

# NFPA 901

## Uniform Coding for Fire Protection 1986



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The Board of Directors reaffirms that the National Fire Protection Association recognizes that the toxicity of the products of combustion is an important factor in the loss of life from fire. NFPA has dealt with that subject in its technical committee documents for many years.

There is a concern that the growing use of synthetic materials may produce more or additional toxic products of combustion in a fire environment. The Board has, therefore, asked all NFPA technical committees to review the documents for which they are responsible to be sure that the documents respond to this current concern. To assist the committees in meeting this request, the Board has appointed an advisory committee to provide specific guidance to the technical committees on questions relating to assessing the hazards of the products of combustion.

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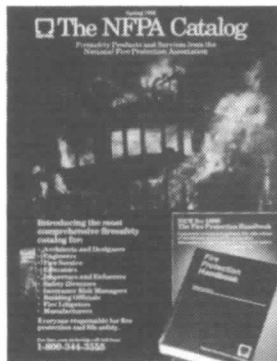
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## NFPA 901

### Uniform Coding for Fire Protection

#### 1986 Edition

This edition of NFPA 901, *Uniform Coding for Fire Protection*, was prepared by the Technical Committee on Fire Reporting and acted on by the National Fire Protection Association, Inc. at its Annual Meeting held May 19-22, 1986 in Atlanta, Georgia. It was issued by the Standards Council on June 11, 1986, with an effective date of July 1, 1986, and supersedes all previous editions.

The 1986 edition of this document has been approved by the American National Standards Institute.

Changes other than editorial are indicated by a vertical rule in the margin of the pages on which they appear. These lines are included as an aid to the user in identifying changes from the previous edition.

#### Origin and Development of NFPA 901

As the objectives of fire defense management have narrowed from the control of conflagrations early in this century toward the control of fires in rooms, the need for uniform information about fire incidents as well as for an effective method of collecting and using that information has become recognized.

In 1938, a fire reporting system prepared by NFPA was published by the International City Manager's Association. This system served as a start toward the uniform reporting of fire incident information.

In 1951, the NFPA Committee on Fire Casualty Statistics was formed. The report of that Committee was adopted as NFPA document 3 in May, 1953. In its introduction, that document contained the following quote: "The absence of accurate and detailed statistics on fire casualties has hindered attempts by educational and other means to reduce the number of deaths and injuries from fire."

In 1961, the NFPA Board of Directors, after two years of surveying the need, called a national conference on fire reporting. On the recommendation of that conference, an NFPA committee was formed in February, 1963 to devise a uniform and useful system of fire reporting adaptable to the needs of the fire service in the United States and Canada.

From 1963 to 1969, the Committee strived to develop a uniform language for fire defense management and issued tentative documents as work progressed.

In 1969, the five tentative documents were officially adopted as NFPA No. 901. The document was updated in 1971, 1973, 1976, and 1981.

The 1981 edition updated the document with new and expanded data elements to improve the reporting of wildland fires, emergency medical services, and fire fighter injuries. This 1986 edition incorporates new material for hazardous materials incident reporting.

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## NFPA 901

## Uniform Coding for Fire Protection

1986 Edition

## PART I — FIRE REPORTING SYSTEM

## Introduction

Hostile fire, medical emergencies, and the release of hazardous materials are international problems. It is only through analysis of information gathered on all levels that an intelligent approach to these problems can be made. To this end, there must be a common international language for the description of fire prevention and emergency incident information. Systematic methods must be available for the routine collection, processing, and use of significant local information.

The major objectives of uniform international fire reporting are the following:

(a) To provide for the collection of information required for legal record purposes and control of the fire problem.

(b) To provide local fire service management with information to indicate trends, to measure the effectiveness of fire prevention, fire suppression and emergency mitigation measures presently in practice, to evaluate the impact of new methods, and to indicate those areas that may require further attention.

(c) To provide a pre-fire inventory of property in a fire service district so that future needs may be anticipated and potential problems corrected before a fire.

(d) To provide uniform data to regional, national, and international fire and emergency organizations in order: to make the full extent of the fire and emergency problem known; to reveal facts that require action on these levels; to guide the effective development and administration of codes and standards; and to guide fire prevention, fire protection, emergency medical treatment, and hazardous materials handling research.

Together, a common fire reporting language with a method for systematic information collection, processing, and use comprise a complete fire reporting system. It is only through such a system that a dependable body of facts essential for a knowledgeable and economical attack on fire protection, emergency medical, and hazardous materials problems—can be developed.

While the system features have been primarily designed for local fire service use, the coding and some features will find use in industrial concerns, government agencies, and insurance companies. Those keeping their data using definitions and codes compatible with this document will be able to share and compare information.

## Guiding Concepts for a Fire Reporting System

It is recognized that the need for information and the capability to collect information is not the same for all of the fire services in the world, e.g., urban, rural, wildland. Also, most fire service organizations will probably desire to tailor their information collection efforts to

their local requirements. However, each incident reporting agency must be compatible with other agencies so that it can contribute to solutions for the fire and emergency services.

In order to assist a fire service that wishes to build its own fire reporting system and to realize the objectives of collecting and using uniform information, several guiding concepts have been developed. These concepts are intended to ensure that any method used for the collection of data will be practical and compatible whether employed by a small fire service organization using a ball-point pen or by a large organization using a powerful computer. The guiding concepts are:

**1. Commitment:** Any fire reporting system should be based on commitment by the fire service in the specific jurisdiction. Imposition of a particular reporting system on a particular fire service without that service's commitment may lead to inaccurate results and should be avoided. Methods for encouraging "voluntary use" are available.

**2. Feedback:** The original information from reports, when combined and summarized, should provide feedback to the reporting units. This will give them access to details that will help them manage the pre-ignition potential in their specific jurisdiction and also encourage accurate input.

**3. Simplicity:** A system should be based on a single incident record (file) on each fire service incident. The contents of that file will depend on the complexity of the incident and on the amount of follow-up information needed to understand that incident. Each report should be geared to what that person can gather within his/her normal duties.

**4. Raise Questions:** Any effective system should reveal both areas for action and areas for special study. Thus, a basic system should raise important questions, not try to give answers to all preconceived questions. Special studies should be planned on a geographical and on a limited-time basis to get the "answers" to specific questions.

**5. Use Words:** The original report from the officer in charge should be in his own words, accurately describing the situation he actually found. This document may be used as an aid to word choice. Numeric codes may be added by the officer himself or by a central coding office.

**6. Report All Incidents:** Every response should be reported regardless of the type or extent of the incident. The extent of the fire, the amount of damage, and the type of incident will be captured by the various elements of the incident report. An incident occurs when there is a response to any alarm.

## Types of Fire Reporting Systems

Six types of fire reporting systems are outlined below. In each system additional or special information can be collected as needed. For example: a locality may wish to keep specific data on manpower and equipment utilization.

*Type A — Advanced Fire Defense Management System.* Any fire reporting system that compiles data beyond that required by the Type B fire reporting system.

*Type B — Fire Defense Management System.* A

system of fire reporting utilizing both Property Reports (NFPA 903M, *Fire Reporting Property Survey Manual*) and Incident Reports (NFPA 902M, *Fire Reporting Field Incident Manual*).

**Type C — Advanced Fire Incident System.** Any system compiling data beyond that required by the Type D fire reporting system.

**Type D — Standard Fire Incident System.** A fire reporting system utilizing the Incident Reports (NFPA 902M, *Fire Reporting Field Incident Manual*).

**Type E — Simplified Fire Incident System.** A system utilizing certain portions of the Basic Incident Report only. This system must comply with the definitions and coding structure of NFPA 901.

**Type F — Local Data System.** Any system of local type using nonstandard definitions or categories.

Systems Type A through Type E, outlined above, are compatible, and a locality, should it choose, can move up from one to the other on a programmed basis. For example, the fire service can start with a Type E system and plan two years later a move to Type D and in two more years to a Type B system.

### Elements of Fire Reporting Systems

A fire reporting system contains three fundamental elements. They are:

- A method for information collection;
  - A routine for typical information processing; and
  - A procedure for the use of information.
- These three elements are outlined in Table 1.

Table 1 The Three Elements of a Fire Reporting System

Element	Procedure
I Fact Finding	A. Obtain Information B. Complete Report C. Send Completed Report to Processing
II Fact Processing	D. Verify Receipt of All Reports E. Edit (and Code) Reports F. Enter and Process Facts G. Update Fact File
III Fact Use	H. Summarize Data I. Analyze these Data J. Request Special Analysis (if needed) K. Decide Specific Action L. Act M. Analyze Results of that Action N. Return to I and Repeat

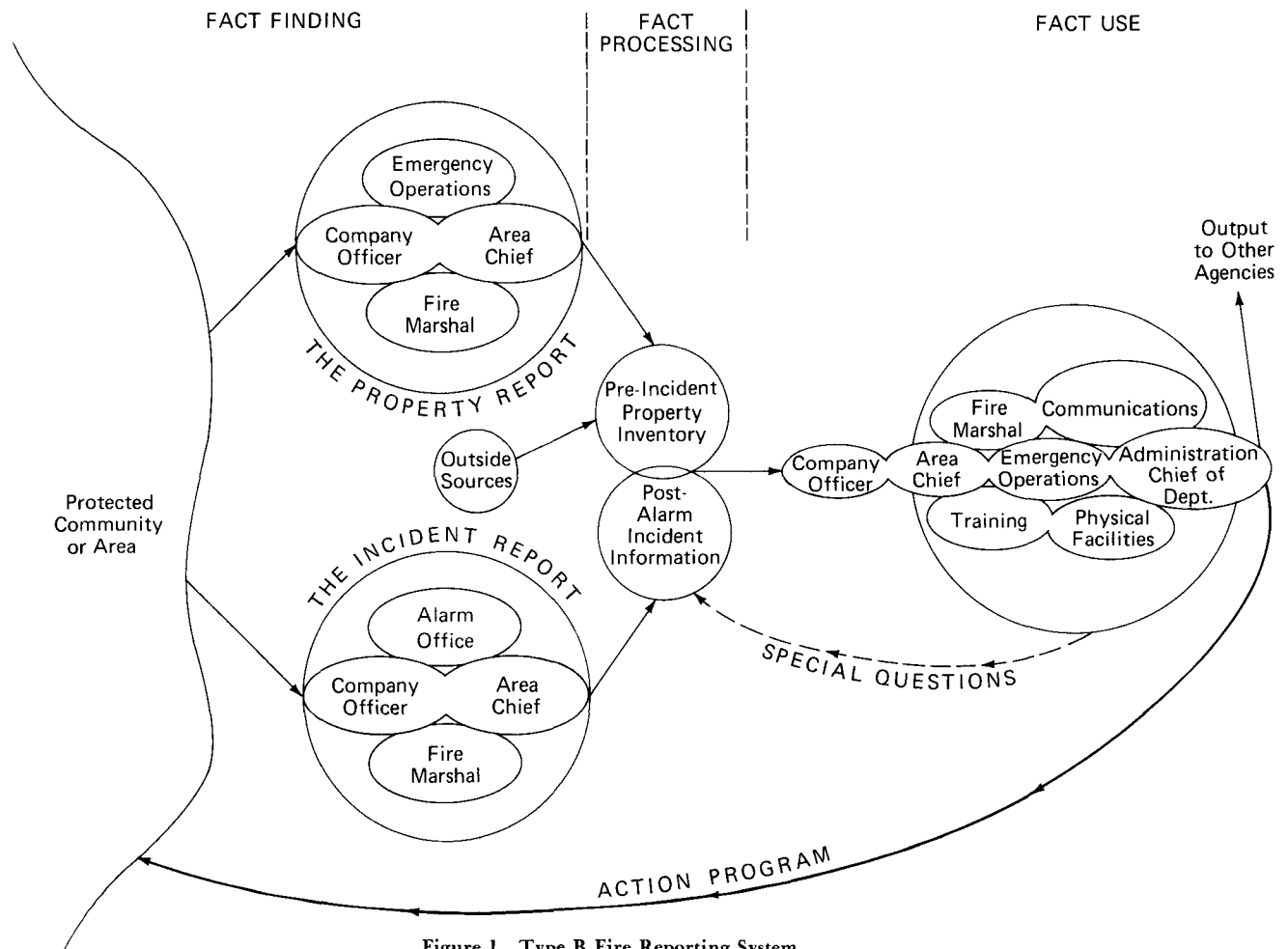


Figure 1 Type B Fire Reporting System

**Element I — Fact Finding.** The traditional legal function of reports can be satisfied with as little as a written narrative of the basic facts of the incident. To serve as input to a fire reporting system, however, an incident report must be clearly structured and must use uniform definitions and terminology. The collection of information on an incident report requires a form or forms on which to record the information desired, instructions for completing the form(s) so that information within the reporting district is provided in a uniform manner, and a procedure for centralized use and storage of the information that is provided.

**The Property Report.** Any time a member of the fire service enters a property within his jurisdiction while on duty at other than an incident, a fire defense survey is being conducted, and a basic property report should be filed.

The purpose of the fire defense survey may be for checking a pre-fire plan, a hazard reduction inspection, or a fire equipment readiness evaluation (pumps, alarms, standpipes, etc.). The property report is part of the Type B and Type A fire reporting systems. The Property Fact File for the Type A and B systems will include pre-incident property data as shown in Figure 2.

**Other Sources.** The "files" of the town clerk, the assessor's office, the building department, and the licensing board may contain data that will be useful in providing desired pre-incident information. Census data, if available, may be added. These outside sources may provide a useful base to the pre-incident file.

**The Incident Report.** Every time the fire service responds to an alarm, an incident occurs. The alarm may be for any fire, medical, rescue, hazardous materials release, or other public service. In all cases an incident report should be filed.

The initial incident report is not intended to be the complete fire record nor to serve as a guide for developing the ignition sequence or the various details pointing to those factors causing or contributing to the ignition or extension of the fire. In addition it is not intended to provide all of the known incident information supportive to a continuing or in-depth investigation.

It should also be noted that since the initial report is not intended as a final or complete report, the ignition sequence information reported should only be considered to be the most probable based on information available to the reporting officer at the time. Any information that later investigation shows to be inaccurate should be corrected on the appropriate reports.

An incident report is a part of Types A, B, C, D, and E Fire Reporting Systems. Type C, D, and E systems are incident-only systems, as shown in Figure 3.

**Update Reports.** Incident follow-up information may be obtained from in-department sources such as the fire investigator or training officer. Out-of-department sources such as hospital personnel and insurance adjusters may yield helpful data. In both cases an Update Report should be filed. Update reports are also useful in keeping property information current.

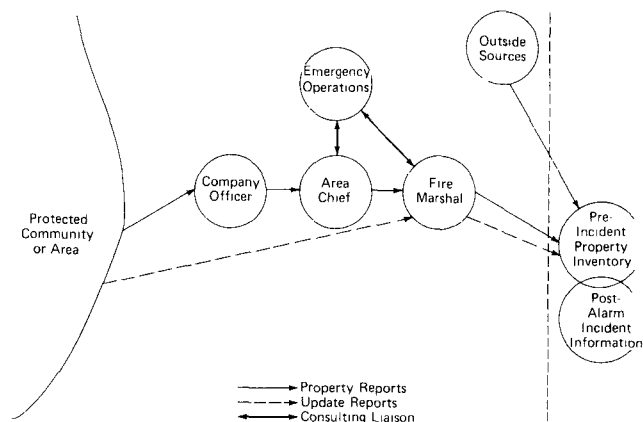


Figure 2 The Pre-Incident Property Inventory System "Fact Finding"

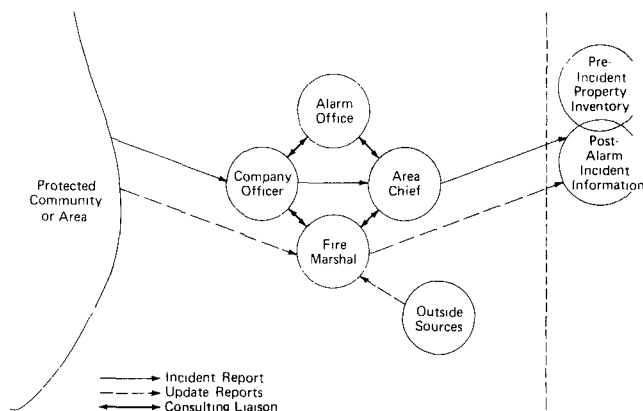


Figure 3 The Incident Report System "Fact Finding"

**Element II — Fact Processing.** The fact finding stage is only the first element of a fire reporting system. Once information has been received, it should be processed into a record useful for legal, planning, and management purposes. The first step in information processing involves checking the reports for accuracy and completeness, and then aggregating information about one property or one incident from several reports into a composite record. The second step involves the creation of a file consisting of all of the records of the reported surveys and incidents.

A Property Fact File will constitute the basic source of information about past incidents and current fire defenses of a specific building or land area. The use to which the Property Fact File is put will determine, to a large extent, the facts that must be recorded on the incident report, and the property report (if used).

**Element III — Fact Use.** Once a Property Fact File has been generated, it has many potential uses. At the least, it should meet the informational needs of all the sectors of the local fire service. These include information required both from a legal standpoint and for strategic and tactical planning. A specific use is to feed back to the company officers data on their specific part of the protected

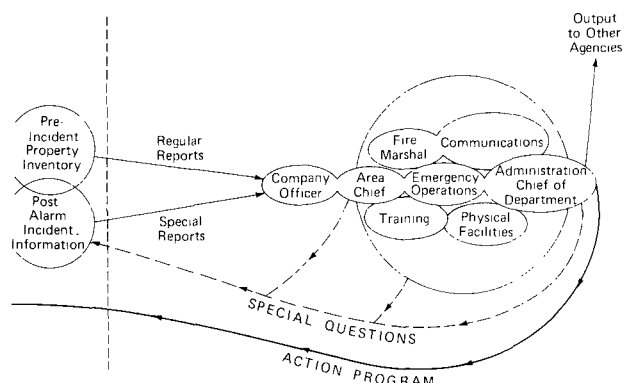


Figure 4 The Fact Use System

community. A more general use would be to spot trends in fire and other emergency incidents and to provide data for program evaluation and corrective action on a chief officer level (see Figure 4).

Even though a small fire department may have an incident level that is too low for meaningful statistical evaluation, the data collected may be sufficient to provide information useful in planning.

Data combined from surrounding jurisdictions will be even more useful. Thus, through each incident report, the company officer, the fire service manager, and the chief of the department can work to "manage" their local problem. Regional and national agencies can work from combined data.

Another vital function of an effective system is to provide input to those designing and marketing new equipment (potential ignition sources), and to those designing and providing interior finishes and furnishings (available fuels), so that the total effort of all concerned can continue to reduce the real fire problem. Other standard setting and enforcement agencies will count on the output of this system on a continuing basis.

Each time a method of fire defense works well and the fire loss and danger are confined to a small area, the "success" will increase the confidence in that particular method of fire defense. Conversely, each time a method of fire defense fails, as indicated by an expensive loss or by injuries or death, then this failure can be recorded so that the confidence in that method of fire defense can be reduced.

On an even broader scale, industry, educators, medical personnel, architects, research scientists, and fire protection engineers can work as an international team with fire service managers to reduce the fire and other problems as they have been defined by data merged from local Property Fact Files.

### Uniform Coding

This document provides a common language for the reporting of fire and other emergency incidents and fire defense features as well as providing convenient numeric codes for various categories of fire protection and fire service information. Some local fire services may find that they have special problems that are not covered in sufficient detail by these categories. For example, a fire

department may have an important fire problem in a particular type of tenement building common in its area that it wishes to record. This department may wish to devise its own numeric code to report that problem or to report any other information that it desires. It is important, however, that the reports generated by this department be compatible with and transformable into the categories used in this document. The overall relationship of this common language may be visualized from Figure 5.

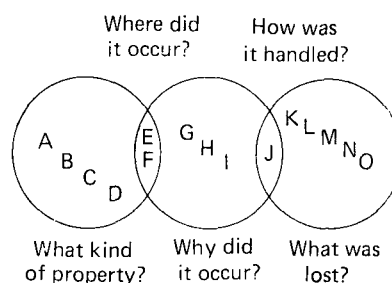


Figure 5 Organization of the Chapters of Part III

**Property Classification.** The first three chapters of Part III of this document (Chapters A, B, C) identify the type of property in which the incident occurred. A method is provided for classification of practically every type of property. Chapter A identifies the overall use of the property such as an airport, university campus, or hotel. Chapter B identifies a specific portion of the property by its use such as restaurant, shoe store, dwelling, or fire station. Chapter C identifies a "mobile property" by type such as automobile, aircraft, ship, or fire apparatus.

**Pre-incident Information.** Chapter D identifies those features that are important in assessing the relative risk of a specific piece of property prior to an incident.

**Area of Origin.** Chapters E and F identify the use of the room or space of origin and the equipment involved with the ignition or incident, if any.

**Ignition Characteristics.** Chapters G through I identify those factors that are important in starting fires. In order to reduce the probability of ignition, it is important to understand the reasons for the occurrence of ignition.

The form of the heat of ignition (Chapter G) identifies the thermal characteristic starting the fire. All fires must start from thermal energy.

The material first ignited is identified by its form and by its type in Chapter H. A wooden table is thus identified differently than a plastic table. While all fires must have thermal energy to ignite, they usually need "kindling fuels" to be ignited, and Chapter H identifies the first material ignited.

Obviously, if thermal energy cannot get to the material to be ignited, then there will be no ignition. The reason that the heat and the fuel got together is identified by the "Ignition Factor" (Chapter I).

**Incident Report.** The factors surrounding the incident, what was found on arrival, what action was taken, and perhaps most importantly, why the incident got as big as it did are covered in the Incident Report (Chapter J). All fires must ignite, but only some become dangerous or fatal fires.

The extent of damage, injuries, the loss of property, contamination of the environment, and the investment in manpower and other resources provided by the community are categorized in Chapter K.

Information on people involved with the incident is categorized in Chapter L.

Injuries to a person, whether fatal or not, are categorized in Chapters M, N, and O. Chapter M categorizes types of fire incident related injuries, Chapter N covers medical data about an injured person, and details of injuries to fire service personnel are given in Chapter O.

**Alphabetical Breakdowns.** While the logic of the coded categories is shown in Part III, alphabetical breakdowns for many of these categories are available in Part IV.

**Special Industry Breakdowns.** The committee recognizes the fact that some industries wish more detail concerning some types of fires. Appendix A of this document has been reserved to allow any special interest group to publish a more finite breakdown of a particular section of a category. The use of these breakdowns by the reporting agency is optional, and such breakdowns are compatible with the 901 elements within each category.

### Coding Conventions

To ensure that the least number of errors are made when incident information is transcribed into numerical classifications and later processed, several coding conventions have been used throughout this document. They are:

**Pyramid Structure.** Some categories of information in this document (e.g., Chapter B, "Specific Property Use") are broken down into great detail. To encode the maximum level of detail may require the use of as many as three digits. However, some agencies may wish to incorporate less detail into their fire reports. Therefore, the classifications have been designed so that the last digit in a two-digit classification, or even the last two digits in a three-digit classification, can be dropped while retaining the broad meaning of the category. It is recommended, however, that as much information be retained as practical for it is very difficult to gather later.

**Unclassified Information — Classification "9."** Sometimes it may be found that a division breakdown within a category does not contain a numeric code for a specific detail that is on the report. For example, in Chapter F under "cooking equipment," numeric Classifications "21" to "27" are provided to encode a variety of types of common cooking equipment. If a type of cooking equipment involved in ignition is not listed in these categories, and from the terms and definitions used in each subdivision it does not appear that it should be classified in one of the existing subdivisions, then it is "not classified above."

Classification "9" is used throughout the document to mean that the object being classified does not appear in the list of classifications but the specific object is known. Therefore, in Chapter F, Classification "29" indicates "cooking equipment not classified above." It is recommended that descriptive information, in the reporting officer's own words, be included on the incident report.

**Insufficient Information — Classification "0."** In some cases there will be insufficient information to use a detailed numeric classification. In such situations, the final digit is replaced by zero to mean, "it is in this group but the type is not known." The final digit is not left out. Therefore, in Chapter F, Classification "20" indicates "cooking equipment: insufficient information available to classify further" or "undetermined or not reported." This pattern is followed where possible throughout the document.

**Not Applicable — Classification "8."** There are some categories in this document that may be "not applicable" to a given incident or to which the answer may be "none." Where possible the numeric Classification "8" has been reserved in these categories to encode such information.

### Information Not Added Up

Information within an incident reporting system falls into two categories: that which there is no need to "add up" but which provides information about the incident (noncoded data), and that which may be classified for tabulation (coded data).

While it is not the purpose of this document to define what information should be reported, there is certain administrative and legal information that is desirable on any incident report. The location of the property or incident is one of the most important examples. This information may be captured by recording data such as:

- (a) Street name and street number or land area location.
- (b) Local name and designation of property.
- (c) Community, subdivision, or fire control jurisdiction.
- (d) City, county, state, or province including post office code.
- (e) Census tract.
- (f) Property representative to contact.
- (g) Address and telephone number of property representative.

There will also be categories for which an item will be reported and classified but for which additional information may be desirable.

An example of this kind of information is the location and type of a piece of equipment involved in the start of a fire.

A report may capture additional information about that piece of equipment by using a noncoded format such as:

- (a) The manufacturer's name.

- (b) The model designation.
- (c) The year of manufacture or the serial number.
- (d) If the equipment is electrical, the voltage it is designed to operate on.

Likewise, for a vehicle involved in a fire, the make, model, year of manufacture, and the vehicle identification number might be recorded.

### Numeric Information

There is information that a fire service may wish to capture and that can be directly recorded as numbers. This is particularly applicable to resources utilized (men, apparatus, and equipment) and the number of casualties at an incident. These entries can easily be recorded as actual numbers without the use of special classifications.

## PART II — GLOSSARY AND ABBREVIATIONS

### Glossary

The terminology used in this document provides a common language for recording information about fire department incidents. The following terms are used as defined and discussed below.

**ALARM.** Any notification made to the fire department that a situation exists or may exist that requires a response.

**AREA OF ORIGIN.** The use of the room or area within the property where the fire originated. (See *Chapter E, Part III*.)

**AUTOMATIC.** As applied to fire protection devices, a device or system providing an emergency function without the necessity of human intervention.

**BUILDING.** A structure enclosed with walls and a roof and having a defined height.

**BUILDING FIRE.** Any fire occurring inside or involving a building. A building fire may be a wastebasket fire, a mattress fire, or a roof fire, whether or not structural members were actually involved.

**CASUALTY (incident).** A person who is injured or killed as a result of responding to or handling an incident or who is the reason for the incident.

