run in conduits. It is suggested that drop cords or other exposed temporary extension cables be frequently inspected for defective insulation or connection.
- 14.02 All temporary electrical wiring, apparatus, or equipment for light, heat, or power purposes should be installed in compliance with the special requirements of and approved by the inspection department having jurisdiction.

15. TEMPORARY AND/OR DUST PARTITIONS

- 15.01 Temporary partitions, erected for a period not exceeding 30 days, may be constructed of wood studs and plates with fire retardant

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plastic sheeting or flameproof plastic (showing date of flameproofing), where not subjected to falling debris.

- 15.02 Dustproof partitions may be constructed of wood studs and plates with plywood sheathing. This type partition is not generally recommended to be left in place for a period longer than 18 months. Where dustproof partitions are to be left in place for longer periods, they should be constructed to meet a 1-hour fire resistance rating.
- 15.03 Where dustproof partitions are subjected to the weather, they shall be waterproofed, and the surface which is exposed to the elements shall be of noncombustible material.
- 15.04 Temporary or dustproof partitions erected for the purpose of creating storage areas regardless of height shall meet the requirements of Section 760-630-400.
16. SCAFFOLDING AND FORM WORK
- 16.01 Wood scaffolding is a potential fire hazard. The use of scaffolding constructed of noncombustible materials should be given consideration.
17. RUBBISH REMOVAL
- 17.01 It is important to limit the accumulations of rubbish, debris, or other combustible materials. These materials should be removed from the premises daily. Disposal of materials by burning on or near the premises shall not be permitted.
- 17.02 Rubbish chutes are recommended only on the exterior of the building because of their potential flue action in spreading fire.
- 17.03 Particular attention is directed to the immediate disposal of combustible materials used in packing such as sawdust, wood shavings, straw, etc, and of empty paint containers.
18. TEMPORARY OFFICE AND TOOL HOUSES
- 18.01 Temporary offices, tool rooms, and storage rooms when located within the building or structure shall be of noncombustible construction. They shall not be erected where they will adversely affect any means of exit.

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18.02 Temporary offices, tool houses, and storage houses when located outside any building or structure shall be located at least 30 feet from the building unless they are constructed of noncombustible materials.

19. FIRE DOORS

19.01 Fire doors shall be installed and placed in operating condition at the earliest possible time (see Section 760-630-400, Compartmentation, for fire door rating and explanation).

20. IMPAIRMENTS TO FIRE PROTECTION EQUIPMENT

20.01 When portions of fire detection and suppression systems are removed from service, regardless of duration, company impairment notification procedures should be followed. These are covered in section 770-340-900SW of the firesafety practices.

20.02 Contractors shall immediately notify the telephone company representative (building construction or operations) of any concealed or emergency type impairments to fire protection equipment and systems at the building project site. All planned impairments shall be scheduled with notification provided to the telephone company representative in advance of actual work at the building project site regardless of scope or duration.

20.03 Construction work may require the disconnection, modification and/or removal of certain fire protection system components (I.E. smoke detectors, extinguishers, sprinklers). This work for the most part should be planned and only done where absolutely necessary to accomplish the required objective. As much of the fire protection system should be kept operable as reasonably and practically feasible.

Unreliable, inoperable and/or partially functioning fire protection system components should be adequately protected against further damage, promptly repaired, and physically maintained or, as an alternative, taken out of service. All other fire protection system equipment throughout the building shall be properly functioning and have integrity of operation.

20.04 As an example, smoke detectors in the general area of construction must be protected against potential damage (I.E. dust particles) which could cause system false alarming and/or unstable operation. This will require that a certain amount of planning and precautionary action be taken to avoid problems and

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mishaps. Plastic bags over detectors is one method of controlling this situation, however, they do render the detector inoperable and requires that impairment handling procedures be followed.

21. REPORTING FIRES

21.01 Contractors shall promptly report all fires, regardless of how minor, to the telephone company representative (building construction or operations). The definition of a fire and the procedures for reporting fires are outlined in section 770-300-900SW of the firesafety practices.

22. REPORTING HAZARDOUS CONDITIONS

22.01 Contractors shall promptly report any detected gas leaks at the building project site to the telephone company representative (building construction or operations). Gas systems and the detection of gas leaks in them shall be handled as outlined in section 770-310-400SW of the firesafety practices.

22.02 Contractors shall promptly report any other hazardous property condition to the telephone company representative (building construction or operations). This shall include but not be limited to the presence or potential for property damage caused by fires, floods, explosions, windstorms, water/liquid damage, flammable/combustible liquid spills, actual property damage, building mechanical/electrical failures and security type violations. Local procedures should be established and followed for handling the various types of hazardous property conditions reported.

23. RESPONSE TO EMERGENCIES

23.01 Contractors should also follow the emergency response procedures outlined in the firesafety plan, Section 770-300-200 of the firesafety practices, on all fires and hazardous conditions that directly affect the building occupants' lifesafety and building property/contents of catastrophic proportions.

24. ENGINEERING REVIEW OF CONSTRUCTION DOCUMENTS

24.01 Engineering review of the various types of construction projects listed below should be completed by a consultant who has been

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trained and specializes in protection engineering (primarily in the areas of fire protection and building codes and standards) and the interpretation of company firesafety practices.

- a.) New buildings.
- b.) Extension to existing buildings.
- c.) Major alterations to existing buildings.
- d.) New protection systems (detection or suppression)
- e.) Major modification or alteration to existing protection systems.
- f.) New/modified fuel transfer systems.

24.02 This service is covered in BSP 760-610-900SW and should be utilized after substantial completion of the construction documents, but with enough time to allow for reviewing and considering the consultant's recommendations.

25. BUILDING APPLICATION AND SITE OBSERVATIONS

25.01 The procedures referenced in this practice shall apply where applicable to all contracted for building work. This includes building construction, modification, repair and maintenance of telephone company property.

25.02 A telephone company project representative (building construction or operations) should make minimum weekly visits to the building project site to determine if these procedures are being followed. However, where work is of a continuing nature and scope, such as house service and on-going building maintenance contracts, the telephone company representative may rely upon the building occupants to provide feedback on the contractor's performance in lieu of the weekly building site visit. In this situation, the telephone company representative is required to make minimum monthly visits to the building project site.

25.03 Contractor compliance is absolutely necessary. Failure to comply should not be tolerated and dealt with as a breach of contract. The nature, frequency and duration of the violations should be used to determine if termination of the agreement is warranted.

26. SPECIFICATIONS

26.01 The procedures referenced in this practice shall be incorporated, where applicable, into all building contracts.

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27. STATE FIRESAFETY COORDINATOR

27.01 The State Firesafety Coordinator is responsible for providing interpretation and guidance on the methods and procedures covered in this practice. Business decisions to deviate from this practice should be documented and filed in the permanent project folder. If there is a problem that has universal application, a letter should be sent to the company firesafety coordinator requesting the necessary practice evaluation and revisions.

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