



NIH Division of the Fire Marshal

Administrative Interpretation 21-2

Construction Safeguards

Code reference: NFPA 241 (2019)

Background: This interpretation summarizes the NIH program of fire prevention and protection for construction, alteration, and demolition operations on NIH-owned facilities. Items not applicable to campuses other than Bethesda may be modified accordingly.

Interpretation:

1. Fire Safety Program: shall be implemented on all construction, alteration, and demolition projects and shall include compliance with the following elements:
 - a. NIH policies and procedures.
 - b. DFM Administrative Interpretations.
 - c. Items on attached checklist.
 - d. Pre-construction meeting with DFM.

2. Fire Prevention Program Manager: shall be designated on all major* construction, alteration, and demolition projects and shall be responsible for the following:
 - a. All program elements listed above and on attached checklist.
 - b. Coordinating with the NIH Fire Department on pre-incident plans.
 - c. Coordinating with the NIH Division of Physical Security Management on security measures.
 - d. Coordinating with the NIH Police Department on explosives or Thermit welding materials.
 - e. Reporting emergencies immediately, reporting to the command post (if established) and updating arriving responders.
 - f. Maintaining records of weekly self-inspections.

Supersedes: N/A

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Date Issued 9-15-21 **Fire Marshal** M. I. Chubbard

* Major projects to be designated by DFM at the time of the final building permit review.

Construction Safeguards Checklist

The following items will be checked by the DFM representative inspecting work sites.

NFPA 241 references are given for more detailed information.

Building/Area _____ DFM Rep. _____ Date _____

Policies

- Fire Safety Program established **1.3.4**
- Fire Prevention Program Manager designated (major projects) **7.2.1**
Name _____ Phone _____
- Temporary trailers in compliance with ORF temporary building policy
- Site selection approved for temporary buildings, dumpsters, staging areas, etc.
- Hazardous work per DFM Administrative Interpretation 20-3
- Construction separation per DFM Administrative Interpretation 17-4
- Fire watches (if provided) per DFM Administrative Interpretations 17-3 & 19-2
- Fire protection system shutdown request process is followed
- Weekly self-inspection records maintained and available for DFM review **7.2.4.4**

Emergency Preparedness

- Workers have adequate means of escape **7.8**
- Designated command post with plans, emergency information keys, etc. **7.5.1.1**
- Phone available with NIH emergency number 301-496-9911 in contacts **7.4.1**
- Building, wing, or room number is conspicuously posted **7.4.2**
- Contractor's emergency contacts are conspicuously posted **7.1.2(6)**
- Temporary electrical disconnect is provided and labeled **6.1.1.4**
- NFPA 704 placards are posted for hazardous materials **5.5.1.6**
- Binder of Safety Data Sheets for materials on site is accessible and identified **7.1.2(5)**

Fire Department Access (new buildings and additions only)

- Marked apparatus access roads extend within 150 ft. of all exterior walls **7.5.3**
- Key box is provided **7.5.2.1**
- At least one stair is provided as the building rises, with lights and signage **7.5.4**
- When exterior walls are in place, stair is enclosed with fire rated walls and self-closing fire doors **7.5.4**

Control of Ignition Sources

- Contractor enforces NIH smoking prohibition **5.3**
- Engine exhaust is directed away from combustible materials **4.4**
- Temporary heating equipment is listed, secured, & properly maintained **5.2**
- Electrical cords are free from damage or removed from site **6.1**
- Temporary lights have guards **6.1**

Control of Fuel Sources

- ❑ Combustible waste materials are removed at the end of each work shift 5.4
- ❑ Equipment to be installed, combustible packing materials, and combustible construction materials are not being stored in unprotected structures 8.3.1
- ❑ Not more than 60 gal. of Class I or II liquids within 50' of the structure 5.5
- ❑ Gas cylinders shall be secured; storage and handling per NFPA 54 and 58 5.5.3.1
- ❑ Combustible forms and form lumber are removed from the structure promptly 8.2
- ❑ Equipment fueling and service areas are located outside of the structure 4.4

Fire Suppression

- ❑ All required standpipes are installed and capped as the building rises 8.7.4
- ❑ Sprinkler systems are placed in service as soon as possible 8.7.3
- ❑ Temporary fire department connection is accessible and labeled 8.7.4.2.1
- ❑ Combustible trash chute is protected with an automatic sprinkler head at the top, with an approved water supply protected from freezing 5.4.4
- ❑ At least one fire extinguisher is provided on each floor at each stair 7.7
- ❑ Fire extinguishers are provided on self-propelled equipment and at shops 7.7

Demolition Operations

- ❑ Standpipes & FDC are maintained as demolition progresses 10.8.4
- ❑ Fire doors are closed at the end of each workday 10.7.2
- ❑ Sprinkler control valves are checked at the end of each workday 10.8.3.2

Underground Construction

- ❑ The aboveground entrance has a check-in/check-out system with an accurate record of personnel underground at all times 11.1.6.1
- ❑ Written fire prevention, fire suppression, and emergency plans are established and approved by DFM 11.2.1.2
- ❑ Evacuation and disaster drills are conducted & records maintained 11.2.3
- ❑ Audible and visible alarm and emergency lighting for evacuation is installed 11.3.1.4
- ❑ Two means of communication are available and are tested weekly 11.3.2
- ❑ Class I liquids are not underground or within 100' of a tunnel or shaft opening 11.5.5.1
- ❑ Class II and III liquids are in approved closed containers and are limited to that necessary for one work shift 11.5.5.2
- ❑ Metal containers with self-closing lids are used to store combustible 11.6.2
- ❑ Combustible trash is taken to the surface daily 11.6.2
- ❑ Ventilation is reversible from exterior near the entrance 11.7.3.1
- ❑ Air-sampling logs are maintained showing tests before and after each shift 11.7.3.4
- ❑ Standpipe with FDC is provided when tunnel extends 200 ft. from entrance 11.8.1
- ❑ Standpipe fire hose connections are provided at maximum 200 ft. intervals 11.8.4