**CASUALTY (fire).** A person who is injured or killed at the scene of a fire. (Includes injuries/or deaths from natural or accidental causes sustained while involved in the activities of fire control, rescue attempt, or escaping from the dangers of the fire.)

**CENSUS DATA.** Available statistical information that includes population totals by sex, race, and age, by household membership and relationships, and by marital status and family type. Also available may be housing by dollar value of owner- and renter-occupied dwellings, white and black occupancy, migratory occupancy, number and income status of occupants, persons per room, sex of family head, presence of nonrelatives in the household, type of kitchen, bathing, and toilet facilities;

type of structure and water supply, foundation of basement, telephone service, amount of monthly rent or dollar value of owned homes, vacancy status, and number of rooms.

**CENSUS TRACT.** An area of land within a country about which there is census data available. In the United States, census tracts are identified by a six-digit number assigned by the U.S. Bureau of the Census. The first four digits identify the "basic" tract, while the final two digits identify a subdivision into two or more tracts of what was originally a single tract. Census tract numbers are always unique within a county, usually unique within a Standard Metropolitan Statistical Area (SMSA), and in a few instances, unique within a state.

**CHAR.** Material that has been partially burned on the exterior and has a blackened, carbonized appearance.

**COMBUSTIBLE.** A material or structure that will burn.

**COMBUSTIBLE LIQUID.** Any liquid having a flash point of or above 37.8°C (100°F) (closed cup).

**COMPLEX.** See **GENERAL PROPERTY USE**.

**CONTENTS FIRE.** A term no longer used in fire reporting. All fires inside buildings are classified as "building fires."

**DEATH.** An injury that is fatal or becomes fatal within one year of the incident.

**EMERGENCY SCENE.** The area encompassed by the incident and the surrounding area needed by the emergency forces to position apparatus and operate to control the incident.

**EN ROUTE.** The period of time starting when the alarm sounds in the fire station or the fire service emergency personnel are otherwise made aware of an incident and ending when the apparatus comes to a complete stop at the scene of the incident.

**EXPLOSION.** Violent bursting caused by either a combustion process or an over-pressure condition. Typical combustion processes include ignition and burning of combustible gas, dust, or flammable vapor mixture. These are technically "fires." Typical over-pressure conditions include steam pressure, chemical reactions, and compressed gas container rupture. These are technically not "fires."

**EXPOSURE.** Any fixed or mobile property that may present a potential fire threat to any other fixed or mobile property.

**EXPOSURE FIRE.** A fire in a building, structure, vehicle, or outside property resulting from a fire outside that building, structure, vehicle, or outside property. A fire spreading between occupancies within a single building is not an exposure fire but a single fire incident.

**EXPOSURE (human).** Potential for injury or death to humans.

**FIRE.** Any instance of destructive and uncontrolled burning, including explosion, of combustible solids, liquids, or gases. Fire does not include the following, except where they cause fire or occur as a consequence of fire:

- (a) Lightning or electrical discharge.
- (b) Explosion of steam boilers, hot water tanks, or other pressure vessels due to internal pressure and not to internal combustion.
- (c) Explosion of ammunition or other detonating material.
- (d) Accident involving ship, aircraft, or other vehicle.
- (e) Overheat condition.

**FIRE AREA.** The space within a structure bounded by fire division assemblies (two-hour fire rating or greater).

**FIRE BLACKOUT.** That point in time when there is no longer any evidence of open flame or glow of burned material.

**FIRE DAMAGE.** The total damage to a building, structure, vehicle, natural vegetation cover, or outside property resulting from a fire and the act of controlling that fire. Included are smoke, water, backfires, fire breaks, and fire control damage. If significant fire damage occurs in a separate building or field or woodland, a separate exposure report may be filed.

**FIRE DIVISION ASSEMBLY.** A "fire-rated assembly" that has a fire resistance rating of two test hours or longer.

**FIRE DIVISION COMPARTMENT.** A complete compartment surrounded on all sides by fire-rated assemblies having a two-test-hour resistance rating or more. Large buildings often contain over 10 fire division compartments, each containing many rooms. Identifying the location of each fire division compartment is often worthwhile.

**FIRE EXTINGUISHED.** That point in time when there is no longer any abnormal heat or smoke being generated in material that was previously burning.

**FIREGROUND.** See EMERGENCY SCENE.

**FIRE-RATED ASSEMBLY.** An assembly (e.g., wall, floor, or roof) that has been tested using standard test methods and has received at least a 60-minute fire resistance rating.

**FIRE-RATED COMPARTMENT.** A complete compartment surrounded on all sides by fire-rated assemblies having a 60-minute fire resistance rating or more.

**FIRE REPORT.** The incident report on a fire.

**FIRE SERVICE PERSONNEL.** All employees, whether career or volunteer of a fire department, who are assigned or may be assigned to perform duties at emergency incidents.

**FIRE UNDER CONTROL.** That point in time when a fire is sufficiently surrounded and quenched so that in

the judgment of the commanding officer it no longer threatens destruction of additional property.

**FIRE WALL.** A fire division assembly of three test hours or longer fire resistance rating, built to permit complete burnout and collapse of the structure on one side without fire extension through the fire wall or collapse of the fire wall.

**FIXED OBJECT.** An object, device, or appliance that is fastened or secured at a specific location, e.g., a steam radiator.

**FIXED PROPERTY USE.** See SPECIFIC PROPERTY USE.

**FLAMES.** Products of combustion that are illuminated by the heat of combustion and accompany the burning of most materials in normal atmospheres.

**FLAMMABLE LIQUID.** Any liquid having a flash point below 37.8°C (100°F) (closed cup) and having a vapor pressure not exceeding 2068.6 mm (40 psia) at 37.8°C (100°F).

**GAS.** A material that has a vapor pressure exceeding 2068.6 mm (40 psia) at 37.8°C (100°F). Gasoline is a (flammable) liquid, not a (flammable) gas.

**GASOLINE.** A flammable liquid.

**GENERAL PROPERTY USE.** The general (overall) use of land or space under the same management, ownership, or within the same legal boundaries; including any structures, vehicles, or other appurtenances thereon. (See *Chapter A, Part III.*)

**GRADE.** Reference plane representing the elevation of finished ground level adjoining the building at the main entrance.

**HAZARDOUS MATERIAL.** Any material that is an air-reactive material, flammable or combustible liquid, flammable gas, corrosive material, explosive material, organic peroxide, oxidizing material, radioactive material, toxic material, unstable material or water-reactive material, and any substance or mixture of substances that is an irritant, a strong sensitizer, or that generates pressure through exposure to heat, decomposition, or other means.

**HEAT OF IGNITION.** The heat energy that brings about ignition. Heat energy comes in various forms and usually from a specific object or source. Therefore, the heat of ignition is divided into two parts: "equipment involved in ignition" and "form of heat of ignition." (See *Chapters F and G, Part III.*)

**IGNITION.** The physical and chemical processes involved in reaching a point of self-perpetuation of fire whether or not there is an open flame.

**IGNITION FACTOR.** The condition or situation that allowed a heat source and a combustible material to combine to initiate a fire. (See *Chapter I, Part III.*)



**INCIDENT.** The involvement of fire service personnel, apparatus, or equipment in response to an alarm. Included are "walk-ins" treated at the station.

**INCIDENT RECORD.** The official fire department file on an incident. For a simple "lockout" the incident record may be a single incident report. For a complicated fatal fire, on the other hand, the incident record may consist of a file containing the original incident report, fire company reports, several follow-up reports, narrative and newspaper accounts, photographs, as well as physical exhibits.

**INCIDENT REPORT.** A document prepared by the officer in charge of a particular incident. For understanding and legal purposes, this report should be in the officer's own words. For summarization purposes, the information on this report can be classified into broad categories. The incident report is always part of the incident record or file.

The incident report includes information on the time of the incident, the response to the incident, the action taken, as well as details of the incident, the damage, and the casualties.

**INJURY.** Physical damage to a person suffered as the result of an incident that requires (or should require) treatment by a practitioner of medicine, a registered EMT, or a paramedic within one year of the incident (regardless of whether treatment was actually received), or that results in at least one day of restricted activity immediately following the incident.

**LIQUID.** A material that has a vapor pressure not exceeding 2068.6 mm (40 psia) at 37.8°C (100°F).

**MATERIAL FIRST IGNITED.** The combustible that is first set on fire by the heat of ignition. To be meaningful, both a type of material and a form of material should be identified. (*See Chapter H, Part III.*)

**MOBILE PROPERTY TYPE.** Property that was designed to be movable whether or not it still is, e.g., vehicles, ships, and airplanes. (*See Chapter C, Part III.*)

**NON-FIRE SERVICE PERSONNEL.** All persons involved with an incident who are not fire service personnel. Included are police, utility company employees, non-fire service medical personnel, and civilians, whether occupants or bystanders.

**NOT OCCUPIED.** An area with no persons present but with contents or equipment present.

**OCCUPANCY.** The purpose for which a building or portion thereof is intended to be used. The specific property use as it pertains to a building is the occupancy.

**OCCUPIED.** An area with persons present. A hotel (general property use) could be occupied, but the restaurant (specific property use) not occupied; likewise, the restaurant could be occupied but its storeroom (area of origin) not occupied.

**OVERHEAT.** Destruction of material by heat without

self-sustained combustion. Removal of the heat source will stop the destruction. Overheat is the stage before ignition.

**PORTABLE OBJECT.** An object, device, or appliance that can readily be moved from one place to another, e.g., a vacuum cleaner.

**PROPERTY.** A thing of value. Specific (fixed) property refers to those things that make up the earth's surface, i.e., water, land, roadways, structures, and buildings. Mobile property refers to those things that normally move in relation to the earth's surface, i.e., ships, airplanes, trains, trucks, and automobiles.

**PROPERTY INVENTORY.** Information known about a property before an emergency occurs. This knowledge is in two parts: that which is general in character and has to do with external features (such as location, water supply, and construction), and that which is specific in character relating to internal features (such as interior finish, vertical openings, or suppression systems).

**PROPERTY USE.** The use to which a property is put. A building, for example, could serve as a garage or a hospital or a department store. The use of property does not define any of the other important fire-related details of a property such as access, ownership, size, internal weaknesses in fire defense, or construction.

**REPORTABLE FIRE.** Any hostile fire coming to the attention of an agency keeping fire records. Included are fires that may be discovered in progress, discovered following extinguishment, or detected later during an inspection.

**RETURNING.** The period of time starting when the apparatus begins movement to leave the incident scene and ending when it has stopped movement in quarters or is assigned to another incident or assignment.

**ROOM.** The space or area bounded by walls. The walls may be fire rated and impede fire spread or not fire rated (e.g., mesh screen) which may impede exiting of personnel.

**SCORCH.** Discoloring (browning or blackening) of a material, a characteristic of the overheat condition. Removal of the heat source will stop the destruction.

**SMOLDERING.** Self-sustaining combustion of a material without any flame evident.

**SPECIFIC PROPERTY USE.** The use to which a specific space, structure, or portion of a structure is put by the owner, tenant, or occupant of the space. The Specific Property Use should be one of the following:

The principal use of the structure or outside area if it is used for a single purpose.

The principal use of a fire division compartment in a structure if the structure is used for multiple purposes.

The principal use to which a section of a structure, a space, or an area, whether inside or outside, is put by the

owner, tenant, or business occupying that space or area when there are multiple specific uses, multiple tenants, or multiple businesses using the same general property.

**STATIONARY OBJECT.** Any object, device, or appliance that is not fastened but that is not readily moved from one place to another in normal use, e.g., a refrigerator.

**STORY.** That portion of a building between the upper surface of any floor and the upper surface of the floor next above, except that the topmost story is that portion of a building between the upper surface of the topmost floor and the upper surface of the roof above.

**STRUCTURE.** An assembly of materials forming a construction for occupancy or use in such a manner as to serve a specific purpose. A building is a form of a structure. Open platforms, bridges, roof assemblies over open storage or process areas, tents, air-supported structures, and grandstands are other forms of a structure.

**STRUCTURE FIRE.** Any fire inside a structure or on, under, or touching a structure. A structure fire may be an automobile fire in a *tunnel*, or a leaking flange in a refinery *tower*.

**TOXIC MATERIALS.** Any material that either directly or indirectly may constitute a hazard to life or health, either temporary or permanent, from exposure by contact, inhalation, or ingestion. Toxic materials are divided into the following classes:

**CLASS 4 -** Materials that on very short exposure could cause death or major residual injury even though prompt medical treatment is given.

**CLASS 3 -** Materials that on short exposure could cause serious temporary or residual injury even though prompt medical treatment is given.

**CLASS 2 -** Materials that on intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical treatment is given.

**CLASS 1 -** Materials that on exposure would cause irritation, but only minor residual injury even if no treatment is given.

**VACANT.** No furnishings or equipment present.

**WILDFIRE.** Any uncontrolled fire burning in wild land vegetation including any structures or other improvements thereon.

**WILD LAND.** Land in an uncultivated, more or less natural state, and covered by timber, woodland, brush, and/or grass.

## Abbreviations for States and Provinces

### STATE AND PROVINCE CODES

Alabama	01	AL	New Mexico	35	NM
Alaska	02	AK	New York	36	NY
American Samoa	03	AS	North Carolina	37	NC
Arizona	04	AZ	North Dakota	38	ND
Arkansas	05	AR	Ohio	39	OH
California	06	CA	Oklahoma	40	OK
Canal Zone	07	CZ	Oregon	41	OR
Colorado	08	CO	Pennsylvania	42	PA
Connecticut	09	CT	Puerto Rico	43	PR
Delaware	10	DE	Rhode Island	44	RI
District of Columbia	11	DC	South Carolina	45	SC
Florida	12	FL	South Dakota	46	SD
Georgia	13	GA	Tennessee	47	TN
Guam	14	GU	Texas	48	TX
Hawaii	15	HI	Utah	49	UT
Idaho	16	ID	Vermont	50	VT
Illinois	17	IL	Virginia	51	VA
Indiana	18	IN	Virgin Islands	52	VI
Iowa	19	IA	Washington	53	WA
Kansas	20	KS	West Virginia	54	WV
Kentucky	21	KY	Wisconsin	55	WI
Louisiana	22	LA	Wyoming	56	WY
Maine	23	ME	Alberta	60	AT
Maryland	24	MD	British Columbia	61	BC
Massachusetts	25	MA	Manitoba	62	MB
Michigan	26	MI	New Brunswick	63	BR
Minnesota	27	MN	Newfoundland	64	NF
Mississippi	28	MS	Nova Scotia	65	NS
Missouri	29	MO	Ontario	66	ON
Montana	30	MT	Prince Edward Island	67	PE
Nebraska	31	NE	Quebec	68	PQ
Nevada	32	NV	Saskatchewan	69	SK
New Hampshire	33	NH	Yukon	70	YU
New Jersey	34	NJ	Northwest Territory	71	NW

### Abbreviations for Street Types

AV:	Avenue	LP:	Loop
BL:	Boulevard	PY:	Parkway
CL:	Circle	PL:	Place
CT:	Court	RD:	Road
DR:	Drive	SQ:	Square
EX:	Expressway	ST:	Street
FY:	Freeway	TK:	Turnpike
HY:	Highway	TR:	Terrace
LN:	Lane	WY:	Way

### Abbreviations for Words Used in the Document

bldg	— building	mfg	— manufacturing
constr	— construction	stge	— storage
elec	— electrical	w/	— with
excl	— excluding	w/o	— without
incl	— including	yr rnd	— year-round
mchry	— machinery		

## PART III — ORGANIZATION OF DATA ELEMENTS

This part of the document presents definitions, non-coded data, and coded data that lends itself to being "added up." The categories are presented in numerical order, which is their logical sequence. Where deemed useful, an alphabetical list of terms for categories is presented in Part IV.

## Chapter A. General Property Use

**Purpose:** The general property use designation captures data on the overall use of property so that all specific uses of segments of that property can be linked to its general use.

**Discussion:** A grease duct fire in a restaurant in a hotel, or an explosion in a chemical laboratory of a university, presents a challenge to fire reporting.

Obviously, in the first case, if only "hotel" data are collected, then "restaurant" data will be lost. In the second example, if only "laboratory" data are collected, then "university" data will be lost. The use of a general property use classification together with the specific property use (Chapter B) enables the user to capture both "hotel" and "restaurant" or both "university" and "laboratory" information.

### Definition:

**GENERAL PROPERTY USE.** The general (overall) use of land or space under the same management, ownership, or within the same legal boundaries; including any structures, vehicles, or other appurtenances thereon.

If a portion of the general property is leased, managed, and maintained as a separate property, treat it as a separate general property use for reporting purposes. For example: a hotel at an airport leased to and managed by a hotel chain would be reported as hotel use while a hotel on a university campus and managed by the university would be reported as educational use.

When a location has two or more completely different general uses, and there is no classification to describe the combination, then the general property use should be classified according to the predominant use at the point of origin of the incident.

**Examples:** The following examples show the relationship between the General Property Use and the Specific Property Use for a few typical situations.

A clothing store in a shopping center	
General property use	51
Specific property use	521
A chapel at a university	
General property use	22
Specific property use	131
A railroad bridge	
General property use	95
Specific property use	921
A children's playhouse behind a dwelling	
General property use	41
Specific property use	491
A barn on a farm	
General property use	65
Specific property use	815

**Coded Data:** The logical coding structure and definitions for classifying general property use are presented here. An alphabetical listing of terms for General Property Use is presented in Chapter A' in Part IV of this document.

11. Public recreation use.

- Included are zoos, government parks, general recreational parks and improved campsites.
- 12. Stadium, exhibition use.  
Included are ball parks, racetracks, sports stadiums, exhibit halls.
- 13. Religious use.  
Included are properties used for funerals and cemeteries.
- 14. Clubs.  
Included are golf clubs, tennis clubs, country clubs, mens' and womens' clubs, and casinos.
- 15. Judicial, legislative, archival, historic use.  
Included are properties used for courts, libraries, museums.
- 16. Restaurant, food service, drinking establishment.
- 18. Theater, studio use.  
Included are drive-in theaters.
- 21. Primary- and secondary-level educational use.  
Included are facilities for education through high school level.
- 22. Postsecondary-level educational use.  
Included are colleges and universities and all facilities used for post-high-school-level education.
- 31. Care of handicapped.  
Included are properties where the old, the young, and the mentally retarded are cared for but where medical treatment is minor.
- 33. Medical care use.  
Included are hospitals, medical centers, and mental institutions.
- 34. Prison use.
- 40. Business with residential use.  
Included are apartments over stores.
- 41. One- or two- family residential use.
- 42. Multi-family residential use.  
Included are apartments and condominium properties.
- 43. Group living use.  
Included are properties associated with rooming, boarding, and lodging houses, and dormitories or barracks not a part of another general property use.
- 44. Transient living use.  
Included are properties associated with hotels, motels, inns, and the like.
- 47. Mobile home park use.
- 51. Sales use.  
Included are properties where the predominant use is the sale of products.  
Excluded are combination sales/residential use (40).
- 52. Service use.  
Included are properties where the predominant use is for the service, maintenance, or cleaning of products.  
Excluded are sales areas with minor service or repair use (51).
- 59. Business, office use.  
Included is non-military government office use.  
Excluded is military office use (63).
- 61. Power, energy production or distribution.
- 62. Research use.  
Included is laboratory use.
- 63. Military, defense use.

- 64. Communication use.  
Included are data processing centers.
- 65. Farm, agricultural use.  
Included are timberland and tree farms, orchards, and livestock production.
- 66. Indian reservation.
- 67. Mining, quarrying.
- 70. Industrial, manufacturing use.
- 80. Storage, warehousing use.
- 91. Refuse disposal.  
Included are all properties associated with the collection, storage, and disposal of discarded material.
- 92. Property undergoing transformation.  
Included are construction sites, demolition sites.
- 93. Wild land.  
Included are local, state, and national forest land where harvesting of timber or mining is not normally done.
- 94. Water, waterfront area use.  
Included are passenger terminals and facilities catering to boating and shipping.  
Excluded is ship manufacturing (70).
- 95. Railroad transportation use.  
Excluded are railroad areas on other general properties.  
Included are passenger terminals.
- 96. Motor vehicle transportation use.  
Excluded are vehicle areas on other general properties.  
Included are passenger terminals.
- 97. Air transportation use.  
Included are passenger terminals.
- 98. Property with no apparent current use.
- 99. General Property Use not classified above.
- 00. General Property Use undetermined or not reported.

## Chapter B. Specific Property Use

**Purpose:** Properties can be divided into those that are relatively fixed, e.g., buildings, bridges, and parking lots, and those that are relatively mobile, e.g., cars, airplanes, and ships. Any property may be put to a varying number of uses. The specific use affects the fire potential in that property.

The definitions and classifications in Chapter B are provided to record the specific property use. Where mobile property is also involved, it should be recorded using the subdivisions in Chapter C with the specific property use associated with it classified here in Chapter B.

**Discussion:** The specific property use classifications that follow are divided into nine major divisions. These "major divisions" are divided into "divisions," and each "division" is further divided into "subdivisions" in a logical format that allows for different levels of detail (one, two, or three digits) in reporting without destroying uniformity.

Specific property use is intended to classify the use of the land or structures thereon. Things on this land or in the structure are classified in the remaining chapters.

### Definition:

**SPECIFIC PROPERTY USE.** The use to which a specific space, structure, or portion of a structure is put by the owner, tenant, or occupant of the space. The Specific Property Use should be one of the following:

The principal use of the structure or outside area if it is used for a single purpose.

The principal use of a fire division compartment in a structure if the structure is used for multiple purposes.

The principal use to which a section of a structure, a space, or an area, whether inside or outside, is put by the owner, tenant, or business occupying that space or area when there are multiple specific uses, multiple tenants, or multiple businesses using the same general property.

A specific building, for example, could serve as a garage or a hospital or a department store. The use does not define any of the other important fire-related details of a property such as access, ownership, size, internal weaknesses in fire defense, or construction. Each of these items may be found in other chapters of the document.

The major divisions (single digit) of the Specific Property Use classification are:

1. Public Assembly Property
2. Educational Property
3. Health Care, Penal Property
4. Residential Property
5. Mercantile, Business Property
6. Basic Industry, Utility, Defense, Agriculture Property
7. Manufacturing Property
8. Storage Property
9. Special Property

**Coded Data:** The logical coding structure and definitions for classifying specific property use are presented here. An alphabetical listing of terms for "Specific Property Use" is presented in Chapter B' in Part IV of this document.

### 1. PUBLIC ASSEMBLY PROPERTY

Places for the congregation or gathering of people for amusement, recreation, social, religious, patriotic, civic, travel, and similar purposes are known as public assembly properties. Such properties are characterized by the presence or potential presence of crowds, with attendant panic hazard in case of fire or other emergency. They are generally open to the public, or may, on occasions, be open to the public. The occupants are present voluntarily and are not ordinarily subject to discipline or control. They are generally able-bodied persons, whose presence is transient in character, and who do not intend to sleep on the premises.

#### 11. Fixed Use Amusement, Recreation Places

- 111. Bowling establishment.
- 112. Billiard center.  
Included are pool centers and pool halls.
- 113. Amusement center.

Amusement hall, such as shooting gallery, penny arcade, bingo hall, and the like.

Excluded are bowling establishments (111), billiard centers (112), and halls with variable use (121).

114. Ice rink.

Included are establishments used solely for ice skating, ice hockey, and curling. Ice rinks in arenas and other places that can be converted to other uses are classified in division 12.

115. Roller rink.

116. Swimming facility.

Included are all swimming pools, related cabanas, bathhouses, and equipment locations.

119. Fixed Use Amusement, Recreation Places not classified above.

110. Fixed Use Amusement, Recreation Places; insufficient information available to classify further.

## 12. Variable Use Amusement, Recreation Places

121. Ballroom, gymnasium.

Included are dance halls.

122. Exhibition hall, exposition hall.

123. Arena, stadium.

Fixed seating in large areas.

Included are ball parks, racetracks, grandstands, and sports gardens.

124. Playground.

129. Variable Use Amusement, Recreation Places not classified above.

120. Variable Use Amusement, Recreation Places; insufficient information available to classify further.

## 13. Places of Worship, Funeral Parlors

131. Place of worship.

Included are cathedrals, chapels, churches, missions, synagogues, temples, and the like.

132. Religious education facility.

Facilities for use in periodic religious education.

Included are Sunday schools.

Excluded are regular education buildings run by religious institutions which are classified in major division 2.

133. Church hall.

Hall for fellowship, meetings, and the like.

Included are offices, kitchens, and classrooms contained within the structure.

Excluded are religious meeting halls that are part of a structure used principally as a place of worship (131).

134. Funeral parlor, chapel.

Included are crematoriums, mortuaries, morgues, and mausoleums.

139. Places of Worship, Funeral Parlors not classified above.

130. Places of Worship, Funeral Parlors; insufficient information available to classify further.

## 14. Clubs

141. City club.

Included are city club facilities without sleeping accommodations, such as athletic, lodge, social, steam bathing, health, swimming, YMCA, and boys' clubs. If sleeping accommodations are pres-

ent, classify in major division 4.

Excluded are nightclubs (162).

142. Country club.

Included are country club facilities, such as golf, tennis, rifle, hunting, fishing, beach, and riding clubs.

143. Yacht club.

Included are boating and yacht club facilities.

Excluded are marinas and boat mooring facilities (885), boat repair facilities (782), and marine refueling facilities (577).

144. Casinos, gaming, or gambling places.

149. Clubs not classified above.

140. Clubs; insufficient information available to classify further.

## 15. Libraries, Museums, Courtrooms

151. Library.

152. Museum, art gallery.

Included are aquariums and planetariums.

153. Historic building.

154. Memorial structure, monument.

155. Courtroom.

156. Legislative hall.

159. Libraries, Museums, Courtrooms not classified above.

150. Libraries, Museums, Courtrooms; insufficient information available to classify further.

## 16. Eating, Drinking Places

Included are retail establishments selling prepared foods and drinks.

161. Restaurant.

Those eating places specializing in food primarily for consumption on the premises.

Included are cafeterias and diners, with table or automatic service.

162. Nightclub.

Those places specializing in food and drink: They may have dancing or entertainment.

Included are key clubs, supper clubs, and dinner theaters.

163. Tavern.

Those places specializing in the sale of alcoholic beverages, consumed primarily on the premises, with food as a minor supplement only.

164. Lunchroom, drive-in.

Those places specializing in quick service for food or beverages.

Included are lunch counters, drive-ins, snack bars, and the like.

Excluded are delicatessens (516).

169. Eating, Drinking Places not classified above.

160. Eating, Drinking Places; insufficient information available to classify further.

## 17. Passenger Terminals

Included are incidental freight handling facilities.

171. Airport passenger terminal.

172. Heliport, helistop.

173. Bus passenger terminal.

Included are terminals for airline limousines and downtown airline terminal buildings.

174. Street level rail terminal.

- 175. Underground rail terminal.
- 176. Elevated rail terminal.
- 177. Marine passenger terminal.  
Included are ferry terminals.
- 179. Passenger Terminals not classified above.
- 170. Passenger Terminals; insufficient information available to classify further.

## 18. Theaters, Studios

- 181. Legitimate theater.  
Included are combined live and movie theaters.
- 182. Auditorium, concert hall.
- 183. Motion-picture theater.  
Excluded are drive-in theaters (184).
- 184. Drive-in motion-picture theater.
- 185. Radio, TV studio.
- 186. Motion-picture studio.  
Included are motion-picture making studios and editing areas.  
Excluded are film processing facilities (797).
- 189. Theaters, Studios not classified above.
- 180. Theaters, Studios; insufficient information available to classify further.

## 10. Public Assembly Property: Unclassified

- 109. Public Assembly Property not classified above.
- 100. Public Assembly Property; insufficient information available to classify further.

## 2. EDUCATIONAL PROPERTY

Educational properties are those used for the gathering of groups of persons for purposes of instruction such as schools, colleges, universities, and academies. Educational properties are distinguished from public assembly properties in that the same occupants are present regularly, and they are subject to discipline and control. Included are part-day nursery schools, kindergartens, and other schools whose primary purpose is education.

Other properties associated with educational institutions are classified in accordance with their actual use.

### 21. Nonresidential Schools

All public, private, or parochial schools where students attend during the day only.

- 211. Nursery school.  
Schools for pre-kindergarten age children, operating 4 hours a day or less. If operating over 4 hours, classify as child day-care center (321).
- 212. Kindergarten.  
Schools for children in the grade before grade 1.
- 213. Elementary school.
- 214. Junior high school.  
Included are intermediate and middle schools.
- 215. High school.
- 219. Nonresidential Schools not classified above.
- 210. Nonresidential Schools; insufficient information available to classify further.

### 22. Residential Schools

All public, private, or parochial boarding schools, including such day student facilities as may be present.

- 221. Residential school classroom building.

Buildings containing classrooms.

Included are such laboratories, libraries, and offices as may be present. If one building houses the entire school, the fire is classified by point of origin, that is, dormitory, office, etc. Other buildings in a school property are classified as to their appropriate specific property use.

- 229. Residential Schools not classified above.
- 220. Residential Schools; insufficient information available to classify further.

### 23. Trade, Business Schools

Other than high school or college.

- 231. Vocational, trade school.
- 232. Business school.
- 233. Specialty school.
- 234. Rehabilitation center where attendance is by choice.  
Excluded are vocational rehabilitation centers where attendance is by direction (346).
- 239. Trade, Business Schools not classified above.
- 230. Trade, Business Schools; insufficient information available to classify further.

### 24. Colleges, Universities

- 241. College classroom building.  
Buildings containing classrooms used for higher education whether a college, university, junior college, community college, or any other institution of higher learning.  
Included are such incidental laboratories, libraries, and offices as may be present. If one building houses the entire college, classify here. Other buildings in a college are classified under the appropriate specific property use, such as dormitory, office, and the like.
- 249. Colleges, Universities not classified above.
- 240. Colleges, Universities; insufficient information available to classify further.

### 20. Educational Property: Unclassified

- 209. Educational Property not classified above.
- 200. Educational Property; insufficient information available to classify further.

## 3. HEALTH CARE AND PENAL PROPERTY

Health care properties are those used for purposes such as medical or other treatment or care of persons suffering from physical or mental illness, disease, or infirmity; and for the care of infants, convalescents, or aged persons. Such buildings ordinarily provide sleeping facilities for the occupants.

### 31. Care of the Aged

Care of the aged in any type of structure regardless of the name or title. (*See subdivision 332 for sanatoriums.*)

- 311. Care of the aged with nursing staff.
- 312. Care of the aged without nursing staff.
- 319. Care of the Aged not classified above.
- 310. Care of the Aged; insufficient information available to classify further.

**32. Care of the Young**

- 321. Child day-care center.  
Care of preschool-age children operating more than 4 hours a day. If operating 4 hours or less a day, classify as nursery school (211).
- 322. Children's home, orphanage.  
Included are facilities with one or more paid staff on full-time basis and where the relationship is a "staff-child" relationship.  
Excluded are foster homes (323).
- 323. Foster home.  
Included are facilities where one or more foster children are cared for without a paid staff and where the relationship is a "parent-child" relationship.
- 329. Care of the Young not classified above.
- 320. Care of the Young; insufficient information available to classify further.

**33. Care of the Sick, Injured**

- 331. Hospital, hospital-type infirmary.
- 332. Sanatorium, sanitarium.  
Included are facilities for care of post-operative patients, where care of aged is minor in proportion to other care.
- 333. (This former subdivision is now subdivision 351.)
- 334. Clinic, clinic-type infirmary.  
Included are separate clinic buildings for maternity and other uses.  
Excluded are medical office buildings (593) and out-patient clinics (593).
- 335. (This former subdivision is now subdivision 361.)
- 339. Care of the Sick, Injured not classified above.
- 330. Care of the Sick, Injured; insufficient information available to classify further.

**34. Care of the Physically Restrained**

- 341. Prison, cell block for men.
- 342. Prison, cell block for women.
- 343. Juvenile detention home.
- 344. Men's detention camp.  
Minimum security type.
- 345. Police station.
- 346. Vocational rehabilitation center.  
Attendance by direction.  
Excluded are rehabilitation centers where attendance is by choice (234).
- 349. Care of the Physically Restrained not classified above.
- 340. Care of the Physically Restrained; insufficient information available to classify further.

**35. Care of the Physically Inconvenienced**

Included are facilities that care for persons who are physically incapable of self-help under emergency conditions.

- 351. Institution for deaf, mute, or blind.
- 352. Institution for physical rehabilitation.
- 359. Care of the Physically Inconvenienced not classified above.
- 350. Care of the Physically Inconvenienced; insufficient information available to classify further.

**36. Care of the Mentally Handicapped**

Included are facilities that care for persons who are mentally incapable of self-help under emergency conditions.

- 361. Mental institution.  
Included are facilities for the criminally insane.
- 362. Institution for the mentally retarded.
- 369. Care of the Mentally Handicapped not classified above.
- 360. Care of the Mentally Handicapped; insufficient information available to classify further.

**30. Health Care, Penal Property: Unclassified**

- 309. Health Care, Penal Property not classified above.
- 300. Health Care, Penal Property; insufficient information available to classify further.

**4. RESIDENTIAL PROPERTY**

A residential property is one in which sleeping accommodations are provided for normal living purposes, and includes all buildings designed to provide sleeping accommodations except those classified under Health Care, Penal (major division 3).

Subdivisions of residential property used in this section are separated according to potential life hazard. Popular names and legal definitions may be different from those given here. The categories here, however, are significant from a fire and life protection standpoint.

**CAUTION:** Classify the property by its actual use according to the standard definitions given here, not by what the property owner cares to call his building. Thus, a residential property called a "hotel" on the sign over the door may not be a hotel by these definitions. From a fire standpoint it may be an Apartment (division 42), or a Rooming House (division 43), depending upon its use.

There are three major differences between categories of residential property used in this document:

- (a) A separate and independent living unit for each person or group of related persons; or not.
- (b) Kitchens in individual units; or not.
- (c) Generally long-term occupants; or not.

In residential structures falling between the categories given below, use the category appearing most applicable.

**41. One- and Two-Family Dwelling**

If the following criteria apply, use the following classification.

- Separate living units - Yes
- Kitchens in units - Yes
- Long-term occupants - Yes

Private dwellings and duplexes each occupied by members of a single family group, with total sleeping accommodations for not more than 20 persons, with rooms rented to no more than two outsiders per unit.

If sleeping accommodations for more than 20 persons are provided in one building, it is classified as an apartment or a dormitory. If a separate business or other occu-

pancy is contained in the building, the residential unit(s) is classified in division 42.

"Row houses," "townhouses," "garden apartments," and other similar units regardless of local terminology, are classified as dwellings (division 41) when one or two units are separated from the adjoining units by fire division assemblies, and the one or two units are under their own roof.

A mobile home not in transit, and used as a dwelling, should be classified here, and also as a "mobile building" (subdivision 17) in Chapter C, "Mobile Property Type." A travel trailer not in transit and used as a dwelling should be classified here, and also as a "travel trailer" (subdivision 15) in Chapter C, "Mobile Property Type."

A mobile home or travel trailer in transit should be classified using the appropriate classification in major division 9 of this chapter and its type should be classified in Chapter C, "Mobile Property Type." Fires in these should be classified as vehicle fires when they are in transit.

Attached parking garages are included here unless separated from the dwelling by a fire division assembly. Detached parking garages are classified in subdivision 881.

- 411. One-family dwelling: year-round use.
- 412. One-family dwelling: seasonal use.
- 413. (This former subdivision is now included in subdivision 412.)
- 414. Two-family dwelling: year-round use.
- 415. Two-family dwelling: seasonal use.
- 416. (This former subdivision is now included in subdivision 415.)
- 419. One- and Two-Family Dwelling not classified above.
- 410. One- and Two-Family Dwelling; insufficient information available to classify further.

#### 42. Apartments, Tenements, Flats

If the following criteria apply, use the following classification.

- Separate living units — Yes
- Kitchen in units — Yes
- Long-term occupants — Yes

Quarters for families living independently of each other, and with kitchen facilities in individual units, whether designated as "apartment house," "garden apartment," "tenement," "condominium apartment," "flat," or by any other name.

Regardless of local terminology, living units are classified here when three or more units are located within common fire division walls, and the units are under a common roof, or have a common basement.

An apartment in a building with a separate store, office, or other business is identified here and also as a "Business with Residential" General Property Use (Chapter A).

- 421. 1 or 2 living units with business.  
Excluded are one or two living units without business which are classified as dwellings (division 41).

- 422. 3 through 6 units.
- 423. 7 through 12 units.
- 424. 13 through 20 units.
- 425. Over 20 units.
- 429. Apartments, Tenements, Flats not classified above.
- 420. Apartments, Tenements, Flats; insufficient information available to classify further.

#### 43. Rooming, Boarding, Lodging Houses

If the following criteria apply, use the following classification.

- Separate living units — Yes
- Kitchens in units — No
- Long-term occupants — Either

Living quarters in which separate sleeping rooms are rented, with sleeping accommodations for a total of not more than 15 persons, on either a transient or permanent basis, with or without meals, but without separate cooking facilities for individual occupants.

Halfway houses or group care homes can be classified here if all persons are certified by mental or health authorities as capable of self-help under emergency conditions.

Where rooms are rented for one or two persons, classify in division 41. Where rooms are rented for more than 15 persons, classify in division 44 or division 46.

- 431. 3 to 8 roomers or boarders.
- 432. 9 to 15 roomers or boarders.
- 439. Rooming, Boarding, Lodging Houses not classified above.
- 430. Rooming, Boarding, Lodging Houses; insufficient information available to classify further.

#### 44. Hotels, Motels, Inns, Lodges

If the following criteria apply, use the following classification.

- Separate living units — Yes
- Kitchens in units — No
- Long-term occupants — No

Living quarters in which there are sleeping accommodations for hire for more than 15 persons, primarily used by transients, lodged with or without meals, but without separate cooking facilities in each unit, whether designated as a "hotel," "motel," "club," "apartment hotel," "YMCA," "lodge," or by any other name. Included are dormitories for transient occupants.

- 441. Less than 20 units: year-round use.
- 442. Less than 20 units: seasonal use.
- 443. 20 to 99 units: year-round use.
- 444. 20 to 99 units: seasonal use.
- 445. 100 or more units: year-round use.
- 446. 100 or more units: seasonal use.
- 449. Hotels, Motels, Inns, Lodges not classified above.
- 440. Hotels, Motels, Inns, Lodges; insufficient information available to classify further.

#### 45. This former division is now included in division 44.



**46. Dormitories**

If the following criteria apply, use the following classification.

Separate living units — Either

Kitchens in units — No

Long-term occupants — Yes

Living quarters provided for an extended period, for persons not members of the same family group, in one room or a series of closely associated rooms, under joint occupancy and single management, with or without meals. Use division 44 for dormitories with transient occupants.

- 461. School, college, university dormitory.
- 462. Fraternity, sorority house.
- 463. Nurses' quarters.
- 464. Military barracks.
- 465. Convent, monastery, other religious dormitory.
- 466. Bunk house, workers' barracks.
- 469. Dormitories not classified above.
- 460. Dormitories; insufficient information available to classify further.

**47. This former division is now included in division 41.****48. Home Hotels**

If the following criteria apply, use the following classification.

Separate living units — Yes

Kitchens in units — Yes

Long-term occupants — No

Living quarters for persons or families living independently of each other, with kitchen facilities and with a transient population, whether designated as "hotel," "apartment," "apartment hotel," or by any other name.

- 481. Less than 20 units: year-round.
- 482. Less than 20 units: seasonal.
- 483. 20 to 99 units: year-round.
- 484. 20 to 99 units: seasonal.
- 485. 100 or more units: year-round.
- 486. 100 or more units: seasonal.
- 489. Home Hotels not classified above.
- 480. Home Hotels; insufficient information available to classify further.

**49. Other Residential Occupancies**

- 491. Children's playhouse.
- 492. Outdoor sleeping quarters.  
Included are tents.
- 499. Other Residential Occupancies not classified above.
- 490. Other Residential Occupancies; insufficient information available to classify further.

**40. Residential Property: Unclassified**

- 409. Residential Property not classified above.
- 400. Residential Property; insufficient information available to classify further.

**5. MERCANTILE, BUSINESS PROPERTY**

Mercantile properties include all markets and other areas, buildings, or structures for the display, sale, repair, or service of merchandise, new or used, purchased or rented. Mercantile or store properties generally have a capacity for a large number of people and usually have a display and sales area that is large in relation to the storage area.

Business properties are those principally used for the transaction of business and the keeping of private or public records.

**51. Food, Beverage Sales**

Sale of food and beverage for consumption on the premises is classified in division 16.

**511. Supermarket.**

Supermarkets that sell a broad line of food items as well as some nonfood items and cover over 930 sq m (10,000 sq ft) in total area.

**512. Market, grocery store.**

Markets and grocery stores that sell a broad line of food items as well as some nonfood items and cover less than 930 sq m (10,000 sq ft) in total area.

**513. Specialty food store.**

Specialty food stores that specialize in a few basic food items and may have supplementary items for customer convenience.

Included are meat, fish, candy, bakery, gourmet shops, and roadside farm produce stands and counters.

Excluded are liquor, beverage stores (514), creamery, dairy stores (515), and delicatessens (516).

**514. Liquor, beverage store.****515. Creamery, dairy store.****516. Delicatessen.**

Sale of prepared foods mainly for consumption off the premises.

Included are pick-up and carry-out services.

Excluded are drive-in type restaurants (164).

**519. Food, Beverage Sales not classified above.****510. Food, Beverage Sales; insufficient information available to classify further.****52. Textile, Wearing Apparel Sales****521. Clothing store.**

Sale of wearing apparel, whether new or used, and clothing rental shops.

Included are sales of accessories incidental to clothing sale.

Excluded are shoe stores (522) and fur stores (525).

**522. Clothing accessories, shoe store.**

Shops specializing in clothing accessories, whether new, used, or rented.

Included are tie, shoe, shirt, and hat stores.

**523. Shoe repair shop.**

Repair of boots and shoes (cobbling).

Included are repairers who also make footwear; and shining stands and shops.

**524. Tailor, dressmaking shop.**

Included are stores specializing in alterations to ready-made wear.

525. Fur store.

Stores specializing in fur sales.

Excluded are fur departments of stores with a broad line of clothing goods (521) and the storage of fur garments (828).

526. Dry goods store.

Included are all sales of dry goods, yard goods, and piece goods.

Excluded are clothing stores (521), clothing accessories stores (522), and rug or carpet sales (536).

529. Textile, Wearing Apparel Sales not classified above.

520. Textile, Wearing Apparel Sales; insufficient information available to classify further.

### 53. Household Goods Sales, Repairs

Sale of common items used principally to equip and maintain the home.

531. Furniture store.

Included are sales of all new and used furniture, office furniture, and large non-desk-top equipment, such as water coolers.

Excluded are office supply and desk-top office equipment sales (541), and furniture departments of large multidepartment stores (581).

532. Appliance store.

Included are those stores principally selling major and minor appliances with or without associated repair departments.

Excluded are appliance repair shops without sales (538).

533. Hardware store.

Included are sales of tools and associated equipment, parts, and retail plumbing supplies.

534. Music store.

Included are the sale or rental of records, sheet music, pianos, organs, and other instruments, and associated listening and teaching facilities.

535. Wallpaper, paint store.

Included are sales of wall coverings and decorating materials, and sale or rental of associated tools and equipment.

536. Rug, floor covering store.

Included are the sale or rental of rugs, carpets, and floor coverings, and sale or rental of associated tools and equipment.

537. Furniture repair shop.

Included are shops for repair of furniture and upholstery without sales.

Excluded are repairs with sales (531).

538. Appliance repair shop.

Included are shops for repair of appliances without sales.

Excluded are repairs with sales (532).

539. Household Goods Sales, Repairs not classified above.

530. Household Goods Sales, Repairs; insufficient information available to classify further.

### 54. Specialty Shops

Sale of material commonly used in the home.

541. Book, stationery store.

Included are sales of new or used books, office supplies, and desk-top office equipment.

Excluded are sales of larger office equipment and office furniture (531).

542. Newsstand, tobacco shop.

543. Drug store.

Usually has a pharmacist on duty.

Excluded are drug stores that are chiefly variety stores (582 or 583).

544. Gift, jewelry store.

Included are sales of glassware, china, and silver; and the repair of jewelry and watches.

545. Electronic specialty store.

Included are sales of radios, CBs, computers, televisions, video recording equipment, HiFis and related components.

546. Leather goods shop.

Included are the sale of leather goods, and luggage of all types and from all materials.

Excluded are shoe stores (522).

547. Florist shop, greenhouse.

Included are florist shops for the sale of flowers (artificial or natural), greenhouses, and flower raising operations.

548. Optical goods sales.

Included are opticians, eyeglass fitting and grinding.

549. Specialty Shops not classified above.

540. Specialty Shops; insufficient information available to classify further.

### 55. Recreation, Hobby, or Home Repair Supply Sales, Personal Services

The sale and processing of material used in hobbies, sports, and recreation activities, and personal service.

Excluded are record shops (534).

551. Hobby, toy shop.

Included are the sale of toys and hobby supplies.

Excluded are art supplies (563), sporting goods (552), and photographic goods (553).

552. Sporting goods store.

Included are the sale of firearms, ammunition, tents, and other material for use in all sporting events.

Excluded are sportswear shops (521).

553. Photographic supply sales, still-picture studio.

Included is the sale of photographic equipment.

Excluded are motion-picture studios (186) and plant processing of film (797).

554. Garden supply store.

Included are the retail sale of equipment, seeds, fertilizer for home or garden use, and sale or rental of snow blowers, lawn sweepers, and other home maintenance machines.

555. Retail lumber sales.

Lumber distribution centers often of the super-market type.

Included are sales of related home repair supplies. Excluded are lumber yards used principally for storage (851).

556. Pet store, animal hospital.

Sale of pets, animal and pet supplies.

Included are animal hospitals and care centers.

- 557. Barber, beauty shop.
- 558. Fireworks sales.  
Included are retail fireworks sales from temporary or permanent locations.
- 559. Recreation, Hobby, or Home Repair Supply Sales, Personal Services not classified above.
- 550. Recreation, Hobby, or Home Repair Supply Sales, Personal Services; insufficient information available to classify further.

#### 56. Professional Supplies, Services

- 561. Professional supply sales.  
Included are the sale of stethoscopes, hospital supplies, special tools, engineering instruments, and other professional supplies.
- 562. Trade supply sales.  
Included are the sale of machinists' supplies, plumbers' tools, and carpenters' equipment.
- 563. Art supply sales.
- 564. Self-service laundry, dry cleaning.
- 565. Linen supply house.
- 566. Laundry, dry cleaner pickup shop.  
Shops for pickup of laundry and cleaning with little or no processing on the premises, other than pressing.
- 567. Home maintenance services.  
Included are firms doing home maintenance work such as floor cleaning, window washing, chimney cleaning, and exterminating.
- 568. Restaurant supplies, services.
- 569. Professional Supplies, Services not classified above.
- 560. Professional Supplies, Services; insufficient information available to classify further.

#### 57. Motor Vehicle or Boat Sales, Services

- 571. Public service station.  
Fuel service facilities for motor vehicles operated for the public, such as gasoline service stations, diesel fuel stations, and LP-Gas stations, with associated lubritorium and wash facilities.  
Included are service station islands.  
Excluded are marine service facilities (577).
- 572. Private service station.  
Private or fleet vehicle refueling where an employee may fuel the vehicle himself, such as at a transit company garage, a trucking company yard, or a farm.
- 573. Motor vehicle repair, paint shop.  
Repair of automobiles or motor trucks and shops doing specialized repair work to motor vehicles such as repair of auto tops, hoods, or electrical systems.  
Excluded are car washing facilities (578).
- 574. Motor vehicle, trailer sales.  
Included are the sale of farm implements and motorcycles.
- 575. Motor vehicle accessory sales.  
Sale of accessories for motor vehicles such as lights, tires, parts, and special tools.
- 576. Boat, pleasure-craft sales.  
Sale of boats, marine vessels, outboard motors, and accessories.  
Excluded are incidental sales at boat storage facilities (885) and boat repair yards (782).

- 577. Marine service station.  
Refueling facilities for marine vessels of any size.
- 578. Car washing facility.
- 579. Motor Vehicle or Boat Sales, Services not classified above.
- 570. Motor Vehicle or Boat Sales, Services; insufficient information available to classify further.

#### 58. General Item Stores

Included are stores selling a wide range of items that cannot be readily classified in previous subdivisions.

- 581. Department store.  
A store with many separate lines of goods, but to be classified here the store must have a full furniture department.
- 582. Small variety store.  
A store of less than 930 sq m (10,000 sq ft) with a wide range of goods but no furniture department. Included are Army-Navy stores, "5 and 10 cent stores," second-hand stores, and surplus stores.
- 583. Large variety store.  
A store of 930 sq m (10,000 sq ft) or over with a wide range of goods but no furniture department. Merchandise is usually displayed as in a supermarket, and stores are usually self-service with check-out counters.
- 584. Mail order store.  
Mail order and catalogue stores with display area regardless of size. Use subdivision 581 when applicable and when the mail order section is a small section of the larger store.
- 585. Mall.  
Included are only the areas common to a multistore facility.
- 589. General Item Stores not classified above.
- 580. General Item Stores; insufficient information available to classify further.

#### 59. Offices

Office properties are those used for the transaction of business, for the keeping of accounts and records, and for similar purposes. Included are buildings housing business, administrative, professional, or regulatory functions; doctors' and dentists' offices, unless of such character as to be classified as hospitals; service facilities usual to office buildings; and municipal office buildings, as their principal function is the transaction of the public business and the keeping of books and records.

Minor office occupancy incidental to operations in another property shall be considered part of the predominating property.

- 591. General business office.  
Office buildings for the administration of industrial and business enterprises whether at the plant or located elsewhere.  
Included are offices of insurance carriers, consultants, and adjusting agencies; real estate operators, developers, and agents; lawyers, advocates, and solicitors; importers, exporters, manufacturers' agents, commodity brokers; trade associations, chambers of commerce, professional societies; labor organizations; religious organizations; local and county government offices; state or provincial government offices; central govern-

ment offices; offices of the armed forces and defense agencies; and savings and loan companies without first-story banking premises.

- 592. Bank, with first-story banking facilities.  
Excluded are savings and loan companies without first-story banking premises (591).
- 593. Medical, research, scientific office.  
Included are surgical, dental, health service offices; out-patient clinics; offices of nurses and midwives; consulting rooms or offices of physicians, surgeons, and other medical practitioners; offices primarily engaged in research; and offices at meteorological institutes.  
Excluded are laboratories classified in division 62.
- 594. Engineering, architectural, technical office.  
Included are surveying and scientific engineering development offices, and permanent office buildings of a contractor.  
Excluded are contractors' job-site-located offices (591) and tool or parts storage (808).
- 595. Mailing firm.
- 596. Post office.
- 599. Offices not classified above.
- 590. Offices; insufficient information available to classify further.

#### 50. Mercantile, Business Property: Unclassified

- 509. Mercantile, Business Property not classified above.
- 500. Mercantile, Business Property; insufficient information available to classify further.

### 6. BASIC INDUSTRY, UTILITY, DEFENSE, AGRICULTURE PROPERTY

Included are agriculture, forestry, the extractive and mining industries, mineral products, utilities, laboratories, nuclear plants, and communication facilities; and national defense sites, since they depend so heavily on communications.

#### 61. Nucleonics, Energy Production

- 611. Radioactive material working.  
Included are plants manufacturing fuel elements or involved with radioactive waste disposal, and plants processing or producing uranium, radium, thorium, heavy water, or plutonium.
- 612. Nuclear ordnance plant.  
Included are bomb assembly plants.
- 613. Nuclear energy plant.  
Production of energy for power purposes.  
Included is the generation of electricity if an integral part of the nuclear plant.
- 614. Steam, heat energy plant.  
Creation of heat and steam from any fuel except nuclear.  
Included are integral boiler-turbine-generator units driven by nonnuclear fuels.
- 615. Electric generating plant.  
Generation of electric energy.  
Included are locations producing electricity for public use, for rail transport use, for groups of factories, and for individual properties.  
Excluded are the energy sources (613 or 614) unless they are integral units.

- 616. Gas manufacturing plant.  
Manufacture of gas in gas works, including peak shaving gas plants.
- 619. Nucleonics, Energy Production not classified above.
- 610. Nucleonics, Energy Production; insufficient information available to classify further.

#### 62. Laboratories

Included are classrooms and offices incidental to laboratory facilities. Minor laboratory areas incidental to operations in another property shall be considered part of the predominating property.

- 621. Chemical, medical laboratory.  
Included are biological laboratories.
- 622. Physical materials testing laboratory.  
Included are all laboratories for testing physical properties of materials, hydraulic laboratories, physics laboratories, and physical materials laboratories.
- 623. Personnel, psychological laboratory.  
Included are laboratories for the testing and measuring of persons, and educational laboratories.
- 624. Radioactive materials laboratory.  
Any laboratory handling or using radioactive material in a quantity requiring marking.
- 625. Electrical, electronic laboratory.
- 626. Agricultural laboratory.
- 627. General research laboratory.
- 629. Laboratories not classified above.
- 620. Laboratories; insufficient information available to classify further.

#### 63. Communications, Defense, Document Facilities

Critical areas where security must be maintained in order to assure national, business, or public safety continuity.

- 631. National defense site not elsewhere classified.  
Included are missile or space vehicle launch sites. Excluded are radio and radar sites (632). The missiles or vehicles, themselves, are classified under Mobile Property Type, Chapter C.
- 632. Radio, radar site.  
Included are microwave transmitter sites, flight control facilities, satellite tracking stations, and repeater sites.  
Excluded are fire, police, and industrial communication centers (633).
- 633. Fire, police, industrial communications center.  
Included are municipal, county, state, and province emergency communications facilities, such as fire control centers, police control centers, disaster control facilities, and all auxiliary equipment locations; and industrial communications centers.
- 634. Telephone exchange, central office.  
Included are communications cable sites with the associated repeater and terminal facilities.
- 635. Computer, data-processing center.
- 636. Document center, record repository.
- 639. Communications, Defense, Document Facilities not classified above.
- 630. Communications, Defense, Document Facilities;

insufficient information available to classify further.

#### 64. Utility, Energy Distribution Systems

- 641. (This former subdivision is now included in division 61.)
- 642. Electric transmission, distribution system.  
Distribution of electricity outside generating plant premises.  
Included are substations, transformers, and utility poles.
- 643. (This former subdivision is now subdivision 616.)
- 644. Gas distribution system, pipeline.  
Piping systems and associated equipment for the distribution of gas fuels from manufacturing plants, storage facilities, or wells to the user.  
Included are transmission lines, compressors, and distribution piping.
- 645. Flammable liquid distribution system, pipeline.  
Piping systems and associated equipment for the distribution of flammable liquid from manufacturing plants, storage facilities, or wells to the user.
- 646. Steam, heat distribution system.  
Distribution of steam, hot water, hot chemicals, and hot oils, for heating and power purposes.  
Included are "district heating" systems.
- 647. Water supply system.  
Collection, treatment, storage, and distribution of water.
- 648. Sanitary service.  
Garbage and sewage disposal.  
Included are sewer systems, commercial incinerators, and industrial rubbish burners.  
Excluded are dumps (division 91).
- 649. Utility, Energy Distribution Systems not classified above.
- 640. Utility, Energy Distribution Systems; insufficient information available to classify further.

#### 65. Agriculture

Production of raw agricultural products and farming. Processing and working of products is classified elsewhere.

- 651. Poultry, egg production.
- 652. Cow, cattle production.  
Included are cow milking facilities, milk houses, and milk cooling facilities.  
Excluded are milk processing plants (712).
- 653. Piggery, hog production.
- 654. Other livestock production.
- 655. Crops, orchards.  
Included is improved fenced pasture land.
- 656. Tobacco curing shed.
- 657. Fruit, vegetable packing.  
Packing of raw fruit and vegetables as picked.  
Excluded are fruit and vegetable processing plants (713).
- 659. Agriculture not classified above.
- 650. Agriculture; insufficient information available to classify further.

#### 66. Forests, Hunting, Fishing

- 661. Forest, standing timber without logging operations.

Included are wildlife preserves; timber tracts where planting, replanting, and conservation of forests are conducted; areas where uncultivated materials, such as gums and resin, wild rubber, saps, barks, wild fruits and flowers, and roots are gathered; and facilities where extracting, concentrating, and distilling of sap, and charcoal burning are carried on when located in the forest.

- 662. Forest, standing timber with logging operation.  
Included are land areas where there is felling and rough cutting of trees, hewing or rough shaping of poles, blocks, and other wood materials; and timber and log piles in the forest.  
Excluded are sawmills operating in the forest (751).
- 663. Hunting, trapping, game propagation.  
Included are areas where hunting, trapping, and game propagation of wild animals is conducted for commercial purposes not connected with sport.
- 664. Tree.  
Individual tree fires are classified here.
- 665. Fish hatchery.
- 666. Wood-chip pile.
- 669. Forests, Hunting, Fishing not classified above.
- 660. Forests, Hunting, Fishing; insufficient information available to classify further.

#### 67. Mining, Quarrying of Natural Raw Materials

Underground and surface mines, quarries, and oil wells.

Included are supplemental on-site machinery, prospecting for minerals, and preparing sites for extraction. Quarries and mines attached to other properties are, as far as possible, classified in this division.

- 671. Coal mine.
- 672. Ore mine.
- 673. Ore concentration plant.
- 674. Petroleum, natural gas well with accompanying reservoir.  
Oil and gas producing property, oil well and natural gas well operations.  
Included are prospecting and drilling, oil shale or bituminous sand operations, and extraction of crude oil.  
Excluded are pipeline operations (644 and 645).
- 675. Stone, slate, clay, gravel, sand quarries, pits.  
The extraction of building and monumental stone or slate; ceramic, refractory, and other clay; and all sand and gravel.
- 676. Salt mine.  
The extracting and quarrying of salt.  
Included are evaporating in salt pans, crushing, screening, and refining.  
Excluded are the refinement of salt for human consumption in establishments not engaged in extracting or quarrying salt (719).
- 677. Chemical, fertilizer, mineral mine.  
The mining and quarrying of phosphate and nitrate minerals, fluorspar, sulfur ores and natural sulfur, potash, sodium and borate minerals, borites, pyrites, arsenic, strontium and lithium minerals, and mineral pigments.  
Included are guano gathering operations.

- 678. Nonmetallic mineral mine, quarry.  
All other nonmetallic mining and quarrying, such as asbestos.  
Included are areas where peat is cut and dug.
- 679. Mining, Quarrying of Natural Raw Materials not classified above.
- 670. Mining, Quarrying of Natural Raw Materials; insufficient information available to classify further.

#### 68. Nonmetallic Mineral, Mineral Products Manufacture

Manufacture of clay products; glass and glass products; pottery, china, and earthenware; cement, concrete products, and other nonmetallic mineral products. Coal and petroleum are classified in division 67.

- 681. Structural clay products manufacture.  
Manufacture of structural clay products such as bricks, tiles, pipes, crucibles, architectural terra cotta; stove lining, chimney pipes and tops; and refractories.
- 682. Glass manufacture, excluding containers.  
Manufacture of all glass and glass products except glass containers.  
Included are the manufacture of optical glasses and glass fiber.  
Excluded are the grinding of lenses (792 or 548) and glass container manufacturing (683).
- 683. Glass container manufacture.
- 684. Pottery, china, earthenware manufacture.
- 685. Cement manufacture.
- 686. Concrete batch plant.
- 687. Abrasives manufacture.  
Included are the shaping of natural abrasives into grindstones, coating cloth and paper with abrasives, and making abrasive bonded wheels and disks.
- 688. Nonmetallic mineral product manufacture.  
Manufacture of concrete, gypsum and plaster products, asbestos, mineral wool, cut-stone and stone products, and all other nonmetallic mineral products.
- 689. Nonmetallic Mineral, Mineral Products Manufacture not classified above.
- 680. Nonmetallic Mineral, Mineral Products Manufacture; insufficient information available to classify further.

#### 60. Basic Industry, Utility, Defense, Agriculture Property: Unclassified

- 609. Basic Industry, Utility, Defense, Agriculture Property not classified above.
- 600. Basic Industry, Utility, Defense, Agriculture Property; insufficient information available to classify further.

#### 7. MANUFACTURING PROPERTY

Included are properties where there is mechanical or chemical transformation of inorganic or organic substances into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker's home, and whether the products are sold at wholesale or retail. The assembly of component parts of manufactured products is part of manufacture.

Included are factories making products of all kinds and properties devoted to operations such as processing, assembling, mixing, packing, finishing or decorating, repairing, and similar operations. For mineral processing, use division 68.

#### 71. Food Industries

- 711. Slaughtering, preparation, preserving of meat.  
Abattoirs and meat-packing plants; killing, dressing, and packing poultry, rabbits, and small game.  
Included are processing and packing activities such as curing, smoking, salting, pickling, packing in airtight containers, and quick-freezing, as well as manufacture of natural sausage casing and the rendering of lard and other edible animal fats. Excluded are canning and processing of fish and seafoods (714).
- 712. Dairy product manufacture.  
Manufacture of creamery and processed butter, natural and processed cheese, condensed and other types of concentrated milk, ice cream, and ices, powdered milk, and other edible milk products.  
Included are the pasteurizing and bottling of milk.
- 713. Canning, preserving of fruits, vegetables.  
Canning (packing in airtight containers) of fruits and vegetables including fruit and vegetable juices; manufacture of raisins and dried fruits, preserves, jams and jellies, pickles and sauces, and canned soups.  
Included are dehydration and quick-freezing.
- 714. Canning, preserving of fish, seafoods.  
Preserving and processing fish and other marine foods.  
Included are such operations as salting, drying, dehydrating, smoking, curing, cooling, pickling, packing in airtight containers, and quick-freezing.  
Excluded are icing, salting, filleting of fish catch, and processing of the catch aboard fishing vessels (Mobile Property Type 48).
- 715. Manufacture of grain mill products.  
Grain mills (flour, meal, dry feeds); husking, cleaning, and polishing of rice; preparation of breakfast foods such as rolled oats, rice, wheat and corn flakes, parched grain; prepared feeds for animals and fowl; blended and prepared flour, and other cereal and pulse preparations.  
Included are coffee, pulse, root peeling mills, and starch and its products.
- 716. Bakery product manufacture.  
Manufacture of bread, cakes, cookies, doughnuts, pies, pastries, and similar "perishable" bakery products; biscuits and similar "dry" bakery products.  
Excluded are breakfast foods (715).
- 717. Sugar refining, confectionery manufacture.  
Manufacture and refining of raw sugar, syrup, and granulated or clarified sugar from sugar cane or sugar beets.  
Manufacture of cocoa and chocolate powder from beans, chocolates, all types of confectionery.
- 718. Snack foods manufacture.

Potato chips and other products of deep-fat frying.

719. Food Industries not classified above.

Included are the manufacture of baking powder and yeast; condiments, mustard, and vinegar; food specialties; egg specialties; spice grinding; processing of tea leaves into black tea; edible salt refining; harvesting and the manufacture of ice, except dry ice; and commercial kitchen with meal preparation for off-premises consumption.

Excluded is the manufacture of dry ice (761).

710. Food Industries; insufficient information available to classify further.

**72. Beverages, Tobacco, Essential Oils**

721. Distilling, rectifying, blending spirits.

Included are the distilling of ethyl alcohol for all purposes and the distilling, rectifying, and blending of alcoholic liquors.

722. Wines, winery.

Production of wines, cider, and other fermented beverages except malt liquors.

723. Brewery, manufacture of malt.

The production of malt and malt liquors.

724. Soft drink, carbonated water industry.

Manufacture of nonalcoholic beverages, such as soft drinks and carbonated mineral waters.

Included are the incidental manufacture of flavoring extracts and syrups.

Excluded is the manufacture of syrup alone (717).

725. Tobacco products manufacture.

Included are stemming, redrying, and other operations after auctioning that are connected with preparing raw-leaf tobacco for manufacturing.

Excluded are tobacco drying sheds (656).

726. Vegetable and animal oil, fat; soap making.

Production of crude oil, cake, and meal by crushing or extraction, from oilseeds and nuts; the extraction of fish and other marine animal oils; the rendering of inedible animal oils and fats; manufacture of margarine; and the refining and hydrogenation (or hardening) of oils and fats. Manufacture of soaps, detergents, and other washing and cleaning compounds, except where the process is chemical only, not involving oil or fat from livestock.

Excluded are the manufacture of lard and other edible fats (711), and butter (712).

729. Beverages, Tobacco, Essential Oils not classified above.

720. Beverages, Tobacco, Essential Oils; insufficient information available to classify further.

**73. Textiles**

731. Cotton gin.

732. Cotton spinning, weaving.

Preparing cotton fibers, such as picking, carding, combing, carbonizing, spinning, and weaving of yarns and fabrics.

Manufacture of narrow fabrics and other small wares; carpets and rugs; and lace, braids, and other primary textiles.

Excluded are spinning and weaving of asbestos (688).

733. Wool or worsted spinning, weaving.

Preparing wool and worsted fibers, such as scouring, carding, combing, carbonizing, spinning, and weaving of yarns and fabrics. Manufacture of narrow fabrics and other small wares; carpets and rugs; and lace, braids, and other primary textiles. Excluded are spinning and weaving of asbestos (688).

734. Mixed, blended, other fibers.

Spinning, weaving, preparing mixed, blended, and other fibers such as flax, hemp, jute, silk, sisal, and synthetic fibers such as retting, scutching, scouring, carding, combing, carbonizing, throwing, spinning, and weaving. Manufacture of narrow fabrics and other small wares; carpets and rugs; and lace, braid, yarn, and other primary textiles.

Excluded are spinning and weaving of asbestos (688).

735. Textile finishing plant.

Bleaching, dyeing, printing, and finishing of all fabrics and fibers.

736. Knitting mills for all fibers.

Included are mills engaged in producing hosiery, outerwear, underwear, and other knitwear.

Excluded are the making of garments from knitted fabrics other than in knitting mills (742).

737. Cordage, rope, twine, net manufacture.

Manufacture of rope, cable, cordage, twine, net, and other related goods from hemp, jute, cotton, paper, straw, coir, flax, and other fibers.

738. Floor covering, coated fabric manufacture, excluding rubber.

Manufacture of linoleum and other hard surfaced floor coverings, artificial leather, oilcloth, and impregnated and coated fabrics.

Excluded are the manufacture of rubber tile (747) and clay tile (681).

739. Textiles not classified above.

Included are the manufacture of straw, coir, and similar matting and mats; felt by processes other than weaving; batting, padding, wadding, and upholstery filling from all fibers; the recovery of fibers from waste and rags.

Excluded are the manufacture of wood-excelior upholstery filling (751).

730. Textiles; insufficient information available to classify further.

**74. Footwear, Wearing Apparel, Leather, Rubber**

741. Footwear manufacture.

Manufacture of all kinds of footwear, boots, shoes, cut stock, findings, leggings, and gaiters from leather, fabrics, plastics, wood, and other materials.

Excluded are vulcanized footwear (747) and repair shops that make footwear on a custom basis (523).

742. Wearing apparel manufacture, excluding footwear.

Manufacture of wearing apparel by cutting and sewing fabrics, leather, fur, and other materials; the making of hat bodies, hats, and millinery; and the manufacture of umbrellas and walking sticks. Excluded are the repair of wearing apparel in con-

nection with the cleaning and pressing of these articles (796), tailoring and dressmaking (524), and shoe repair (523).

743. Made-up textile goods manufacture, excluding wearing apparel.

Manufacturers who do no weaving and primarily engage in making up cloth goods such as house furnishings, trimmings of fabric, embroideries, and pennants.

Included are stitching, pleating, and tucking for the trade.

744. Tanneries, leather finishing.

Included are currying, finishing, embossing, and japanning of leather.

745. Fur products manufacture, excluding wearing apparel.

Included are scraping, currying, tanning, bleaching, and dyeing of fur and other pelts; the manufacture of fur and skin rugs and mats, hatter's fur, and other fur, and skin articles; and fellmongery.

Excluded are wearing apparel items manufactured from fur products (742).

746. Leather products manufacture, excluding footwear, wearing apparel.

Manufacture of leather products and articles made of leather, and products and articles made of leather and leather substitutes, such as leather sporting goods.

Excluded are the manufacture of wooden saddlery (753), the manufacture of footwear (741), and the manufacture of wearing apparel (742).

747. Rubber, rubber products manufacture.

Manufacture of natural or synthetic rubber and all kinds of rubber products. The reclaiming of rubber from used tires, scrap, and miscellaneous waste rubber.

749. Footwear, Wearing Apparel, Leather, Rubber not classified above.

740. Footwear, Wearing Apparel, Leather, Rubber; insufficient information available to classify further.

## 75. Wood, Furniture, Paper, Printing

751. Sawmill, planing mill, wood products mill.

Manufacture of lumber products; wooden building materials and prefabricated parts and structures; cooperage and other wood stock; veneers and plywood; and excelsior.

Included are areas doing preservation of wood; and sawmills and planing mills, whether or not mobile or operated in the forest.

Excluded are the hewing and rough shaping of poles and other wood materials in the forest (662), and the manufacture of camping trailers and motor homes (784).

752. Manufacture and assembly of mobile and modular buildings. Included are manufacture of mobile homes.

753. Wood, cane, cork products manufacture.

Included are manufacture of boxes, crates, drums, barrels, and other wooden containers; baskets and other rattan, reed, or willow containers; and small ware made entirely or mainly of wood, rattan, reed, willow, cane, or cork.

754. Furniture, fixture, bedding manufacture.

Manufacture of household, office, restaurant, public building, and professional furniture; bedding and upholstery; office and store fittings and fixtures regardless of the materials used.

Excluded are the manufacture of special medical furniture, equipment, fixtures, and machines (791).

755. Paper, pulp, paperboard manufacture.

Manufacture of pulp from wood, rags, and other fibers; and of paper, paperboard, insulation board, and fiber building paper.

Included are the coating, glazing, and laminating of paper and paperboard.

Excluded are the manufacture of asphalted and tar-saturated paper (768), abrasive paper (687), sensitized paper (792), and carbon and stencil paper (799).

756. Paper, pulp, paperboard products manufacture. Manufacture of pressed and molded pulp goods and articles made of paperboard.

757. Newspaper or magazine printing, publishing. Printing, lithographing, and publishing newspapers, periodicals, magazines, trade journals, reviews, and related services.

758. Printing, publishing, allied industry.

Included are commercial or job printing, lithographing, silk-screen printing; manufacture of greeting cards; looseleaf devices, library binders, bookbinding; blank book making, paper ruling; and other work related to bookbinding such as bronzing, gilding, and edging; mat and mounting; services for the printing trades such as typesetting, engraving, and etching steel and copper plates; making woodcuts; photoengraving; electrotyping and stereotyping.

Excluded are type foundries (773) and engraving on precious metals (794).

759. Wood, Furniture, Paper, Printing not classified above.

750. Wood, Furniture, Paper, Printing; insufficient information available to classify further.

## 76. Chemical, Plastic, Petroleum

For the purpose of this classification, a chemical is a material which has had or will have a controlled change in the molecular structure or composition, not involving polymerization; while a plastic is a material whose molecule has been polymerized. Use division 61 for heavy water or for nuclear changes.

761. Industrial chemical manufacture.

Manufacture of industrial organic and inorganic chemicals and industrial gases.

Included are dry ice manufacturing plants.

Excluded are all monomers and plastics plants (763).

762. Hazardous chemical manufacture.

Manufacture of materials requiring special handling in manufacture, shipment, storage, or use. Included are explosives, blasting agents, fireworks, matches, unstable rocket propellants, pyroxylin (cellulose nitrate) plastics, hazardous monomers, and organic peroxides.



Excluded are the manufacture and handling of nuclear materials (611).

- 763. Plastic manufacture.  
Manufacture of raw materials for plastics except those included in 762, and of synthetic resins, plastics, and elastomers.
- 764. Plastic product manufacture.  
Included are facilities making plastic furnishing, housings, enclosures, covers, linings, and machine parts whether by molding, extruding, or any other method.
- 765. Paint, varnish, lacquer, ink, wax, adhesive manufacture.  
Included are the manufacture of varnish stains and shellac, enamels, japans, polishes, and gelatin.
- 766. Drug, cosmetic, pharmaceutical manufacture.  
Manufacture of drugs, medicinal and pharmaceutical preparations, perfumes, cosmetics and other toilet preparations.
- 767. Petroleum refinery, natural gas plant.  
Included are the manufacture of petrochemicals, producing products from crude petroleum and its fractionation products including asphalt, the manufacture of petroleum and petroleum products from coal and other materials, including blending of lubricating oils and greases, and refinery tankage.
- 768. Asphalt, coal product manufacture.  
Manufacture of asphalt tar or similar paving and roofing materials and fuel briquettes and packaged fuel.  
Included is the distillation of coal in coke ovens except as noted below.  
Excluded are the distillation of coal in coke ovens in iron and steel works (771) and the manufacture of coal gas (616).
- 769. Chemical, Plastic, Petroleum not classified above.
- 760. Chemical, Plastic, Petroleum; insufficient information available to classify further.

## 77. Metal, Metal Products

- 771. Iron, steel manufacture.  
Manufacture of iron and steel shapes, consisting of all processes from smelting in blast furnaces to the semi-finished stage in rolling mills and foundries.  
Included are coke ovens associated with blast furnaces.
- 772. Nonferrous metal manufacture.  
Manufacture of nonferrous metal shapes.  
Included are the processes of smelting, alloying, and refining, rolling and drawing, and founding and casting, that are necessary to produce ingots, bars, billets, sheets, strips, castings, and extrusions.
- 773. Metal product manufacture.  
Transformation of metal forms into finished products such as household cutlery.  
Included are industries engaged in enameling, japanning, lacquering, gilding, galvanizing, plating, and polishing metal products; blacksmithing and welding.  
Excluded are plants manufacturing machinery (774), electrical equipment (775), silverware and

jewelry (794), and specialized automobile, aircraft, and ship parts (division 78).

- 774. Machinery manufacture.  
Manufacture of machinery and prime movers other than electrical equipment.  
Included are machine shops engaged in producing and repairing machine and equipment parts, and the production of ball bearings and mechanical precision measuring instruments, as well as industrial engines, and measuring and dispensing pumps.  
Excluded are plants manufacturing electrical equipment (775) and engines or specialized parts for automobile, aircraft, and marine use (division 78).
- 775. Electrical equipment manufacture.  
Manufacture of machinery, apparatus, and supplies for the generation, storage, transmission, and transformation of electrical energy.  
Included are the manufacture of insulated wire and cable and the repair of electrical machinery.  
Excluded are instruments for measuring and recording electrical quantities and characteristics (791).
- 776. Electrical appliance, electronics equipment manufacture.  
Included are plants manufacturing electric lamps; computers, communication equipment, and related products including radios and television sets; phonographs; electric batteries; X-ray and therapeutic apparatus; electronic tubes and components as well as the repair of electrical appliances.  
Excluded are instruments for measuring and recording electrical quantities and characteristics (791).
- 779. Metal, Metal Products not classified above.
- 770. Metal, Metal Products; insufficient information available to classify further.

## 78. Vehicle Assembly, Manufacture

- 781. Shipbuilding, repairing of vessels over 20 m (65 1/4 ft).  
Shipyards engaged in building and repair work on vessels over 20 m (65 ft) in length including barges, lighters, and tugs whether self-propelled or not.  
Included are specialized marine engines, masts, spars, rigging and ship parts manufacture, dry docks, and ship breaking yards.
- 782. Boat building, repairing of vessels 20 m (65 ft) and under.  
Boat yards engaged in building and repair work on vessels 20 m (65 ft) and under in length regardless of material used in manufacture and whether self-propelled or not.  
Included are facilities manufacturing specialized marine engines, outboard engines, masts, sails, rigging, and boat parts.
- 783. Railway equipment manufacture, assembly, repair.  
The building and rebuilding of locomotives and railroad or tramway cars for freight and passenger service, and the production of specialized parts for locomotive and railroad tramway cars.

Included are shops operated by railway companies for the manufacture and repair of locomotives and cars.

- 784. Motor vehicle manufacture, assembly.  
Manufacture and assembly of motor vehicles such as automobiles, buses, trucks, truck trailers, universal carriers, motorcycles, motor scooters, camping trailers, and motor homes.  
Included are plants manufacturing motor vehicle parts and accessories.  
Excluded are plants principally manufacturing tires and tubes (747), automobile glass (682), electrical equipment (775), agricultural and road-building tractors and forklift trucks (774), facilities involved with motor vehicle repairs (573), and the manufacture of mobile homes or mobile buildings (752).
- 785. Bicycle manufacturing, assembly, repair.  
Manufacture of bicycles, tricycles, pedicabs, and parts.
- 786. Aircraft and rocket manufacturing, assembly, repair.  
Manufacture, assembly, and repair of airplanes, gliders, rockets, missiles, and aircraft parts such as engines, propellers, pontoons, and undercarriages.  
Excluded are the manufacture of electric and electronic equipment (775 or 776) and aeronautical instruments (791).
- 787. Manufacture of special transport equipment.  
Plants manufacturing special transport equipment such as animal-drawn and hand-drawn vehicles and parts for such vehicles such as wheels and axles.
- 789. Vehicle Assembly, Manufacture not classified above.
- 780. Vehicle Assembly, Manufacture; insufficient information available to classify further.

## 79. Other Manufacturing

Manufacturing industries not classified in any other division.

- 791. Instrument manufacture.  
Manufacture of measuring, controlling, laboratory, and scientific instruments, and surgical, medical, and dental instruments and supplies.  
Excluded are the manufacture of optical instruments for scientific and medical use (792), the manufacture of X-ray and electric therapeutic apparatus (776), and the production of measuring and dispensing pumps (774).
- 792. Photographic, optical goods manufacture.  
The manufacture of optical instruments and lens grinding; ophthalmic goods, photographic equipment and supplies, including sensitized film, plates, and paper.  
Included are plants manufacturing optical instruments for scientific and medical use.
- 793. Watch, clock manufacture.  
The manufacture of clocks and watches, clock and watch parts and cases, and mechanisms for timing devices.
- 794. Jewelry manufacture.  
Manufacture of jewelry, silverware, and plate-

ware, using precious metals, precious and semiprecious stones, and pearls.

Included are the cutting and polishing of precious and semiprecious stones, the striking of medals and coins, and engraving on precious metals.

- 795. Musical instrument manufacture.  
The manufacture of musical instruments, such as pianos, stringed instruments, wind instruments, and percussion instruments.  
Included is the manufacture of phonograph record blanks.  
Excluded are the manufacture of phonographs and speech recording machines (776).
- 796. Laundry, drycleaning plant.  
Mechanical and hand laundries.  
Included are plants supplying laundered linens (aprons, table covers, towels, napkins, or diapers) on a contract basis; cleaning, pressing, and dyeing, and performing minor repairs to apparel and household furnishings.
- 797. Photographic film processing laboratory.  
Processing of photographic film in special plants and centers.  
Excluded are film processing operations incidental to other operations, such as to newspaper offices or hospitals.
- 798. Toy, sporting good manufacturing not classified in other divisions.
- 799. Other Manufacturing not classified above.  
Included are plants manufacturing carbon and stencil paper.
- 790. Other Manufacturing; insufficient information available to classify further.

## 70. Manufacturing Property: Unclassified

- 708. General maintenance shop not elsewhere classified.
- 709. Manufacturing Property not classified above.
- 700. Manufacturing Property; insufficient information available to classify further.

## 8. STORAGE PROPERTY

Storage properties are all buildings, structures, or areas utilized primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals; and incidental servicing, processing, and repair operations.

Included are the resale (sale without transformation) of goods to businesses, institutions, and government, such as the resale of industrial and construction materials, machinery, and equipment; farm machinery, implements, and supplies; and business and professional equipment. Also included are warehousing, grading, sorting, breaking bulk, and repacking, which are associated with reselling. Repacking in airtight containers is canning and is classified in subdivisions 713 and 714.

Storage properties are characterized by the presence of relatively small numbers of persons in proportion to the area. Any new use that increases the number of occupants to a figure comparable with other classes of properties changes the classification of the building to that of the new use. If substantial mercantile or office operations exist (10 customers or more present at busy period), reclassify where appropriate in major division 5 (Mercantile, Business Property).

Waste disposal is classified in division 91.

### 81. Agricultural Products Storage

- 811. Seeds, beans, nuts, silage storage in bulk.  
Storage of seeds, beans, grain, natural feed, hay, or nuts in bulk in bins, silos, or piles in the open or in cribs.  
Excluded are storage in barns (815) and storage in elevators (816).
- 812. Boxed, crated, packaged agricultural products storage.  
Agricultural products stored in boxes, crates, or cartons, regardless of packaging material or container size.
- 813. Loose, bagged agricultural products storage.  
Agricultural products stored in bags of any material or size, or stored loose.  
Excluded are bagged products inside cardboard boxes (812), loose tobacco storage (814), and bulk storage of seeds, feeds, beans, nuts, and grain (811).
- 814. Loose, baled tobacco storage.  
Tobacco stored in loose quantities or in bales, crates, hogsheads, or barrels before or after auction, but before manufacture of finished tobacco products.  
Excluded are tobacco curing sheds (656) and storage during processing (725).
- 815. Barns, stables.  
Included are facilities associated with farms, zoos, or wildlife preserves whether for providing restraint or protection for animals or for storage of feed.  
Excluded are silos (811).
- 816. Grain elevators.  
Included are soybean elevators.
- 817. Livestock storage.  
Storage of livestock at any point beyond the raising ranch or farm.  
Included are rail and truck stockyards and other livestock pens and yards.
- 818. Agricultural supply storage.  
Storage of materials for agricultural purchase.  
Included are hay, feed, seed, fertilizer, and non-motorized farm implement stores.
- 819. Agricultural Products Storage not classified above.
- 810. Agricultural Products Storage; insufficient information available to classify further.

### 82. Textile Storage

- 821. Baled cotton storage.  
Included are cotton compresses.
- 822. Baled wool, worsted storage.
- 823. Baled silk, synthetic fiber storage.
- 824. Baled jute, hemp, flax, sisal, other mixed or blended fiber storage.
- 825. Cloth, yarn storage.
- 826. Wearing apparel, garments, finished textile storage.
- 827. Leather, leather products storage.
- 828. Fur, skin, hair products storage.
- 829. Textile Storage not classified above.
- 820. Textile Storage; insufficient information available to classify further.

### 83. Processed Food, Tobacco Storage

- 831. Packaged foodstuff storage.  
Foodstuffs stored in cardboard or paper packages.
- 832. Canned or bottled food, soft drink storage.  
Storage of canned or bottled foodstuffs.  
Included are plants that bottle materials made elsewhere.
- 833. Loose, bagged processed food storage.  
Processed foods stored in bulk or in bags of any material or size.  
Excluded are animal feed in hay, grain, seed, and feed stores (818), natural animal feed stored in bulk (811), and natural animal feed stored in bags (813).
- 834. Food locker plants.
- 835. Cold storage.
- 836. Bulk sugar storage.
- 837. Bulk flour, starch storage.
- 838. Packaged tobacco product storage.  
Storage of finished tobacco products in any type package.
- 839. Processed Food, Tobacco Storage not classified above.
- 830. Processed Food, Tobacco Storage; insufficient information available to classify further.

### 84. Petroleum Products, Alcoholic Beverage Storage

Included are gases of all kinds, flammable liquids, and combustible liquids, except those specifically mentioned in division 86 below, such as 865 for paint and varnish.

Waste disposal is classified in division 91.

- 841. Flammable, combustible liquid tank storage.  
Included are airport fuel dispensing systems, bulk plants, terminals, and tank farms.  
Excluded are refinery tankage (767) and reservoir at oil wells (674).
- 842. Gasometer, cryogenic gas storage.
- 843. LP-Gas bulk plant.  
Excluded is filling individual cylinders for the public (571).
- 844. Missile, rocket fuel storage.  
Included are storage facilities at the manufacturing plant, launching site, and intermediate fixed storage locations.
- 845. Packaged petroleum products storage.
- 846. Alcoholic beverage storage.  
Storage of liquor, beer, wine, and other alcoholic beverages, whether in barrels, casks, kegs, or bottles.
- 849. Petroleum Products, Alcoholic Beverage Storage not classified above.
- 840. Petroleum Products, Alcoholic Beverage Storage; insufficient information available to classify further.

### 85. Wood, Paper Products Storage

- 851. Lumberyard, building materials storage.  
Storage of lumber and building materials.  
Excluded are storage of timber, pulpwood, logs, and wood fuel while in the forest (662) or at sites awaiting use (856); and wood chips (666).
- 852. Wood products, furniture storage.
- 853. Fiber products storage.  
Storage of products made from fibers of ordinary

combustible materials, such as fiberboard; or noncombustible fiber materials with combustible components such as fiberglass insulation.

Included are pulp, felt, excelsior, and rope.

854. Rolled paper storage.

855. Paper, paper products storage.

Included are cartons, bags, waste paper, and baled paper.

Excluded are rolled paper (854) and pulp storage (853).

856. Timber, pulpwood, logs, wood fuel.

Included are areas where timber, pulpwood, logs, and wood fuel are stored in bulk after leaving the forest and before processing or use.

Excluded is storage in the forest (662).

859. Wood, Paper Products Storage not classified above.

850. Wood, Paper Products Storage; insufficient information available to classify further.

### 86. Chemical or Plastic, Chemical or Plastic Product Storage

For the purpose of this classification, a chemical is a material that has had or will have a controlled change in its molecular structure or composition, not involving polymerization; while a plastic is a material whose molecule has been polymerized.

Waste disposal is classified in division 91.

861. Industrial chemical storage.

862. Hazardous chemical storage.

Excluded are radioactive materials (division 61).

863. Plastic, plastic product storage.

864. Fertilizer storage.

Excluded is fertilizer storage in connection with agricultural supply storage.

865. Paint, varnish storage.

866. Drug, cosmetic, pharmaceutical storage.

867. Rubber, rubber products storage.

868. Photographic film storage.

Storage of photographic films, new or exposed, including motion-picture film, X-ray film, industrial film, and hobby film.

Included are picture distribution facilities such as film exchanges.

869. Chemical or Plastic, Chemical or Plastic Product Storage not classified above.

860. Chemical or Plastic, Chemical or Plastic Product Storage; insufficient information available to classify further.

### 87. Metal, Metal Product Storage

871. Basic metal form storage.

872. Metal parts storage (often in trays or bins, or on racks).

873. Hardware storage.

Included are storage of auto parts, auto accessories, tools, and plumbers' supplies.

874. Machinery storage.

875. Electrical appliance, supply storage.

876. Finished metal products storage (often in cartons or crates).

877. Scrap, junkyards.

Included are nonmetal waste and scrap, such as wastepaper and tires.

Excluded are refuse dumping areas (division 91).

879. Metal, Metal Products Storage not classified above.

870. Metal, Metal Products Storage; insufficient information available to classify further.

### 88. Vehicle Storage

881. Residential parking garage.

Parking of motor vehicles in one-story residential garages.

Included are detached residential garages or residential garages separated from another structure by a fire division assembly.

Excluded are attached garages to single-family dwellings (411) and general vehicle parking garages (882).

882. General vehicle parking garage.

Parking of vehicles of various ownership in facilities under the direction of one management.

Excluded are facilities for repair of motor vehicles (573), dwelling or one-story residential garages (881), and garages for public works vehicles and dump trucks (884).

883. Bus, truck, auto fleet, automobile dealer storage.

Parking of motor vehicles of the same ownership and management.

Included are truck parking, auto fleet parking, bus parking, trackless trolley parking, and taxicab parking.

Excluded are machinery and equipment storage (884).

884. Heavy machine, equipment storage.

Parking of road, farm, and contracting equipment in a suitably managed location.

Included are storage of public works vehicles, construction and earth-moving equipment, dump trucks, and cranes.

885. Boat, ship storage.

A marine parking "garage." Docking and mooring facilities for boats in the water.

Included are launching facilities and storage of boats and ships for relatively long periods of time.

Excluded are yacht club buildings (143), boat repairing yards (782), and marine service stations (577).

886. Aircraft hangar.

887. Railway storage.

Included are locomotive storage, car storage, and track repair equipment storage, and all fixed railroad storage facilities.

Excluded are railroad yards and signaling and switching facilities (division 95).

888. Fire stations.

889. Vehicle Storage not classified above.

880. Vehicle Storage; insufficient information available to classify further.

### 89. General Item Storage

891. General warehouse.

Excluded are warehouses storing mainly wood furniture (852), warehouses storing mainly foodstuffs (division 83), and warehouses storing mainly textiles (division 82).

892. Bagged mineral products storage.

Included are storage facilities for cement, lime, and gypsum.

- 893. Packaged mineral products storage.  
Included are storage facilities for glass, clay products, pottery, and earthenware.
- 894. Freight terminal.
- 895. Coal, coke briquette, charcoal storage.  
Storage of solid fuels in bags, boxes, or bulk.  
Excluded are wood fuel storage facilities (662).
- 896. Military stores, national defense storage not elsewhere classified.
- 897. Ice storage.  
Storage of natural and manufactured ice.  
Included are separate, detached, portable coin-operated storage and dispensing units.
- 898. Wharf, pier.
- 899. General Item Storage not classified above.
- 900. General Item Storage; insufficient information available to classify further.

#### 80. Storage Property: Unclassified

- 808. Tool shed, contractor's shed.  
Included are sheds used primarily for storage.  
Excluded are sheds used as field offices (591).
- 809. Storage Property not classified above.
- 800. Storage Property; insufficient information available to classify further.

### 9. SPECIAL PROPERTY

These properties are not readily classified in any of the preceding major divisions. They include mainly outdoor properties.

Fixtures such as signs, fences, and poles which are usually on outdoor property are not separate specific property uses. The specific property use upon which this item is located should be identified. The sign, fence, or fixture, if involved in ignition, should be identified in the appropriate sections of Chapters E through I.

#### 91. Landfill/Dump Sites

- 911. Managed nonhazardous refuse disposal site.
- 912. Unmanaged nonhazardous refuse disposal site.
- 913. Managed hazardous materials waste disposal site.
- 914. Unmanaged hazardous materials waste disposal site.
- 915. Temporary hazardous materials waste disposal site.
- 919. Waste Disposal Site not classified above.
- 910. Waste Disposal Site, insufficient information to classify further.

#### 92. Special Structures

- 921. Bridge, trestle.  
Included are overhead or elevated structures, such as overpasses, elevated roads, and railways.
- 922. Tunnel.
- 923. Public mailbox.
- 924. Toll station.
- 925. Shelter.  
Included are storm, tornado, bomb, fallout, weather, and bus shelters.
- 926. Outbuilding, excluding garage.  
Included are privies and collection sheds (boxes) used for temporary storage of miscellaneous items

for routine pickup by charitable organizations.

- 927. Outdoor telephone booth.
- 928. Aerial tramway.  
Included are ski lifts and chair lifts.
- 929. Special Structures not classified above.
- 920. Special Structures; insufficient information available to classify further.

#### 93. Outdoor Properties

- 931. Open land, field.  
Included are lands of grass, herbacious plants (weeds) and brush usually used for grazing (pasture land), wildlife habitat and undeveloped recreation areas.  
Excluded are campsites with utilities (935), graded and cared-for plots of land (938), and improved fenced pasture land (655).
- 932. (This subdivision not used in this edition.)
- 933. Residential yards.  
Included are the cared-for spaces around residential property.
- 934. Cemetery.
- 935. Campsite with utilities.  
Included are facilities for camping trailers, pickup truck mounted campers, motor homes, and travel trailers.  
Excluded are unimproved camping areas (931).
- 936. Vacant lot.  
Included are uncared-for plots of land.  
Excluded are graded and cared-for plots of land (938).
- 937. Beaches, seashores, riverfront areas (salt or fresh water).  
Excluded are piers (898).
- 938. Graded and cared-for plots of land.  
Included are parks.  
Excluded are residential yards (933), open land and fields (931), campsites with utilities (935), playgrounds (124), and improved fenced pasture land or land used for crops (655).
- 939. Outdoor Properties not classified above.
- 930. Outdoor Properties; insufficient information available to classify further.

#### 94. Water Areas

- 941. In open sea, tidal waters.
- 942. Within designated port, channel, anchorage.
- 943. Alongside quay, pier, pilings.  
Excluded are flammable liquid or gas loading and unloading facilities (944).
- 944. At flammable liquid or gas loading, unloading facility.
- 945. Storm drain, flood control culvert.
- 946. Inland water area.  
Included are lake, pond, river or stream, and the like.
- 949. Water Areas not classified above.
- 940. Water Areas; insufficient information available to classify further.

#### 95. Railroad Property

Included are railroad, subway, railway, trolley, and other fixed rail property.

See classification 921 for bridges and trestles and classification 922 for tunnels.

- 951. Railroad right of way.  
Included are the areas marked by fence or 9 m (30 ft) beyond ballast on each side.  
Excluded are switch yards (952), and sidings (953).
- 952. Switch yard, marshalling yard.
- 953. Siding.  
The spurs within an industrial plant or other property.
- 954. Railroad signaling, switch control equipment location.
- 959. Railroad Property not classified above.
- 950. Railroad Property; insufficient information available to classify further.

#### 96. Road, Parking Property

See classification 921 for bridges and trestles and classification 922 for tunnels.

- 961. Limited-access highway, divided highway.
- 962. Paved public street.  
Included are associated parallel or diagonal parking on right of way.  
Excluded are limited-access and divided highways (961).
- 963. Paved private street, way.  
Included are paved driveways.  
Excluded are uncovered parking areas (965).
- 964. Unpaved street, road, path.  
Included are unpaved driveways.
- 965. Uncovered parking area.  
Included are open parking lots, rest stops, and open car stacking mechanisms.  
Excluded are driveways (963), covered parking garages (882), and campsites with utilities (935).
- 969. Road, Parking Property not classified above.
- 960. Road, Parking Property; insufficient information available to classify further.

#### 97. Aircraft Areas

- 971. In flight.
- 972. On runway.  
Included are the approach and overrun areas.
- 973. On taxiway, uncovered parking area, maintenance area.  
Included are all airport areas other than runway or loading ramp.  
Excluded are aircraft hangars (886).
- 974. At loading ramp.
- 979. Aircraft Areas not classified above.
- 970. Aircraft Areas; insufficient information available to classify further.

#### 98. Outside Equipment Operating Areas

- 981. Construction site.  
Excluded are oil and gas fields (982). Classify buildings or structures under construction and demolition by their proposed or former use.
- 982. Oil, gas field.
- 983. Pipeline, power line right of way.
- 984. Industrial plant yard area.  
Excluded are parking areas (965), areas

designated as outdoor storage in the yard, or areas that have another specific use.

- 989. Outside Equipment Operating Areas not classified above.
- 980. Outside Equipment Operating Areas; insufficient information available to classify further.

#### 90. Special Properties: Unclassified

- 909. Special Properties not classified above.
- 900. Special Properties; insufficient information available to classify further.

#### 00. Specific Property Use: Unclassified

- 098. Specific Property Use not applicable.
- 099. Specific Property Use not elsewhere classified.
- 000. Specific Property Use undetermined or not reported.

### Chapter C. Mobile Property Type

**Purpose:** This chapter provides uniform categories for the classification of mobile types of property; i.e., cars, planes, and ships. Mobile units that have been abandoned or have had their intended use changed are also classified in the subdivision of this chapter that defines their original or intended use.

**Discussion:** Mobile property is classified by its type here in Chapter C, and a specific property use is always classified also. Where mobile or in transit, its location is identified in the appropriate section of Chapter B, Specific Property Use. Where fixed, i.e., on a foundation or jacks, or in a location where there is no intent of moving it for a period of time, its use is identified in the appropriate section of Chapter B. In either case, its original mobile property type is classified in this chapter.

#### Definition:

**MOBILE PROPERTY TYPE.** Property that was designed to be movable in relation to fixed property whether or not it still is.

#### Examples:

A bus with passengers on a street.  
Specific property use - 962 (street)  
Mobile property type - 12 (bus)  
Type of incident (subdivision JCA) - 14 (vehicle)

A mobile home in transit on a shopping center parking lot.  
Specific property use - 965 (parking lot)  
Mobile property type - 17 (mobile home)  
Type of incident - 14 (mobile property in transit)

A bus parked at a carnival and used to cook and serve food.  
Specific property use - 164 (snack bar)  
Mobile property type - 12 (bus)  
Type of incident - 12 (mobile property used as structure)

A mobile home on a poured concrete foundation and used as a one-family residence.

Specific property use - 411 (residence)

Mobile property type - 17 (mobile home)

Type of incident 12 (mobile property used as structure)

#### Noncoded Data:

The following data should be recorded for each fire involving mobile property.

- (a) Make.
- (b) Model.
- (c) Year of manufacture.
- (d) Vehicle identification number.
- (e) License plate number(s), if any.

#### Coded Data:

The logical coding structure and definitions for classifying mobile property types are presented here. An alphabetical listing of terms for "Mobile Property Type" is presented in Chapter C' of Part IV of this document.

### 1. Passenger Road Transport Vehicles

Motor vehicles such as automobiles, buses, or mobile homes used primarily for transporting or housing people.

Included are abandoned vehicles.

11. Automobile.  
Included are taxicabs, limousines, race cars, and ambulances.
12. Bus, trackless trolley.  
Included are school buses.
13. All terrain vehicles.  
Included are motorcycles, golf carts, snowmobiles, and dune buggies.
14. Motor home.  
A mobile unit containing its own motive power.  
Included are pickup truck mounted campers and bookmobiles.
15. Travel trailer.  
A portable structure built or placed on a chassis and designed to be pulled by a vehicle.
16. Camping trailer.  
A collapsible portable structure built on a chassis and designed to be pulled by a vehicle.
17. Mobile home, mobile building.  
A structure built on a chassis and designed to be pulled by a vehicle to a semipermanent site.  
Included are mobile classrooms, mobile banks, mobile office buildings, whether on wheels, off their wheels on jacks, or on a foundation.
19. Passenger Road Transport Vehicles not classified above.
10. Passenger Road Transport Vehicles; insufficient information available to classify further.

### 2. Freight Road Transport Vehicles

Vehicles primarily for transporting goods.

Included are abandoned vehicles.

Excluded are materials handling equipment (63).

21. General use trucks over 97 kg (one ton) net weight.  
Included are solid chassis trucks, mail trucks, dump trucks, and fire apparatus.

22. General use small trucks, 97 kg (one ton), net weight or less.  
Included are pickups, wagons, and nonmotorized hauling rigs.
23. Semitrailer truck with or without tractor.
24. Tank truck for nonflammable cargo.
25. Tank truck for flammable or combustible liquid, chemical.
26. Tank truck for compressed gas or LP-Gas.
27. Trash truck.  
Included are refuse rendering and waste collection vehicles.
29. Freight Road Transport Vehicles not classified above.
20. Freight Road Transport Vehicles; insufficient information available to classify further.

### 3. Rail Transport Vehicles

Railroad, subway, railway, trolley car, and other rail vehicles are included.

31. Passenger, diner car.
32. Freight, box, hopper car.
33. Tank car.
34. Container, piggyback car.
35. Locomotive, engine.
36. Self-powered car.  
Included are trolley and rapid transit cars.  
Excluded are trackless trolleys (12).
37. Maintenance equipment, car.  
Included are cabooses and cranes.
39. Rail Transport Vehicle not classified above.
30. Rail Transport Vehicle; insufficient information available to classify further.

### 4. Water Transport Vessels

Included are all water vessels, irrespective of ownership.

41. Motor craft under 20 m (65 ft) length overall.  
Vessels under 20 m (65 ft) length overall.  
Excluded are commercial fishing vessels (48).
42. Vessel under 907 metric tons (1000 gross tons).  
Vessels over 20 m (65 ft) length overall, but under 907 metric tons (1000 gross tons).  
Included are water taxis, industrial vessels, and "yachts."
43. Passenger ship.
44. Tank ship.
45. Combat ship.
46. Cargo ship.  
Vessels not classified in subdivisions 41, 42, 43, 44, and 45.
47. Nonself-propelled vessel.  
All vessels without their own motive power.  
Included are towed petroleum balloons, barges, and other towed or towable vessels.  
Excluded are sailboats (49).
48. Commercial fishing vessel.  
Included are vessels on inland, coastal, and ocean waters, and operation of oyster beds, fish hatcheries, and factory vessels.  
Excluded are fish hatcheries themselves (specific property use 665).
49. Water Transport Vessels not classified above.  
Included are sailboats without auxiliary power.

40. Water Transport Vessels; insufficient information available to classify further.

### 5. Air Transport Vehicles

Transport by air of passengers and freight, whether by regular services or by private charter.

51. Personal, business, utility aircraft under 5670 kg (12,500 lb) gross weight.
52. Personal, business, utility aircraft 5670 kg (12,500 lb) gross weight and over.
53. Commercial transport aircraft, reciprocating engine powered, fixed wing.
54. Commercial transport aircraft, jet and other turbine powered, fixed wing.
55. Nonmilitary helicopters, vertical takeoff aircraft.
56. Combat-type military aircraft (attack bombers, fighters, reconnaissance).
58. Nonmilitary ground effect machines (hovercraft).
59. Air Transport Vehicles not classified above. Included are gliders and kites.
50. Air Transport Vehicles; insufficient information available to classify further.

### 6. Heavy Industrial and Agricultural Equipment

61. Earth-moving equipment.  
Included are bulldozers, shovels, graders, scrapers, trenchers, and plows.
62. Construction equipment.  
Included are water drilling equipment, pile drivers, tunneling equipment, air compressors, and the like.
63. Materials handling equipment.  
Included are fork lifts, industrial tow motors, loaders, and stackers.
64. Crane.
65. Tractor, harvester, picker.
66. Drilling rig for petroleum and gas only.
69. Heavy Industrial and Agricultural Equipment not classified above.
60. Heavy Industrial and Agricultural Equipment; insufficient information available to classify further.

### 7. Special Mobile Property, Military Vehicles

71. Garden equipment.  
Included are power driven lawn, yard, and snow equipment.
72. (This subdivision not used in this edition.)
73. Mechanically moved shipping container.
74. Armored equipment.  
Included are armored cars and military vehicles.
75. Manned, unmanned space vehicles.  
Included are rockets and missiles. For launching site, see specific property use 631.
79. Special Mobile Property, Military Vehicles not classified above.
70. Special Mobile Property, Military Vehicles; insufficient information available to classify further.

### 9. Other Mobile Property Types

98. Mobile Property Type not applicable.
99. Mobile Property Type not classified above.
00. Mobile Property Type undetermined or not reported.

## Chapter D. Inventory of Fire Defenses for Structures and Buildings

**Purpose:** This chapter provides categories for creating an inventory of the critical details of fire defense in a structure or building before the ignition. All information in this chapter can be collected prior to an incident in the structure. If the structure is not inventoried before a fire incident, the information in this chapter may also be recorded after an incident in the structure to provide essential detail.

### DA. Building Characteristics

#### DAA. Type of Construction

The construction types are taken from NFPA 220, *Standard on Types of Building Construction*. Fire-resistive ratings are determined by NFPA 251, *Standard Methods of Fire Tests of Building Construction and Materials*. Both Type III and Type IV have exterior bearing walls of noncombustible construction having a minimum fire resistance of 2 hours and stability under fire conditions; while roofs, floors, and interior framing are of combustible materials. The combustible materials must be heavier and stronger in Type IV construction.

Categories from the three model codes listed below are also given to maintain uniformity in data classification.

*Basic/National Building Code (BBC)*

*Standard Building Code (SBC)*

*Uniform Building Code (UBC)*

1. TYPE I—Structural members, including walls, columns, beams, floors, and roofs are of approved noncombustible or limited combustible materials having high fire-resistive ratings. Structural frame at least 3 hours. (Previously called Fire Resistive.)  
Included are BBC Types 1A, 1B; SBC Type I, III; UBC Type I.
2. TYPE II—Structural members, including walls, columns, beams, floors and roofs are of approved noncombustible or limited combustible materials having fire-resistive ratings of 2 hours or less. (Previously called Noncombustible.)  
Included are BBC Types 2A, 2B, 2C; SBC Type IV; UBC Type II.
3. TYPE III—Exterior walls of noncombustible or limited combustible materials; and interior structural members including walls, columns, beams, floors and roofs are of combustible materials. (Previously called Ordinary.)  
Included are BBC Types 3B, 3C; SBC Type V; UBC Type III.
4. TYPE IV—Exterior walls are of noncombustible or limited combustible materials; and interior structural members including columns, beams, arches, floors, and roofs are of solid wood at least 51 mm (2 in.) nominal qualifying as heavy timber under NFPA 220, 3-4.2 through 3-4.6. (Previously called Heavy Timber.)  
Included are BBC Type 3A; SBC Type III; UBC Type IV.



5. TYPE V—Exterior walls, bearing walls, and floors and roofs and their supports are wholly or partly of wood or other combustible material in dimensions smaller than those required in TYPE IV. (Previously called Wood Frame.)  
Included are BBC Types 4A, 4B; SBC Type VI; UBC Type V.
9. Type of Construction not classified above.
0. Type of Construction undetermined or not reported.

#### DAB. Method of Construction

If a mix of construction methods exists in the structure, report the principle construction method used.

1. Site built structure.
2. Factory built, site assembled structure.
3. Factory built modular structure.
4. Factory built mobile structure.
9. Method of Construction not classified above.
0. Method of Construction undetermined or not reported.

#### DAC. Year of Construction

The year of construction, in many cases, will have to be an approximation.

1. Prior to 1900.
2. 1900 to 1919.
3. 1920 to 1939.
4. 1940 to 1949.
5. 1950 to 1959.
6. 1960 to 1969.
7. 1970 to 1979.
8. 1980 or later.
0. Year of Construction undetermined or not reported.

#### DAD. Structure Height

Measure or estimate to the highest structural member or peak, not including flagpoles, antennas, and the like.

1. Grade to 3 m above grade (grade to 9 ft).
2. 3.1 to 6 m above grade (10 to 19 ft).
3. 6.1 to 9 m above grade (20 to 29 ft).
4. 9.1 to 15 m above grade (30 to 49 ft).
5. 15.1 to 30 m above grade (50 to 99 ft).
6. 30.1 to 45 m above grade (100 to 149 ft).
7. 45.1 to 60 m above grade (150 to 200 ft).
8. Over 60 m above grade (over 200 ft).
9. Structure totally below grade.
0. Structure Height undetermined or not reported.

#### DAE. Number of Stories

The number of stories being classified includes both below grade and above grade stories.

1. 1 story.
2. 2 stories.
3. 3 to 4 stories.
4. 5 to 6 stories.
5. 7 to 12 stories.
6. 13 to 24 stories.
7. 25 to 49 stories.
8. 50 stories or more.
0. Number of Stories undetermined or not reported.

#### DAF. Floor Area

1. 0 to 90 sq m (0 to 970 sq ft).
2. 91 to 450 sq m (971 to 4850 sq ft).
3. 451 to 900 sq m (4851 to 9700 sq ft).
4. 901 to 1800 sq m (9701 to 19,400 sq ft).
5. 1801 to 4500 sq m (19,401 to 48,400 sq ft).
6. 4501 to 10 000 sq m (48,401 to 107,600 sq ft).
7. 10 000 to 50 000 sq m (107,601 to 538,000 sq ft).
8. Over 50 000 sq m (over 538,000 sq ft).
0. Floor Area undetermined or not reported.

#### DAG. Structure Type

The type of structure housing the specific properties is grouped into classifications below. If the structure is a building, this category is subdivided into the single-use building and the multiple-use building (two or more uses). For example, a single-family dwelling is usually a single-use building; a bowling establishment, shoe store, and gift shop combination is a multiple-use building.

1. Building with one specific property use.  
Included are buildings with earthen walls and fabricated roofs.
2. Building with two or more specific property uses.
3. Open structure.  
Included are roofs with no walls, open steel framings, bridges, trestles, outdoor process equipment, and outdoor tanks.
4. Air-supported structure.
5. Tent.
6. Open platform.  
Included are piers and wharves without superstructure, loading docks without roof, and the like.
7. Underground structure.  
Included are earth covered structures, tunnels, and mines.
8. Not a structure.
9. Structure Type not classified above.
0. Structure Type undetermined or not reported.

#### DAH. Property Value

Property value includes the estimated total value of the property; i.e., building value, plus machinery and equipment value, plus contents value.

1. 0 to 9,999 dollars.
2. 10,000 to 24,999 dollars.
3. 25,000 to 49,999 dollars.
4. 50,000 to 99,999 dollars.
5. 100,000 to 249,999 dollars.
6. 250,000 to 999,999 dollars.
7. 1,000,000 to 4,999,999 dollars.
8. 5,000,000 or more dollars.
0. Property Value undetermined, not reported or value sought but not available.

#### DAI. Structure Status

1. Under construction.  
The specific property use should show its intended use.
2. In use with furnishings in place and the property being routinely used.
3. Idle with furnishings in place but the property is not being routinely used.

4. Under major renovation.  
The specific property use should show its new intended use.
5. Vacant but property secured and maintained.  
The specific property use should show its last significant use.
6. Abandoned with property unsecured and not maintained. The specific property use should show its last significant use.
7. Being demolished.  
The specific property use should show its last significant use.
9. Structure Status not classified above.
0. Structure Status undetermined or not reported.

#### DAJ. Material of Construction

This category is to be used in identification of individual building elements. If more than one material exists, report the principal material used.

1. Concrete/masonry (other than veneer).
2. Glass/glass block.
3. Metal—exposed.
4. Metal—unexposed.
5. Wood—exposed.
6. Wood—unexposed.
7. Plastic.
9. Material of Construction not classified above.
0. Material of Construction undetermined or not reported.

#### DB. Building Occupant Characteristics

##### DBA. Number of Occupants

The number of occupants is the measure of the legal number of people allowed to be inside the structure at the time of its maximum utilization. For details, see NFPA 101<sup>®</sup>, *Life Safety Code*<sup>®</sup>.

1. Under 10 people.
2. 10 to 49 people.
3. 50 to 99 people.
4. 100 to 299 people.
5. 300 to 499 people.
6. 500 to 999 people.
7. 1,000 people or more.
8. No occupants.
0. Number of Occupants undetermined or not reported.

##### DBB. Age and Ability of Occupants

When the population of a building consists largely of senior citizens or persons who are physically inconvenienced or mentally impaired in a manner that will interfere with prompt exit, the difficulties of evacuation increase. The percentage of people normally in the building who will have difficulty with evacuation can be estimated.

1. Less than 10 percent of the occupants over 62 or physically inconvenienced or mentally impaired.
2. 10 to 49 percent of the occupants over age 62 or physically inconvenienced or mentally impaired.
3. 50 to 100 percent of the occupants over 62 or physically inconvenienced or mentally impaired.
8. No occupants.

0. Age and Ability of Occupants undetermined or not reported.

#### DBC. Property Management

The information in this section can generally be obtained from the assessor's office, or its equivalent.

1. Private tax-paying property.
2. Private nontax-paying property.
3. Local, county government property.
4. State, province government property, except military.
5. Central, federal government property, except military.
6. Foreign government property.
7. Military property.
9. Property Management not classified above.
0. Property Management undetermined or not reported.

#### DC. Exit Quality

##### DCA. Protection of Stairways

1. Fire-rated enclosure, labeled doors and frames, and doors that close and latch.
2. Fire-rated enclosure, nonlabeled doors or frame, or doors that do not close and latch.
3. Nonfire-rated enclosure, labeled doors and frame, and doors that close and latch.
4. Nonfire-rated enclosure, nonlabeled doors or frame, or doors that do not close and latch.
5. No enclosure on one or more floors.  
Included are open stairways.
8. No stairs.
9. Protection of Stairways not classified above.
0. Protection of Stairways undetermined or not reported.

##### DCB. Interior Finish in Means of Egress Routes

A means of egress route has three parts: the "exit access," which is often a corridor; the "exit," which is often an enclosed stairway; and the "exit discharge," which is often a protected route from the base of the stairway directly outside.

Interior finish is the material used to cover the walls, the ceiling, and the floor of an area.

1. Combustible wall, combustible ceiling, and combustible floor finish.
2. Combustible wall, combustible ceiling, and noncombustible floor finish.
3. Combustible wall, noncombustible ceiling, and combustible floor finish.
4. Combustible wall, noncombustible ceiling, and noncombustible floor finish.
5. Noncombustible wall, combustible ceiling, and combustible floor finish.
6. Noncombustible wall, combustible ceiling, and noncombustible floor finish.
7. Noncombustible wall, noncombustible ceiling, and combustible floor finish.
8. Noncombustible wall, noncombustible ceiling, and noncombustible floor finish.
9. Interior Finish in Means of Egress Routes not classified above.

0. Interior Finish in Means of Egress Routes undetermined or not reported.

### DD. Compartment Quality

#### DDA. Protection of Vertical Shafts

Included are mechanical shafts, elevator shafts, exhaust shafts, escalators, ramps, and the like.

1. Standard enclosure, standard installation of labeled dampers, all openings fire stopped.
2. Standard enclosure, standard installation of labeled dampers, some openings not fire stopped.
3. Standard enclosure, nonstandard damper installation, or compliance with standard not determined, all openings fire stopped.
4. Standard enclosure, nonstandard damper installation, or compliance with standard not determined, some openings not fire stopped.
5. Nonstandard enclosure, standard installation of labeled dampers, all openings fire stopped.
6. Nonstandard enclosure, nonstandard damper installation, or compliance with standard not determined, some or all openings fire stopped.
7. Nonenclosed openings between one or more floors.
8. No shafts, escalators, ramps.
9. Protection of Vertical Shafts not classified above.
0. Protection of Vertical Shafts undetermined or not reported.

#### DDB. Protection of Floor Openings

Included are the floor to curtain wall connection, pipe, poke-through, and other openings.

1. All openings fully fire stopped or protected.
2. Some openings only partially fire stopped or protected.
3. Some openings not fire stopped or protected.
4. All openings not fire stopped or protected.
8. No floor openings.
9. Protection of Floor Openings not classified above.
0. Protection of Floor Openings undetermined or not reported.

#### DDC. Protection of Openings in Horizontal Barriers

Horizontal openings in shaft walls or stairways are covered in Sections DCA and DDA.

"Fire division walls" are walls with a two-hour or longer fire rating.

"Fire-rated walls" are walls with a thirty-minute or longer fire rating.

Where multiple problems exist, record the worst condition.

1. All openings in fire division walls fully protected.
2. Openings in fire division walls not fully protected.
3. No protection to openings in fire division walls.
4. All openings in fire-rated walls fully protected.
5. Openings in fire-rated walls not fully protected.
6. No protection to openings in fire-rated walls.
8. No horizontal protection required.
9. Protection of Openings in Horizontal Barriers not classified above.

0. Protection of Openings in Horizontal Barriers undetermined or not reported.

### DDD. Type of Compartmentation

Select the category that most closely resembles the type of compartmentation present in the structure.

1. Structure divided into two or more fire areas by fire walls.
2. Structure or story divided into two or more fire areas by fire division wall assemblies.
3. Each tenant space separated by fire division wall assemblies.
4. Each story separated by fire division floor assemblies.
5. Each story divided into two or more areas by fire division wall assemblies and each story separated by fire division floor assemblies.
6. Each tenant space separated by fire division wall assemblies and each story separated by fire division floor assemblies.
8. No compartmentation.
9. Type of Compartmentation not classified above.
0. Type of Compartmentation undetermined or not reported.

### DE. Exterior Defense Quality

#### DEA. Roof Covering

The roof covering classification is established by tests as outlined in NFPA 256, *Standard Methods of Fire Tests of Roof Coverings*.

1. Class A or Class B roof covering.
2. Class C roof covering of composition or prepared materials.  
Included are asphalt shingles.
3. Class C roof covering of treated and listed wood shingles and wood shakes.
4. Untreated wood shingles, shakes.
5. Unrated roof covering.
8. Structure without roof.
9. Roof Covering not classified above.
0. Roof Covering undetermined or not reported.

#### DEB. External Exposure

NFPA 80A, *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*, should be used as a guide in determining exposure severity.

1. Light exposure, adequate protection provided.
2. Light exposure, inadequate protection provided.
3. Moderate exposure, adequate protection provided.
4. Moderate exposure, inadequate protection provided.
5. Severe exposure, adequate protection provided.
6. Severe exposure, inadequate protection provided.
8. No exposure.
9. External Exposure not classified above.
0. External Exposure undetermined or not reported.

#### DEC. Perimeter Access

1. 30 ft (10 m) or more access on one side.
2. 30 ft (10 m) or more access on two sides.

3. 30 ft (10 m) or more access on three sides.
4. 30 ft (10 m) or more access on four sides.
5. No sides with access of 30 ft (10 m) or more.
0. Perimeter Access undetermined or not reported.

#### DF. Ignition Control (Fire Defense Stage I)

##### DFA. Smoking Practice Quality

1. Smoking permitted throughout the premises without restriction.
2. Smoking restricted in a few special "No Smoking" areas - not adequately marked or evidence of violation noted.
3. Smoking restricted to a few special "Smoking" areas - not adequately marked or evidence of violation noted.
4. Smoking restricted in a few special "No Smoking" areas - adequately marked and no evidence of violation noted.
5. Smoking restricted to a few special "Smoking" areas - adequately marked and no evidence of violation noted.
6. No smoking permitted on premises - evidence of violation noted.
7. No smoking permitted on premises - no evidence of violation noted.
9. Smoking Practice Quality not classified above.
0. Smoking Practice Quality undetermined or not reported.

##### DFB. Electrical Service Quality

Included are observations that can be readily made.

1. Visible frayed or damaged wire insulation.
2. Temporary wiring or extension cords used in place of permanent wiring.
3. Metal junction boxes without connectors at cable entry points noted.
4. Heat at fuses, circuit breakers, or panel box noted.
5. Overfused circuits noted.
6. Fluorescent lights with "old" ballasts mounted on combustible fiberboard ceilings.
7. Several of the above.
8. No electrical service deficiency noted in building or structure.
9. Electrical Service Quality not classified above.
0. Electrical Service Quality undetermined or not reported.

##### DFC. Heating Service Quality

1. Odor of gas or fuel gases noted.
2. Evidence of charring or smoke stains around chimney connector or flues.
3. Holes in chimney connector or flue noted.
4. Leaking valve or pipe.
5. Chimney connector hanger(s) missing.
7. Several of the above.
8. No heating service deficiency noted in building or structure.
9. Heating Service Quality not classified above.
0. Heating Service Quality undetermined or not reported.

#### DG. Fuel Control (Fire Defense Stage II)

##### Definition:

**KINDLING FUEL** — the fine fuels usually used to "kindle" fires. Included are wastepaper, corrugated cardboard, wood chips, flammable liquids, and the like. This all can be "kindling" to friendly camp fires and hostile building fires alike.

Kindling fuels are the materials inside the walls of a space. Interior finish (the ceiling, wall, and floor materials) are categorized in Section DGA. Furnishings are categorized in Section DGB.

##### DGA. Interior Finish Not in Means of Egress Routes

1. Combustible wall, combustible ceiling, and combustible floor finish.
2. Combustible wall, combustible ceiling, and noncombustible floor finish.
3. Combustible wall, noncombustible ceiling, and combustible floor finish.
4. Combustible wall, noncombustible ceiling, and noncombustible floor finish.
5. Noncombustible wall, combustible ceiling, and combustible floor finish.
6. Noncombustible wall, combustible ceiling, and noncombustible floor finish.
7. Noncombustible wall, noncombustible ceiling, and combustible floor finish.
8. Noncombustible wall, noncombustible ceiling, and noncombustible floor finish.
9. Interior Finish Not in Means of Egress Routes not classified above.
0. Interior Finish Not in Means of Egress Routes undetermined or not reported.

##### DGB. Plastic Furnishings

1. All plastic furnishings meet the accepted standard.
2. Plastic furnishings present do not meet the accepted standard.
3. Plastic furnishings present but compliance with the accepted standard not determined.
8. No plastic furnishings present.
9. Plastic Furnishings not classified above.
0. Plastic Furnishings undetermined or not reported.

NOTE: At the time of development of this section, there is not an accepted standard for characteristics of plastic furnishings.

##### DGC. Solid Kindling Fuels in Normally Occupied Areas

Excluded are storage and service spaces (DGD). Select the category that best expresses your observation.

1. Cluttered operations with "kindling fuels" in all areas.
2. Cluttered operations with "kindling fuels" in most areas.
3. Cluttered operations with "kindling fuels" in some areas.
4. Overcrowded operations with "kindling fuels."
5. Occasional pockets of "kindling fuels."
7. Neat and uncluttered operations but "kindling fuels" present or used in the process.

- Included are neat and orderly warehouses using cardboard cartons, neat libraries, and the like.
8. No "kindling fuels" present in normally occupied areas.
  9. Solid Kindling Fuels in Normally Occupied Areas not classified above.
  0. Solid Kindling Fuels in Normally Occupied Areas undetermined or not reported.

#### **DGD. Solid Kindling Fuels in Storage and Service Spaces**

Select the category that best expresses your observation.

1. Cluttered operations with "kindling fuels" in all areas.
2. Cluttered operations with "kindling fuels" in most areas.
3. Cluttered operations with "kindling fuels" in some areas.
4. Overcrowded operations with "kindling fuels."
5. Occasional pockets of "kindling fuels."
7. Neat and uncluttered operations but "kindling fuels" present or used in the process.  
Included are neat and orderly warehouses using cardboard cartons, neat libraries, and the like.
8. No "kindling fuels" present in storage and service areas.
9. Solid Kindling Fuels in Storage and Service Spaces not classified above.
0. Solid Kindling Fuels in Storage and Service Spaces undetermined or not reported.

#### **DGE. Flammable Liquid Use**

1. Flammable liquids used throughout — none in safety cans.
2. Flammable liquids used throughout — some in safety cans.
3. Flammable liquids used throughout — all in safety cans.
4. Flammable liquids used in some areas only — none in safety cans.
5. Flammable liquids used in some areas only — some in safety cans.
6. Flammable liquids used in some areas only — all in safety cans.
8. No flammable liquids present.
9. Flammable Liquid Use not classified above.
0. Flammable Liquid Use undetermined or not reported.

#### **DGF. Interior Finish Substrate/Solid Supporting Material**

This section is to be used with Section DGG in identification of interior finish substrates and the finishes used on them. If more than one material exists, the principle material used should be identified.

1. Masonry, concrete, plaster.
2. Gypsum board.
3. Mineral board, noncombustible composite board.
4. Glass.
5. Metal.
6. Plastic.
7. Wood, plywood, particle board.
8. Fiberboard, combustible composite board.

9. Interior Finish Substrate not classified above.
0. Interior Finish Substrate undetermined or not reported.

#### **DGG. Finish on Substrate/Solid Supporting Material**

This section is to be used with Section DGF in identification of interior finish substrates and the finishes used on them. If more than one material exists, the principal material should be identified.

1. Wallpaper.
2. Vinyl wall covering.
3. Paint, stain.
4. Varnish.
5. Carpet.
6. Textiles, fabric.
8. None.
9. Finish on Substrate not classified above.
0. Finish on Substrate undetermined or not reported.

#### **DH. Alarm Plus Occupant Action (Fire Defense Stage III)**

##### **DHA. Automatic Detection**

"Complete coverage" means that the location of detectors conforms to all applicable requirements of NFPA 72E, *Standard on Automatic Fire Detectors*. "Standard installation" means that a system conforms to all applicable requirements of NFPA 71, *Standard for the Installation, Maintenance and Use of Central Station Signaling Systems*; NFPA 72A, *Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems*; NFPA 72B, *Standard for the Installation, Maintenance and Use of Auxiliary Protective Signaling Systems for Fire Alarm Service*; NFPA 72C, *Standard for the Installation, Maintenance and Use of Remote Station Protective Signaling Systems*; NFPA 72D, *Standard for the Installation, Maintenance and Use of Proprietary Protective Signaling Systems*; or NFPA 74, *Standard for the Installation, Maintenance and Use of Household Fire Warning Equipment*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, in above grade and below grade areas, standard installation.
4. Partial coverage, in above grade and below grade areas, nonstandard installation or compliance with standard for installation not determined.
5. Partial coverage, in below grade areas only, standard installation.
6. Partial coverage, in below grade areas only, nonstandard installation or compliance with standard for installation not determined.
7. Partial coverage, in above grade areas only.  
Included are standard and nonstandard installations.
8. No automatic detection.
9. Automatic Detection not classified above.
0. Automatic Detection undetermined or not reported.

**DHB. Portable Fire Extinguishers**

"Standard installation" means that an installation conforms to all applicable requirements of NFPA 10, *Standard for Portable Fire Extinguishers*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, standard installation.
4. Partial coverage, nonstandard installation or compliance with standard for installation not determined.
8. No portable fire extinguishers.
9. Portable Fire Extinguishers not classified above.
0. Portable Fire Extinguishers undetermined or not reported.

**DHC. Occupant Hose**

"Standard installation" means that an installation conforms to all applicable requirements of NFPA 14, *Standard for Hose Systems*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, standard installation.
4. Partial coverage, nonstandard installation or compliance with standard for installation not determined.
8. No occupant hose.
9. Occupant Hose not classified above.
0. Occupant Hose undetermined or not reported.

**DI. Automatic Extinguishment**  
(Fire Defense Stage IV)

**DIA. Type of Sprinkler System**

1. Wet pipe sprinkler system.
2. Dry pipe sprinkler system.
3. Deluge sprinkler system.
4. Pre-action sprinkler system.
5. Combined dry pipe and pre-action sprinkler system.
6. Recycling sprinkler system.
7. Outside sprinkler system.
8. No sprinkler protection.
9. Type of Sprinkler System not classified above.
0. Type of Sprinkler System undetermined or not reported.

**DIB. Coverage of Automatic Sprinkler System**

"Standard installation" means that an installation conforms to all applicable requirements of NFPA 13, *Standard for Installation of Sprinkler Systems*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, in above grade and below grade areas, standard installation.
4. Partial coverage, in above grade and below grade areas, nonstandard installation or compliance

with standard for installation not determined.

5. Partial coverage, in below grade areas only, standard installation.
6. Partial coverage, in below grade areas only, nonstandard installation or compliance with standard for installation not determined.
7. Partial coverage, in above grade areas only. Included are standard and nonstandard installations.
8. No sprinkler protection.
9. Coverage of Automatic Sprinkler System not classified above.
0. Coverage of Automatic Sprinkler System undetermined or not reported.

**DIC. Type of Special Hazard System**

1. Dry chemical system.  
Included are systems that use sodium bicarbonate, potassium bicarbonate, urea-based potassium bicarbonate, potassium chloride, or mono-ammonium phosphate as an agent. See NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, for guidance on system design.
2. Foam system.  
Included are systems using protein, fluoroprotein, halo-fluoroprotein, and low temperature protein foam; high expansion foam, aqueous film forming foam (AFFF), and wetting agent foam. See NFPA 11, *Standard for Low Expansion Foam and Combined Agent Systems* and NFPA 11A, *Standard for Medium and High Expansion Foam Systems*, for guidance on system design.  
Excluded are chemical foam systems (9).
3. Water spray system.  
See NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, for guidance on system design.
4. Halogenated fire extinguishing agent system.  
Included are systems using Halon 1211, Halon 1301, or other Halons as agents. See NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*; and NFPA 12B, *Standard on Halon 1211 Fire Extinguishing Systems*, for guidance on system design.
5. Carbon dioxide system.  
See NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, for guidance on system design.
6. Explosion suppression system.  
See NFPA 69, *Standard on Explosion Prevention Systems*, for guidance on system design.
7. Multiple special hazard systems.
8. No special hazard system.
9. Type of Special Hazard System not classified above.  
Included are steam smothering systems, chemical foam systems, and systems dispensing dry powder for metal fires.
0. Type of Special Hazard System undetermined or not reported.

**DID. Coverage of Special Hazard System**

The following categories should be used to evaluate the extent of coverage provided by the special hazard system.

The applicable standards and codes should be used to evaluate the installation.

"Total flooding" means completely filling the room or space protected. "Local application" means completely protecting the hazard within a room or space. A restaurant hood and duct system is a "local application."

1. Standard installation, total flooding.
2. Standard installation, local application.
3. Nonstandard installation or compliance with standard for installation not determined, total flooding.
4. Nonstandard installation or compliance with standard for installation not determined, local application.
7. Multiple special hazard systems.
8. No special hazard system present.
9. Coverage of Special Hazard System not classified above.
0. Coverage of Special Hazard System undetermined or not reported.

#### **DJ. Fire Department Action (Fire Defense Stage V)**

##### **DJA. Automatic Alarm Transmission Capability**

This section classifies the automatic alarm system transmission features provided to get the alarm from the structure to the responding fire department.

1. Remote station system to fire department managed location. See NFPA 72C, *Standard for the Installation, Maintenance and Use of Remote Station Protective Signaling Systems*, for system details.
2. Remote station system to nonfire department managed location. See NFPA 72C, *Standard for the Installation, Maintenance and Use of Remote Station Protective Signaling Systems*, for system details.
3. Proprietary system. See NFPA 72D, *Standard for the Installation, Maintenance and Use of Proprietary Protective Signaling Systems*, for system details.
4. Central station system. See NFPA 71, *Standard for the Installation, Maintenance and Use of Central Station Signaling Systems*, for system details.
5. Auxiliary system with automatic master-box. See NFPA 72B, *Standard for the Installation, Maintenance and Use of Auxiliary Protective Signaling Systems for Fire Alarm Service*, for system details.
8. No automatic alarm transmission capability provided.
9. Automatic Alarm Transmission Capability not classified above.
0. Automatic Alarm Transmission Capability undetermined or not reported.

##### **DJB. Water Supply Type**

Recognized water systems are engineered water main and hydrant systems under pressure.

1. Recognized water system, hydrants within 150 m (500 1/4 ft).

2. Recognized water system, hydrants 150 to 299 m (500 to 999 ft) away.
3. Recognized water system, hydrants 300 m (1,000 ft) or more away.
4. Outside of recognized water system, other water source available within 150 m (500 ft).
5. Outside of recognized water system, other water source available 150 to 299 m (500 to 999 ft) away.
6. Outside of recognized water system, other water source 300 m (1,000 ft) or more away.
8. No water available.
9. Water Supply Type not classified above.
0. Water Supply Type undetermined or not reported.

##### **DJC. Water Supply Flow**

This flow should reflect the sustained water supply capacity available for a period of 1 hour to apparatus responding on the first alarm.

1. Less than 950 L/min (250 gpm).
2. 950 to 1,899 L/min (250 to 499 gpm).
3. 1,900 to 2,849 L/min (500 to 749 gpm).
4. 2,850 to 3,799 L/min (750 to 999 gpm).
5. 3,800 to 4,749 L/min (1,000 to 1,499 gpm).
6. 4,750 to 5,699 L/min (1,500 to 1,999 gpm).
7. 5,700 or more L/min (2,000 gpm or more).
8. No water available.
0. Water Supply Flow undetermined or not reported.

##### **DJD. Standpipe System**

"Standard installation" means that an installation conforms to all applicable requirements of NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*.

1. Complete coverage, standard installation.
2. Complete coverage, nonstandard installation or compliance with standard for installation not determined.
3. Partial coverage, standard installation.
4. Partial coverage, nonstandard installation or compliance with standard for installation not determined.
8. No standpipe system.
9. Standpipe System not classified above.
0. Standpipe System undetermined or not reported.

##### **DJE. Obstacles to Rescue and Fire Control**

The items below include features not covered elsewhere in this standard.

1. Access to structure impeded. Included are weak bridges, fences, gates, terrain, parked cars, private road layout, and the like.
2. Windowless wall. Included are glassless walls, walls with no breakable glass, fixed sash, glass block walls, and the like.
3. Type of window impedes egress. Included are small steel sash, narrow casement windows, bars on windows, fixed sunscreens, and the like.
4. Exits not accessible or substandard. Included are narrow, blocked, or locked exits, steep or open stairways, weak hardware, and the like.

5. Internal arrangement.  
Included are high piled stock, partitions creating confusion, obstructions, and the like.
6. Difficult to ventilate.
7. Multiple obstacles.
8. No unusual obstacles to rescue or fire control.
9. Obstacles to Rescue and Fire Control not classified above.
0. Obstacles to Rescue and Fire Control undetermined or not reported.

## Chapter E. Area of Origin

**Purpose:** This chapter provides a classification system for the identification of the use of the room or space where the fire originates. The area of origin is classified according to the use of the room or space at the time of the ignition.

**Discussion:** Whereas the General Property Use (Chapter A) takes in the entire multiuse building or group of buildings and the Specific Property Use (Chapter B) takes in that portion of a complex having one fixed occupancy, the area of origin takes in that portion of the occupancy that is devoted to a specific use or process. For example, an office building may be a general property, a restaurant in that office building may be the specific property use, and the kitchen in that restaurant, if an ignition occurs there, is the area of origin. The area of origin is either a room, a space or a portion of a room, a vehicle or a portion of a vehicle, or possibly some open area devoted to a single use.

The use of an area and its level within the building should each be kept separate for reporting purposes. Thus, words like "attic" and "basement" should not be used to describe an area of origin. If these areas are used for storage, that should be reported; if they are used for some other use, it should be reported.

**Coded Data:** The logical classification structure and definitions for classifying area of origin are presented here. An alphabetical listing of terms for "Area of Origin" is presented in Chapter E' in Part IV of this standard.

### 0. Means of Egress

01. Hallway, corridor, mall.
02. Exterior stairway.  
Included are fire escapes and exterior ramps.
03. Interior stairway.  
Included are interior ramps.
04. Escalator.
05. Lobby, entrance way.
09. Means of Egress not classified above.

### 1. Assembly, Sales Areas (groups of people)

11. Large assembly area with fixed seats (100 or more persons).  
Included are auditoriums, chapels, places of worship, theaters, arenas, and lecture halls.
12. Large open room without fixed seats (100 or more persons).

- Included are ballrooms, gymnasiums, roller rinks, bowling alley lanes, multiuse areas, and the like.
13. Small assembly area with or without fixed seats (less than 100 persons).  
Included are classrooms, meeting rooms, multipurpose rooms, and the like.
14. Lounge area.  
Included are living rooms, common rooms, TV rooms, dens, recreation rooms, family rooms, sitting rooms, music rooms, and the like.
15. Sales, showroom area.  
Excluded are display windows (56).
16. Library.  
Included are art galleries and exhibit spaces.
17. Swimming pool.
19. Assembly, Sales Areas not classified above.

### 2. Function Areas

21. Sleeping room for under five persons.  
Included are patient rooms, bedrooms, cells, lockups, and the like.
22. Sleeping area for five or more persons.  
Included are wards, dormitories, barracks, and the like.
23. Dining area, lunchroom, cafeteria.  
Included are dining rooms, mess rooms, canteens, and beverage service bars.
24. Kitchen, cooking area.
25. Lavatory, locker room, cloakroom.  
Included are checkrooms, rest rooms, bathrooms, powder rooms, washrooms, shower rooms, sauna baths, outhouses, and portable toilets.
26. Laundry room, area.  
Included are wash houses.
27. Office.
28. Personal service area.  
Included are health clubs, massage parlors, and barber and beauty treatment areas.

### 3. Function Areas (continued)

31. Laboratory.
32. Printing or photographic room, area.
33. First aid, treatment room.  
Included are areas where minor surgery is performed.
34. Operating room.  
Included are recovery rooms and operating theaters.
35. Electronic equipment room, area.  
Included are control centers, radar rooms, electronic computer areas, data processing centers, telephone equipment rooms, telephone booths, and the like.
36. Performance, stage area.  
Included are backstage areas, dressing rooms, ice rinks, boxing rings, and basketball floors.
37. Projection room, area.  
Included are stage light and spotlight areas.
38. Process, manufacturing area.  
Included are workrooms.
39. Function Areas not classified above.

### 4. Storage Areas

41. Product storage room or area, storage tank, storage bin.



Included are all areas where products are held awaiting process, shipment, use, or sale.

42. Closet.
43. Supply storage room or area.  
Included are tool rooms, maintenance supply rooms, dead storage rooms, and the like.
44. Records storage room, vault.
45. Shipping, receiving, loading area.  
Included are packing departments, mail rooms, and loading bays.
46. Trash or rubbish area, container.  
Included are wastepaper storage areas, industrial waste containers, compactors, garbage and trash chutes without incinerators.  
Excluded are incinerators (64).
47. Garage, carport, vehicle storage area.
49. Storage Areas not classified above.

## 5. Service Facilities

51. Elevator, dumbwaiter.  
Included are the shaft areas.
52. Utility shaft.  
Included are pipe, ventilation, and conduit shafts.
53. Light shaft.
54. Chute.  
Included are laundry chutes and mail chutes.  
Excluded are trash chutes (46).
55. Duct.  
Included are air conditioning, heating, cable, and exhaust ducts.
56. Display window.
57. Chimney.  
For fires not confined to the chimney, the area of origin should be classified as the first area where ignition occurs outside the chimney, and the chimney is the equipment involved in ignition.
58. Conveyor.
59. Service Facilities not classified above.

## 6. Service, Equipment Areas

61. Machinery room, area.  
Included are elevator machinery rooms, engine rooms, pump rooms, head houses, refrigeration rooms, and the like.
62. Heating equipment room or area, water heater area.
63. Switchgear area, transformer vault.
64. Incinerator room, area.  
Included are all incinerator operations.  
Excluded are rubbish areas without incinerators (46).
65. Maintenance shop, area.  
Included are repair shops, welding shops, paint shops, work-shops, and paint spraying areas.
66. Test cell.
67. Enclosure with pressurized air.
68. Enclosure with enriched oxygen atmosphere.
69. Service, Equipment Areas not classified above.

## 7. Structural Areas

71. Crawl space, substructure space.
72. Exterior balcony, open porch.
73. Ceiling and floor assembly, concealed floor/ceiling space.

74. Ceiling and roof assembly, concealed roof/ceiling space.

Included are church steeples, cupolas and the like.

75. Wall assembly, concealed wall space.
76. Exterior wall surface.
77. Exterior roof surface.
78. Awning.
79. Structural Areas not classified above.

## 8. Transportation, Vehicle Areas

81. Passenger area of transportation equipment.
82. Trunk, load carrying area of transportation equipment.
83. Engine area, running gear, wheel area of transportation equipment.
84. Fuel tank, fuel line area of transportation equipment.  
Included are tanks and lines for flammable/combustible liquids up to the engine area.
85. Operating, control area of transportation equipment.  
Included are the bridges of ships, cockpits of planes, cabs of trucks, and the like.
86. Exterior exposed surface of transportation equipment.
89. Transportation, Vehicle Areas not classified above.

## 9. Other Area of Origin

91. On or near railroad right of way, embankment.
92. On or near highway, public way, street, parking lot.
93. Court, terrace, patio.  
Included are screened-in porches and patios.
94. Lawn, field, open area.  
Included are farmland, parks, and vacant lots.
95. Wildland area, woods.
96. Area under construction or major renovation.
97. Multiple areas of origin.
98. Vacant structural area with no current use.
99. Area of Origin not classified above.
00. Area of Origin undetermined or not reported.

## Chapter F. Equipment Involved in Ignition or Release of Hazardous Material

**Purpose:** This chapter provides a classification system for the equipment that provided the heat that started the fire or was involved in the release of hazardous materials.

**Discussion:** The heat of ignition or release of hazardous material often originates in equipment that fails or brings about the ignition or release of hazardous material while operating properly. When ignition occurs the form of the heat energy is classified in Chapter G. If no equipment was involved, see subdivision 98 below.

**Noncoded Data:** The following data should be collected each time a piece of equipment is involved in the ignition sequence if it can be obtained.

- (a) Manufacturer's name.
- (b) Model designation.
- (c) Year of manufacture or serial number.
- (d) Brand or trade name.
- (e) Laboratory certification (UL, FM, AGA, etc.).
- (f) If electrical, the current and voltage rating on the label.

**Coded Data:** The logical classification structure and definitions for classifying pieces of equipment involved in ignition are presented here. An alphabetical listing of terms for "Equipment Involved in Ignition" is presented in Chapter F' in Part IV of this standard.

## 0. Vehicles.

Use this category only when the vehicle is responsible for the fire but is not itself initially involved. For fires originating in the vehicle, classify the component of the vehicle responsible for the heat as the equipment involved in ignition. Expanded terminology and definitions are available in Appendix A.

- 01. Road transport vehicle.  
Included are automobiles, buses, trucks.  
Excluded are vehicles designed primarily for off-road recreation use (05) and construction (02).
- 02. Construction vehicle.  
Included are pavement tar warmers, road graders, bulldozers, air compressors, earth-moving equipment.  
Excluded are trucks designed for over-the-road use (01).
- 03. Farm vehicle.  
Included are tractors, combines, choppers, balers and other planting, cultivating, or harvesting equipment used for commercial farming.  
Excluded are lawn mowers and small garden tractors (04).
- 04. Home, garden vehicle.  
Included are lawn mowers, snow blowers, garden tractors.  
Excluded are large equipment and vehicles used in commercial farming (03).
- 05. Recreational vehicle.  
Included are all vehicles designed primarily for off-the-road use such as trail bikes, all-terrain vehicles, snowmobiles.  
Excluded are camping vehicles and other vehicles designed primarily for over-the-road use (01).
- 06. Woodland vehicle.  
Included are sky cars, loaders, yarders, skidders and other vehicles designed for use in woodland and timbering operations.
- 07. Railroad vehicle.  
Included are railroad engines and cars as well as railroad maintenance equipment designed to run on tracks and all vehicles designed specifically for track laying and maintenance.  
Excluded are general construction vehicles (02).
- 08. Industrial vehicle.  
Included are forklift trucks and ride-on floor maintenance equipment.
- 09. Vehicles not classified above.

## 1. Heating Systems

Included are combined heating and cooling systems, or combined heating and cooking stoves, if the equipment was being used primarily for heating at the time the fire started. Expanded terminology and classification for chimneys, flues, gas vents, and connectors, items 16 and 17, may be found in Appendix A.

- 11. Central heating unit.  
Included are central furnaces and power burners or stokers having an air supply and a return air system.  
Excluded are industrial furnaces (71).
- 12. Water heater.
- 13. Fixed, stationary local heating unit.  
Included are wall furnaces, unit heaters, room heaters, fixed heating stoves, fireplace insert stoves, woodburning stoves providing local heating, and baseboard heaters not intended for duct connection.
- 14. Indoor fireplace.  
Excluded are fireplace insert stoves (13).
- 15. Portable local heating unit.  
Included are space heaters, room heaters, and portable salamanders.
- 16. Chimney, gas vent flue.  
Included are masonry, factory built and metal chimneys.  
Use this classification only if heat from a chimney or sparks coming from a chimney ignite other materials not in the chimney. For fires confined to the chimney classify the equipment involved in ignition as appropriate in subdivisions 11-15 above.
- 17. Chimney connector, vent connector (connects firebox to chimney).  
Included are smoke pipes.
- 18. Heat transfer system.  
Included are steam lines, heating pipes, and hot air ducts.
- 19. Heating Systems not classified above.
- 10. Heating Systems; insufficient information available to classify further.

## 2. Cooking Equipment

Included are combined heating and cooking stoves, if the stove was being used primarily for cooking at the time the fire started.

- 21. Fixed, stationary surface unit.  
Included are stoves.  
Excluded are charcoal grills (26).
- 22. Fixed, stationary oven.  
Included are rotisseries.
- 23. Fixed, stationary food warming appliance.  
Included are coffee urns, steam tables, warming drawers, and warming tables.
- 24. Deep-fat fryer.
- 25. Portable cooking, warming unit.  
Included are hot plates, camp stoves, toasters, and waffle irons.
- 26. Open fired grill.  
Included are charcoal, wood and paper fired hibachi and barbecue grills.
- 27. Grease hood, duct.  
Included are the lighting and venting equipment of the unit.

- 29. Cooking Equipment not classified above.
- 20. Cooking Equipment; insufficient information available to classify further.

### 3. Air Conditioning, Refrigeration Equipment

Included are combined heating and cooling systems, if the equipment was being used primarily for cooling at the time the fire started.

Excluded are the cords and plugs (47).

- 31. Central air conditioning, refrigeration equipment.
- 32. Water cooling device, tower.  
Included are evaporative coolers.
- 33. Fixed, stationary local refrigerator unit.  
Included are cold boxes, freezers, and refrigerators.
- 34. Fixed, stationary local air conditioning unit.
- 35. Portable air conditioning, refrigeration unit.  
Included are dehumidifiers.
- 39. Air Conditioning, Refrigeration Equipment not classified above.
- 30. Air Conditioning, Refrigeration Equipment; insufficient information available to classify further.

### 4. Electrical Distribution Equipment

Excluded are cooking, air conditioning, and refrigeration equipment (divisions 1, 2, and 3). Expanded terminology and definitions are available in Appendix A.

- 41. Fixed wiring.  
Included are power lines, junction boxes, cables, wiring in raceways, and electric wiring in vehicles.
- 42. Transformer, associated overcurrent or disconnect equipment.
- 43. Meter, meter box.
- 44. Power switch gear, overcurrent protection devices.  
Included are panelboards or switchboards, fuses, and circuit breakers.
- 45. Switch, receptacle, outlet.
- 46. Lighting fixture, lampholder, ballast, sign.
- 47. Cord, plug.  
Included are "temporary" extension cords, appliance cords, and plugs.
- 48. Lamp, light bulb.
- 49. Electrical Distribution Equipment not classified above.
- 40. Electrical Distribution Equipment; insufficient information available to classify further.

### 5. Appliances, Equipment (other than elsewhere classified in this chapter)

- 51. Television, radio, phonograph.  
Included are tape recorders, sound- or picture-receiving equipment, and reproduction equipment.
- 52. Dryer.  
Included are coin-operated dryers and extractors removing any liquid or solvent.
- 53. Washing machine.  
Included are coin-operated machines at laundries.
- 54. Floor care equipment.  
Included are vacuum cleaners.  
Excluded are "ride on" type floor care machines, which are classified as industrial trucks (08).

- 55. Separate motor, generator.  
Included are those not an integral part of an appliance and those separated by a belt or chain from the equipment they drive or that drives them.
- 56. Hand tools.  
Included are soldering irons, drills, and the like.
- 57. Portable appliance (equipment) designed to produce controlled heat (not classified in 52 or 56).  
Included are electric blankets, steam irons, and heat tape.
- 58. Portable appliance designed not to produce heat (not classified above).  
Included are electric razors and can openers.
- 59. Appliances, Equipment not classified above.  
Included are dishwashers.
- 50. Appliances, Equipment; insufficient information available to classify further.

### 6. Special Equipment

- 61. Electronic equipment.  
Included are radar, X-ray, computer, telephone, and transmitter equipment.
- 62. Vending machine, drinking fountain.
- 63. Office machine.
- 64. Biomedical equipment, device.  
Included are anesthetizing machines.
- 65. Separate pump, compressor.
- 66. Internal combustion engine.  
Included are the drive train and exhaust system.  
Excluded are bearings and brakes (82), vehicles (01-09), and chain saws (91).
- 67. Conveyor, escalator.
- 68. Printing press.
- 69. Special Equipment not classified above.
- 60. Special Equipment; insufficient information available to classify further.

### 7. Processing Equipment

- 71. Furnace, oven, kiln.  
Excluded are those used for food preparation (division 2) and heat treating (73).
- 72. Casting, molding, forging equipment.  
Included are glass-forming machines and die-casting machines.
- 73. Heat treating equipment.  
Included are quench tanks and associated equipment.
- 74. Working, shaping machine.  
Included are sawing, planing, grinding, machining, forming, opening, picking, carding, and weaving machines.
- 75. Coating machine.  
Included are asphalt-saturating and rubber-spreading machines.
- 76. Painting equipment.  
Included are dipping, spraying, and flow-coating equipment.
- 77. Chemical process equipment.  
Included are digesters, reactors, black liquor recovery units, and distilling equipment.
- 78. Waste recovery equipment.  
Included are garnetting and solvent recovery equipment.

- 79. Processing Equipment not classified above.
- 70. Processing Equipment; insufficient information available to classify further.

## 8. Service, Maintenance Equipment

- 81. Incinerator.  
Included are burning barrels.
- 82. Bearing, brake.
- 83. Rectifier, charger.  
Included are inverters and batteries.
- 84. Tarpot, tar kettle.
- 85. Arc, oil lamp.  
Included are gas mantles, arc-lighted motion-picture projectors, and lanterns for recreational use.
- 86. Elevator.
- 87. Torch/welder.  
Included are cutting, welding, and plumbers' torches, Bunsen burners, weed burners, and arc welders.
- 89. Service, Maintenance Equipment not classified above.
- 80. Service, Maintenance Equipment; insufficient information available to classify further.

## 9. Other Equipment

- 91. Power saws.  
Included are chain saws.
- 92. Hand-held yard and garden maintenance equipment.  
Included are grass and brush trimmers.  
Excluded are power saws (91).
- 93. Power transfer equipment.  
Included are cables, wire ropes, blocks, and belts.  
Excluded are the vehicles or equipment providing the power and electric wiring.
- 94. Electric fencing.
- 95. Flammable liquid transfer equipment.  
Included are piping, valves, and connected storage tanks.  
Excluded are pumps or compressors (65).
- 96. Hazardous materials (other than flammable liquids) transfer equipment.  
Included are piping, valves, and storage containers.  
Excluded are pumps or compressors (65).
- 98. No equipment involved in ignition.  
See Chapter G for Form of Heat of Ignition (e.g., cigarette, match).
- 99. Equipment Involved in Ignition not classified above.
- 00. Equipment Involved in Ignition undetermined or not reported.

## Chapter G. Form of Heat of Ignition

**Purpose:** This chapter provides a classification system for the form of the heat energy igniting the fire, e.g., flame, spark, hot surface.

**Discussion:** For some purposes, it may be enough to know that the source of the heat was from a water heater

(subdivision 12 in Chapter F); but for proper understanding, the form that the heat of ignition took should be reported. It is desirable to state whether the water was heated by gas (subdivision 14 or 15), oil (subdivision 16 or 17), or electricity (division 3).

It is important that the fuel type be properly identified for equipments that may be powered by alternative sources of fuel. Of special interest are the following eight types of equipment (numbers in parentheses refer to the classification in Chapter F — "Equipment Involved in Ignition"): central heating (11), water heater (12), fixed stationary local heating (13), portable heating (15), stoves (21), ovens (22), central air conditioning (31), and dryers (52). Even though more than one classification in this chapter may be applicable, for these equipments the fuel type should always be identified. That is, use division 1 or 2 for gas, liquid, or solid fuels, and division 3 or classifications 46 or 47 if electrically powered.

**Coded Data:** The logical classification structure and definitions for classifying forms of heat of ignition are presented here. An alphabetical listing of terms for "Form of Heat of Ignition" is presented in Chapter G' in Part IV of this standard.

## 0. Heat, Sparks, Ember, or Flames from Outside, Open Fires

- 01. Outside open fire for debris or waste disposal.
- 02. Outside open fire for warming.
- 03. Outside open fire for cooking.
- 04. Outside open bonfire.
- 08. Heat, Sparks, Ember, or Flames from Outside, Open Fires not classified above.
- 09. Heat, Sparks, Ember, or Flames from Outside, Open Fires; insufficient information available to classify further.

## 1. Heat from Fuel-Fired or Fuel-Powered Equipment (gas or liquid fuel)

NOTE: Gas is a gas fuel; gasoline is a liquid fuel.

The difference between subdivision 14 and 15 (or 16 and 17, or 21 and 22, etc.) is whether a spark, ember, or flame actually escaped from the equipment or whether it was simply overheating of the outside surface (or its internal heat) causing the ignition of nearby combustibles.

- 11. Spark, ember, heat, or flame from cutting torch operation (separating metals).
- 12. Spark, ember, heat, or flame from welding torch operation (joining metals).
- 13. Spark, ember, heat, or flame other than cutting/welding.  
Included are plumbers' furnaces, blow torches, plumbers' torches, Bunsen burners, soldering and heating operations, paint stripping torches, and other torch operations.
- 14. Spark, ember, flame escaping from gas fueled equipment other than torch. (Gasoline is a liquid fuel.)
- 15. Heat from gas fueled equipment other than torch. (Gasoline is a liquid fuel.)  
Included are pilot lights and normal flames.
- 16. Spark, ember, flame escaping from liquid fueled equipment.

17. Heat from liquid fueled equipment.  
Included are pilot lights, normal flames, and exhaust system surfaces.

## 2. Heat from Fuel-Fired or Fuel-Powered Equipment (solid fuel)

21. Spark, ember, flame escaping from wood or paper fueled equipment.  
Included are sparks from a chimney connected to the equipment.
22. Heat from wood, paper fueled equipment.  
Included are chimneys, pilot lights, and normal flames.
23. Spark, ember, flame escaping from coal or coke fueled equipment.  
Included are sparks from a chimney connected to the equipment.
24. Heat from coal or coke fueled equipment.  
Included are chimneys, pilot lights, and normal flames.
25. Spark, ember, flame escaping from other solid fueled equipment.
26. Heat from other solid fueled equipment.  
Included are chimneys, pilot lights, and normal flames.
27. Spark, ember, flame escaping from fuel-fired equipment; specific fuel not known.
28. Heat from fuel-fired equipment; specific fuel not known.
29. Heat from Fuel-Fired or Fuel-Powered Equipment not classified above.
30. Heat from Fuel-Fired or Fuel-Powered Equipment; insufficient information available to classify further.

## 3. Heat from Electrical Equipment Arcing or Overloaded

31. Water caused short-circuit arc.
32. Short-circuit arc from mechanical damage.
33. Short-circuit arc from defective, worn insulation.
34. Unspecified short-circuit arc.
35. Arc from faulty contact, loose connection, broken conductor, broken powerline.
36. Arc, spark from operating equipment, switch, or electric fence.  
Excluded are static discharges from equipment whether it is in operation or not (74).
37. Heat from overloaded equipment.  
Included are wires and motors.
38. Fluorescent light ballast.
39. Heat from Electrical Equipment Arcing or Overloaded not classified above.
30. Heat from Electrical Equipment Arcing or Overloaded; insufficient information available to classify further.

## 4. Heat from Hot Object

41. Heat, spark from friction.  
Included are overheated tires.
42. Molten, hot material.  
Included are molten metal, hot forging, and hot glass, hot metal fragment, brakeshoe, hot box and slag from arc welding operations.
43. Hot ember ash.

Included are embers and ash discarded from solid fuel-fired equipment.

Excluded are embers accidentally escaping from solid fuel-fired equipment (division 2) and embers or sparks from an exposure fire (83) or embers and sparks from smoking materials (division 6).

44. Electric lamp.  
Included are light bulbs.
45. Rekindle, reignition.
46. Heat from properly operating electrical equipment.
47. Heat from improperly operating electrical equipment.  
Excluded are overloaded operating electrical equipment (37) and fluorescent light ballast (38).
49. Heat from Hot Object not classified above.
40. Heat from Hot Object; insufficient information available to classify further.

## 5. Heat from Explosives or Fireworks

51. Munition.  
Included are bombs, ammunition (not tracer, which is 52) and military rockets.
52. Tracer ammunition.
53. Blasting agent, prima cord, black powder fuse.  
Included are fertilizing agents, ammonium nitrate, and sodium, potassium, or other chemical agents.
54. Fireworks.  
Included are sparklers, paper caps, party poppers, and firecrackers.
55. Model and amateur rocket.
56. Incendiary device.  
Included are Molotov cocktails.
59. Heat from Explosives or Fireworks not classified above.
50. Heat from Explosives or Fireworks; insufficient information available to classify further.

## 6. Heat from Other Open Flame, Sparks, or Smoking Materials

Included is heat from material in use or after use.

61. Cigarette.
62. Cigar.
63. Pipe.
64. Heat from undetermined smoking material.
65. Match, lighter (flame type).
66. Candle, taper.
67. Warning flare, fusee.
68. Backfire from internal combustion engine.  
Excluded are flames and sparks from an exhaust system (16).
69. Heat from Other Open Flame, Sparks, or Smoking Materials not classified above.
60. Heat from Other Open Flame, Sparks, or Smoking Materials; insufficient information to classify further.

## 7. Heat from Natural Source

71. Sun's heat.  
Usually magnified through glass, bottles, etc.
72. Spontaneous ignition, chemical reaction.
73. Lightning discharge.
74. Static discharge.

Excluded are electrical arcs or sparks (36).

- 79. Heat from Natural Source not classified above.
- 70. Heat from Natural Source; insufficient information available to classify further.

## 8. Heat Spreading from Another Unwanted or Hostile Fire (Exposure)

- 81. Heat from direct flame, convection currents.
- 82. Radiated heat.  
Excluded is heat from exhaust systems of fuel-fired, fuel-powered equipment (16).
- 83. Heat from flying brand, ember, spark.  
Excluded are embers, sparks from a chimney igniting the roof of the same structure (division 2).
- 84. Conducted heat.
- 89. Heat Spreading from Another Unwanted or Hostile Fire not classified above.
- 80. Heat Spreading from Another Unwanted or Hostile Fire; insufficient information available to classify further.

## 9. Other Form of Heat of Ignition.

- 97. Multiple forms of heat of ignition.  
Use this subdivision only where there are multiple fires started at approximately the same time on the same property and more than one heat of ignition was initially involved. If one major heat source was involved, use the appropriate classification.
- 99. Form of Heat of Ignition not classified above.
- 00. Form of Heat of Ignition undetermined or not reported.

# Chapter H. Material Identification

**Purpose:** This chapter provides a classification system for recording the form or use of a material (form of material) as well as the type or composition of material as it exists in its raw, common or natural state.

**Use:** The data elements in this chapter can be used in numerous ways. They can be used to identify the first material ignited or the material contributing most significantly to smoke or flame development, or whenever it is necessary to classify a material and its use.

When used for recording the first material ignited, it should identify the first item that had sufficient volume or heat intensity to extend to uncontrolled or self-perpetuating fire.

**Discussion:** For a fire to start, it not only needs heat but the heat must ignite a kindling fuel. This kindling fuel will have a specific use or form which must be identified as the "Form of Material" first ignited. This same material will be made of a particular substance or be of a particular composition which is identified as the "Type of Material" first ignited. For example, wood shingles on a roof would be described as roof covering (classification 11 in Section HA) for form of material and sawn wood (classification 63 in Section HB) for type of material. In

the example given in Chapter G of a fire starting from a hot water heater, assume that gasoline vapors from spilled gasoline entered the combustion chamber and were ignited by a gas pilot light. The ignition classification using Chapters F, G and H would be: water heater (classification 12 in Chapter F), pilot light (classification 15 in Chapter G), flammable liquid spilled from container (classification 86 in Section HA), and gasoline (classification 23 in Section HB).

**Coded Data:** The logical coding structure and definitions for classifying the Form and Type of Material are presented in Sections HA and HB respectively. Alphabetical listing for the terms for Form of Material and Type of Material are presented in Chapters HA' and HB' of Part IV of this document.

## HA. Form of Material

### 1. Structural Component, Finish

- 11. Exterior roof covering, surface, finish.
- 12. Exterior sidewall covering, surface, finish.  
Included are eaves.
- 13. Exterior trim, appurtenances.  
Included are doors, porches, and platforms.
- 14. Floor covering, surface.
- 15. Interior wall covering.  
Included are cloth wall coverings, wood paneling, and items permanently affixed to a wall or door. Excluded are curtains and draperies (36) and decorations (42).
- 16. Ceiling covering, surface.  
Included are cloth permanently affixed to ceiling, and acoustical tile.
- 17. Structural member, framing.
- 18. Thermal, acoustical insulation within wall, partition or floor/ceiling space.  
Included are fibers, batts, boards, loose fills.
- 19. Structural Component, Finish not classified above.
- 10. Structural Component, Finish; insufficient information available to classify further.

### 2. Furniture, Utensils

Included is built-in furniture.

- 21. Upholstered sofa, chair, vehicle seats.
- 22. Nonupholstered chair, bench.
- 23. Cabinetry.  
Included are filing cabinets, pianos, dressers, chests of drawers, desks, tables, and bookcases. Excluded are TV sets, bottle warmers, and appliance housings (25).
- 24. Ironing board.
- 25. Appliance housing or casing.
- 26. Kitchen household utensils.
- 29. Furniture, Utensils not classified above.
- 20. Furniture, Utensils; insufficient information available to classify further.

### 3. Soft Goods, Wearing Apparel

- 31. Mattress, pillow.
- 32. Bedding, blanket, sheet, comforter.  
Included are heating pads.

33. Linen, other than bedding.  
Included are towels and tablecloths.
34. Wearing apparel not on a person.
35. Wearing apparel on a person.
36. Curtain, blind, drapery, tapestry.
37. Goods not made up.  
Included are fabrics and yard goods.
38. Luggage.
39. Soft Goods, Wearing Apparel not classified above.
30. Soft Goods, Wearing Apparel; insufficient information available to classify further.

#### 4. Adornment, Recreational Material

41. Christmas tree.
42. Decoration.
43. Book.
44. Magazine, newspaper, writing paper.  
Included are files.
45. Toy, game.
46. Awning, canopy.
47. Tarpaulin, tent.
49. Adornment, Recreational Material not classified above.
40. Adornment, Recreational Material; insufficient information available to classify further.

#### 5. Supplies, Stock

51. Box, carton, bag.
52. Basket, barrel.  
Included are waste baskets.
53. Pallet, skid (not in use).  
Excluded are palletized stock (85).
54. Rope, cord, twine, yarn.
55. Packing, wrapping material.
56. Bale storage.
57. Bulk storage.
58. Cleaning supplies.  
Included are brooms, brushes, mops, cleaning cloths, and cleaning fluids.
59. Supplies, Stock not classified above.
50. Supplies, Stock; insufficient information available to classify further.

#### 6. Power Transfer Equipment, Fuel

61. Electrical wire, cable insulation.  
Do not classify the insulation on the wiring as the first material ignited unless there were no other materials in the immediate area, such as might be found in a cable tray or electrical vault. Classify the first material of significance that caught fire from the wire/wire insulation as the material first ignited.
62. Transformer.  
Included are transformer fluids.
63. Conveyor belt, drive belt, V-belt.
64. Tire.
65. Fuel.  
Included are flammable liquids or gases in their final container prior to direct transfer into the engine or burner or the piping associated with this final transfer.  
Excluded are flammable liquids or gases stored in a container such that they need to be transferred to another container before use (86).

66. Pipe, duct, conduit, hose.
67. Pipe, duct, conduit covering.  
Included are insulating materials whether for acoustical or thermal purposes, and whether inside or outside the pipe, conduit, duct.
68. Filter.  
Included are evaporative cooler pads.
69. Power Transfer Equipment, Fuel not classified above.
60. Power Transfer Equipment, Fuel; insufficient information available to classify further.

#### 7. General Form

71. Agricultural product.
72. Fence, pole.
73. Fertilizer.
74. Growing, living form.  
Included are forests, brush, and grass.
75. Rubbish, trash, waste.
76. Cooking materials.  
Included are edible materials for man or animal.
77. Sign.  
Included are outdoor signs such as billboards.
78. Film, Residue.  
Included are paint or resin film and paint or resin residue on spray booths, exhaust ducts or dip tank drain boards, chimney residue (soot) and other films and residues produced as a by-product of an operation.

#### 8. Special Form

81. Dust, fiber, lint.  
Included are sawdust and excelsior.
82. Pyrotechnics, explosives.
83. Atomized, vaporized liquid.  
Excluded are aerosols (86).
84. Chips.
85. Palletized material, material stored on pallets.
86. Gas or liquid in or from pipe or container.  
Included are accelerants, aerosols.  
Excluded are fuels in their final container prior to direct transfer to the engine or burner or in the piping associated with the final transfer (65).
87. Rolled material.  
Included is rolled paper.
88. Adhesive.

#### 9. Other Form of Material

91. Railroad ties.
97. Multiple forms of material first ignited.  
Use this subdivision only where there are multiple fires started at approximately the same time on the same property and more than one form of material was initially involved. If one major material was involved, use the appropriate classification.
98. Form of material not significant or not applicable.  
Use this subdivision only when this data element is being used for reporting a form of material as other than the first material ignited and the circumstances of the situation are such that the form of material is not applicable or significant.
99. Form of Material not classified above.
00. Form of Material undetermined or not reported.

**HB. Type of Material****0. Wood, Cellulose—Naturally Occurring**

01. Grass.
02. Leaves, needles, litter (vegetative).
03. Duff (the material between the leaf and/or needle cover and the mineral soil).  
Included are decomposed material and humus.
04. Peat.
05. Live tree brush.
06. Snag (standing dead tree).
07. Logs.
08. Slash (felled brush, limbs, tree tops).
09. Rotten wood.

**1. Gas (not gasoline)**

11. Natural gas.
12. LP-City Gas (LP and air mix).
13. Manufactured gas.
14. LP-Gas.
15. Anesthetic gas.
16. Acetylene.
17. Other specialty gas.  
Excluded are anesthetic gas (15), acetylene (16) and hydrogen (18).
18. Hydrogen.
19. Gas not classified above.
10. Gas; insufficient information available to classify further.

**2. Flammable, Combustible Liquid**

Classification information is given in NFPA 321, *Standard on Basic Classification of Flammable and Combustible Liquids*; and NFPA 325M, *Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids*.

21. Class IA flammable liquid.  
Flash point less than 22.8°C (73°F) and boiling point less than 37.8°C (100°F).  
Included are ethyl ether, pentane, and ethylene oxide.
22. Class IB flammable liquid.  
Flashpoint less than 22.8°C (73°F) and boiling point at or above 37.8°C (100°F).  
Included are acetone ethyl alcohol, JP-4 jet fuel, and methyl ethyl ketone.  
Excluded is gasoline (23).
23. Gasoline.
24. Class IC flammable liquid.  
Flashpoint at or above 22.8°C (73°F) and below 37.8°C (100°F).  
Included are butyl alcohol, propyl alcohol, styrene, and turpentine.
25. Class II combustible liquid.  
Flash point at or above 37.8°C (100°F) but less than 60°C (140°F).  
Included are kerosene, Nos. 1, 2, 4, and 5 fuel oil, and diesel fuel.
26. Class IIIA combustible liquid.  
Flashpoint at or above 60°C (140°F) but less than 93.4°C (200°F).  
Included are No. 6 fuel oil, cottonseed oil, and creosote oil.
27. Class IIIB combustible liquid.  
Flashpoint at or above 93.4°C (200°F).

Included are cooking oil, transformer oil, and lubricating oil.

29. Flammable, Combustible Liquid not classified above.
20. Flammable, Combustible Liquid; insufficient information available to classify further.

**3. Volatile Solid, Chemical**

31. Fat, grease (food).  
Included are butter, tallow, margarine, and lard.
32. Grease (nonfood).  
Included are petroleum jellies.
33. Polish.  
Included are paraffin and wax.
34. Adhesive, resin, tar.  
Included are glue, gelatin, rosin, damas, elemi, kauri, asphalt, pitch, contact cement, soot, carbon, creosote.  
Excluded is asphalt impregnated material (86).
35. Applied paint, varnish.
36. Combustible metal.  
Included are magnesium, titanium, and zirconium.
37. Solid chemical.  
Included are explosives.  
Excluded are liquid chemicals (division 2) and gaseous chemicals (division 1).
38. Radioactive material.
39. Volatile Solid, Chemical not classified above.
30. Volatile Solid, Chemical; insufficient information available to classify further.

**4. Plastics**

Included are all solid, nonfibrous forms of plastic and synthetic rubber. Examples are polypropylene, polystyrene, polyurethane and polyvinyl chloride in molded, laminate, foam, film, or sheet form.

Excluded are synthetic fibers, coated fabrics and plastic upholstery (division 7).

41. Rigid plastics.  
Incompressible, hard, stiff, inflexible plastics.  
Included are molded plastics such as appliance cases, floor tile, decorative kitchen laminates. If identifiable foam structure is also present, classify as rigid foam (42).
42. Rigid foam plastics.  
Incompressible, hard, stiff, inflexible plastics with cellular, honeycomb, foam structure.  
Included are rigid thermal foam insulation for walls and refrigerators.
43. Flexible plastics.  
Compressible, soft, elastic, or pliable plastic.  
Included is electrical wire insulation. If identifiable foam structure is also present, classify as flexible foam (44).
44. Flexible foam plastics.  
Compressible, soft, elastic, or pliable plastic with cellular, spongelike, honeycomb, foam structure.  
Included are mattress, furniture interior foam, and carpet pads.
45. Film plastics.  
Paper-thin plastic, either self-supporting or coated on another material [no greater than 0.01 in. (0.25 mm) thick].



Included are polyethylene trash bags, photographic film, coated wallpaper.

Excluded are coated fabrics (division 7).

- 49. Plastic not classified above.
- 40. Plastic; insufficient information available to classify further.

## 5. Natural Product

- 51. Rubber.  
Excluded are synthetic rubbers (classify as plastics, division 4).
- 52. Cork.
- 53. Leather.
- 54. Hay, straw.
- 55. Grain, natural fiber (preprocess).  
Included are feathers, felt, kapok, hessian, hemp, sisal, jute, cocom, flax, and cotton.  
Excluded are fabrics and furniture batting (72).
- 56. Coal, coke, briquettes, peat.
- 57. Food, starch.  
Excluded are fat and grease (31).
- 58. Tobacco.
- 59. Natural Product not classified above.
- 50. Natural Product; insufficient information available to classify further.

## 6. Wood, Paper (processed)

- 61. Wood residue.  
Included are chips, sawdust, shavings, excelsior, and processed wood used as thermal insulation.
- 62. Round timber.  
Included are round posts, poles, and piles.
- 63. Sawn wood.  
Included is all finished lumber.
- 64. Plywood.
- 65. Fiberboard, particleboard, and hardboard.  
Included are low density pressed wood fiberboard products.
- 66. Wood pulp.
- 67. Paper.  
Included are cellulose, waxed paper, sensitized paper, and ground-up, processed paper and newsprint used as thermal insulation.
- 68. Cardboard.
- 69. Wood, Paper (Processed) not classified above.
- 60. Wood, Paper (Processed); insufficient information available to classify further.

## 7. Fabric, Textile, Fur

Classify by predominant type of material, except as shown in 72.

- 71. Man-made fabric, fiber, finished goods.  
Excluded are rayons (72).
- 72. Cotton, rayon, cotton fabric, finished goods.  
Included are canvases and all polyester-cotton blends.  
Excluded is waterproof canvas made with materials compounded with oil (84).
- 73. Wool, wool mixture fabric, finished goods.
- 74. Fur, silk, other fabric, finished goods.
- 75. Wig.
- 76. Human hair.
- 77. Plastic coated fabric.

Included are plastic upholstery fabric and other vinyl fabrics.

- 79. Fabric, Textile, Fur not classified above.
- 70. Fabric, Textile, Fur; insufficient information available to classify further.

## 8. Material Compounded with Oil

- 81. Linoleum.
- 82. Oilcloth.
- 83. (This subdivision not used in this edition.)
- 84. Waterproof canvas.  
Excluded is waterproof cloth of rayon covered with neoprene (77).
- 85. Oily rags.  
Included are waste materials impregnated with oil.
- 86. Asphalt treated material.  
Excluded are by-products of combustion, soot, carbon, creosote (34).
- 89. Material Compounded with Oil not classified above.
- 80. Material Compounded with Oil; insufficient information available to classify further.

## 9. Other Type of Material

- 91. Chaff.
- 92. Mulch.
- 93. Litter, combinations of materials having no value in the same container or pile.
- 97. Multiple types of material first ignited.  
Use this subdivision only where there are multiple fires started at approximately the same time on the same property and more than one type of material was initially involved. If one major material was involved, use the appropriate classification.
- 98. Type of material not significant or not applicable.  
Use this subdivision only when this data element is being used for reporting a type of material as other than the first material ignited and the circumstances of the situation are such that the type of material is not applicable or significant.
- 99. Type of Material not classified above.
- 00. Type of Material undetermined or not reported.

## Chapter I. Ignition Factor

**Purpose:** This chapter provides a classification system for the factor that allowed the heat of ignition and the material first ignited to combine so that preventive measures can be designed and targeted. Was it the design of a piece of equipment, methods of construction of a structure, or installations (division 6); was it poor upkeep (division 5); or was it a human factor (divisions 1, 2, 3, 4, 7).

**Discussion:** The heat of ignition is identified by the factors presented in Chapter G. The material first ignited is identified by the factors presented in Chapter H. Neither a heat of ignition by itself nor a kindling material by itself is sufficient to initiate a fire. The ignition factors listed

below identify why the heat and material were able to combine to initiate a fire.

**Coded Data:** The logical classification structure and definitions for classifying ignition factors are presented here. An alphabetical listing of terms for "Ignition Factor" is presented in Chapter I' in Part IV of this document.

### 1. Incendiary

Incendiary for fire reporting is defined as: admission, reliable witness, physical evidence, or subsequent legal decision indicates that the fire was deliberately set. A deliberately set fire may not legally be arson. Arson is a crime.

11. Incendiary.

### 2. Suspicious

Suspicious for fire reporting is defined as: circumstances indicate the possibility that the fire may have been deliberately set, multiple ignitions were found, or there were suspicious circumstances and no accidental or natural ignition factor could be found.

21. Suspicious.

### 3. Misuse of Heat of Ignition

Where the heat of ignition moves or was moved, and the material first ignited was stationary, classify here. Where the heat of ignition was stationary and the material first ignited moves or was moved, classify in division 4. Where both the heat of ignition and the material first ignited move or were moved, classify here (division 3). Misuse of smoking materials should be classified in the most appropriate subdivision of division 3.

31. Abandoned, discarded heat source.  
Included are discarded cigarettes, cigars, tobacco embers, hot ashes, other burning matter.  
Excluded are outside fires left unattended, smoking materials abandoned if asleep (33), impairment by drugs or alcohol (37), or other impairments (38).
32. Thawing.
33. Falling asleep.  
Included are fires that result from a person smoking when he falls asleep.
34. Inadequate control of open fire.  
Included are smoking out animals, campfires, debris burning, outside fires left unattended.
35. Heat source used or placed too close to combustibles.  
Included are matches or candles used for light in unsafe places; welding or cutting operations; fires under tree branches, snags; timber hauling block hung improperly; and failure to clear debris from around campfires or engines.  
Excluded are heat sources permanently installed too close to combustibles (63).
36. Children playing with heat sources.  
Included are matches, candles.  
Excluded are intentional acts (11).
37. Person impaired by drug or alcohol.  
Included are people who fall asleep as a result of drugs or alcohol.

Excluded are people who simply fall asleep (33).

38. Person otherwise impaired.  
Included are unconsciousness; mental, physical impairment.  
Excluded are people simply falling asleep (33).
39. Misuse of Heat of Ignition not classified above.
30. Misuse of Heat of Ignition; insufficient information available to classify further.

### 4. Misuse of Material Ignited

Where the heat of ignition moves or was moved, and the material first ignited was stationary, classify in division 3. Where the heat of ignition was stationary and the material first ignited moves or was moved, classify here (division 4). Where both the heat of ignition and the material first ignited move or were moved, classify in division 3. Misuse of smoking materials should be classified in the most appropriate heading of division 3.

41. Flammable liquid or gas spilled, released accidentally.  
Excluded are improper fueling (42) and accidental release due to improper container (45).
42. Improper fueling technique.  
Included are fueling of power saws, vehicles, gasoline motors.  
Excluded are flammable gas, liquids spilled or released accidentally (41).
43. Flammable liquid used to kindle fire.
44. Washing part, cleaning, refinishing, painting with flammable liquid.
45. Improper container.  
Included are gasoline in glass, plastic containers.
46. Combustible placed too close to heat source.  
Included are storage near chimney, stovepipe, furnace, stove, incinerator.  
Excluded are situations where smoking materials were involved (division 3); or where both the heat of ignition and the material first ignited moved (division 3); or where combustibles are permanently installed too close to a heat source (63).
47. Improper storage procedures.  
Included are spontaneous ignition, gas containers stored at excessive temperature.
48. Children playing with combustibles.  
Included are gasoline, flammable liquids, pillows, towels.  
Excluded are intentional acts (11).
49. Misuse of Material Ignited not classified above.
40. Misuse of Material Ignited; insufficient information available to classify further.

### 5. Mechanical Failure, Malfunction

Where the heat of ignition and the material first ignited are both stationary, classify in division 5 or 6.

51. Automatic control failure.
52. Manual control failure.
53. Short circuit, ground fault.
54. Other part failure, leak, break.
55. Other electrical failure.
56. Lack of maintenance, worn out.  
Included are failures to maintain, burned-out incinerator, and spark arrester.  
Excluded are short circuits, ground fault (53), and failure to clean (75).

- 57. Backfire.  
Included is ignition outside the combustion chamber.  
Excluded are fires originating as a result of hot catalytic converters (61).
- 59. Mechanical Failure, Malfunction not classified above.
- 50. Mechanical Failure, Malfunction; insufficient information available to classify further.

#### 6. Design, Construction, Installation Deficiency

- 61. Design deficiency.  
Included are catalytic converters, heat from properly operating equipment.
- 62. Construction deficiency.  
Included are improperly built chimneys.
- 63. Installed too close to combustibles.  
Included are structures or interior finish too close to chimneys, stove pipes, furnaces, stoves.  
Excluded is storage too close to heat source (46).
- 64. Other installation deficiency.  
Included are improper installation of spark arrester, flame arrester, muffler, stove pipe, and factory built chimneys.
- 69. Design, Construction, Installation Deficiency not classified above.
- 60. Design, Construction, Installation Deficiency; insufficient information available to classify further.

#### 7. Operational Deficiency

Where equipment was misused whether it moved or not, classify in division 7. Misuse of smoking materials should be classified in division 3.

- 71. Collision, overturn, knockdown.  
Included are automobiles, vehicles.
- 72. Accidentally turned on, not turned off.
- 73. Equipment unattended.
- 74. Equipment overloaded.  
Included are cords serving too many appliances.
- 75. Failure to clean.  
Included are lint or grease buildups; chimneys, stove pipes.
- 76. Improper startup, shutdown procedures.
- 77. Equipment used for purpose not intended.  
Excluded is overloaded equipment (74).
- 78. Equipment not being operated properly.  
Included are situations where safety or control devices are bypassed.
- 79. Operational Deficiency not classified above.
- 70. Operational Deficiency; insufficient information available to classify further.

#### 8. Natural Condition

For use where the natural condition below changed a normally safe operation into an unsafe one.

- 81. High wind.
- 82. Earthquake.
- 83. High water, including floods.
- 84. Lightning.
- 85. Low humidity that changes a normally safe operation into an unsafe one.  
Excluded are static spark discharges (division 6).
- 89. Natural Condition not classified above.

- 80. Natural Condition; insufficient information available to classify further.

#### 9. Other Ignition Factor

- 91. Animal.
- 92. Rekindled from a previous fire.
- 93. Exposure fire.
- 99. Ignition Factor not classified above.
- 90. Other Ignition Factor, insufficient information to classify further.
- 00. Ignition Factor undetermined or not reported.

### Chapter J. The Incident Report

**Purpose:** This chapter provides categories to be used in the collection of data to identify the important features of the incident. Included are time sequences, method of alarm, incident type, type of action taken, factors affecting fire development, and factors influencing fire service operations.

#### Definitions:

**ALARM.** Any notification made to the fire department that a situation exists or may exist that requires a response.

**INCIDENT.** The movement of a piece of fire service apparatus or equipment in response to an alarm.

**Noncoded Data:** With any incident report, there is certain administrative information which is desirable. Chief among this is the location of the property or incident. It is desirable to record information such as:

- (a) Street name and number.
- (b) Local name and designation of property.
- (c) Community or subdivision.
- (d) City, county, state, or province including post office code.
- (e) Census tract.
- (f) Property representative to contact.
- (g) Address and telephone number of property representative.

Information on the use of resources (personnel, apparatus, and equipment) can also be recorded without coding, as it is normally recorded as direct numbers.

#### Coded Data:

#### J.A. Incident Identification

##### JAA. Incident Number

The incident number may be denoted in many ways, but an effective method is to number the incidents consecutively on receipt allowing a sufficient number of digits for the number of alarms expected for one year. For example: The 156th alarm would be 0156 or 00156.

##### JAB. Incident Vital Statistics

The time, day, and date are recorded as follows:

**Time by 24-hour clock**

1:00 AM = 0100  
 1:00 PM = 1300  
 12:00 midnight = 2400  
 12:01 AM = 0001

NOTE: There is no time = 0000.

**Day of week — one digit**

Sunday = 1  
 Monday = 2  
 Tuesday = 3  
 Wednesday = 4  
 Thursday = 5  
 Friday = 6  
 Saturday = 7

**Month of year — two digits**

January = 01  
 December = 12

**Day of the month — two digits**

01, 02, ..., 30, 31

**Year of century — two digits**

Example: 1976 = 76

**JB. Alarm Information****JBA. Method of Alarm to the Fire Department**

The method by which the incident was brought to the attention of the fire department.

1. Telephone direct to fire department.  
 The reporting person direct dials the fire alarm center.  
 Included are commercial and private telephone facilities.  
 "911" systems are only included if the fire alarm center receives all "911" calls directly. For tie-line calls, see 7 below.
2. Municipal fire alarm system.  
 Included are telegraph systems, radio systems, voice signal systems and auxiliary connections to them.
3. Private fire alarm system.  
 Included are signals received from central stations and remote stations.
4. Radio.  
 Included are fires reported by radio from vehicles on fire department, police department, natural resources department, or citizens band radio frequencies directly to alarm headquarters.
5. Direct report to a fire station (verbal). Included are fires seen from or reported to a fire station.
6. No alarm received — no response.  
 Included are fires reported to or observed by fire department personnel after they have been extinguished by others and are cold.
7. Telephone tie-line to fire department.  
 The reporting person direct dials another emergency agency.  
 Included are all calls received over a direct telephone tie-line from another emergency call center or facility tied directly to the fire department.

ment. The "911" system is included here when the civilian gets a police call center or another call center and his call is transferred to the fire alarm center.

8. Telephone from private citizen receiving radio call. Included are telephone calls from persons who receive notification via citizens band radio.
9. Method of Alarm to the Fire Department not classified above.
0. Method of Alarm to the Fire Department undetermined or not reported.

**JC. Situation Found****JCA. Type of Incident**

The type of incident reported should reflect the most serious situation that occurred whether it was present when the first apparatus arrived or not.

**1. Fire, Explosion.**

Included are fires out-on-arrival and combustion explosions with no after-fire. Excluded are overheating (25), unauthorized burning (56), and controlled burning (63).

11. Structure fire (not included in 12 or 13 below).  
 Included are fires inside a structure whether or not there was damage to the structure itself.
12. Fire in mobile property when used as a structure.  
 Included are mobile homes, motor homes, camping trailers and other mobile property when not in transit and used as a structure for residential, commercial, or other purposes. (Use Chapter C to classify the type of mobile property and Chapter B to classify how it is used.)
13. Fire in mobile property while inside a structure.  
 Use Chapter C to classify the type of mobile property and Chapter B to classify the specific use of the area where the mobile property was located when the fire occurred.
14. Fire in mobile property outside a structure.  
 Included are mobile properties normally used as structures, while in transit and vehicles.
15. Fire in trees, brush, grass, standing crops.
16. Refuse fire outside.  
 Included are all hostile fires outside a structure or vehicle (not included above) where the material burning has negligible value and fires in mechanically moved waste or rubbish containers outside a structure.
17. Other outside fire (not included in 15 above).  
 Included are all hostile fires outside a structure or vehicle where the material burning has definable value.
19. Fire, Explosion not classified above.
10. Fire, Explosion; insufficient information to classify further.

**2. Overpressure Rupture, Explosion, Overheat (no ensuing fire)**

21. Steam rupture.  
 Excluded is steam mistaken for smoke when the steam is being released from a normal vent or relief valve (65).
22. Air, gas rupture.
23. Process vessel explosion (no fire).

- 24. Munition explosion (no fire).  
Included are bombs, dynamite, and similar explosives.
- 25. Excessive heat, overheat scorch burns with no ignition.
- 29. Overpressure Rupture, Explosion, Overheat not classified above.
- 20. Overpressure Rupture, Explosion, Overheat; insufficient information available to classify further.

### 3. Rescue, Emergency Medical Call

- 31. Emergency medical assist.  
Included are incidents where assistance is provided to another group or agency that has primary EMS responsibility.
- 32. Emergency medical call.  
Included are checking for injuries, treatment for shock, and the like.
- 33. Lock-in.
- 34. Person(s) lost.
- 35. People trapped, caught, buried.  
Included are people trapped in elevators, entangled in vehicle wreckage, and hanging from a cliff or building.
- 36. Drowning, potential drowning.  
Included are persons stranded on ice.
- 37. Electrocution.
- 39. Rescue, Emergency Medical Call not classified above.
- 30. Rescue, Emergency Medical Call; insufficient information available to classify further.

### 4. Hazardous Condition, Standby

Included are potential accidents.

- 41. Flammable gas or liquid condition.  
Included are gas leaks and gasoline or other flammable liquid spills.
- 42. Toxic condition.  
Included are toxic chemical spills.
- 43. Radioactive condition.
- 44. Electrical arcing, shorted electrical equipment.  
Included are power lines down and incidents where disconnection of the electrical energy clears the emergency.  
Excluded are emergencies where there is a sustained fire after the electrical energy has been disconnected (division 1).
- 45. Oil burner delayed ignition (no fire outside firebox).  
If fire is outside firebox, classify in division 1 (fire).
- 46. Vehicle accident, potential accident.  
Included are incidents where there is a perceived problem with a vehicle (automobile, airplane, train, ship, etc.)
- 47. Explosive present.
- 48. Attempted burning, illegal action.  
Included are situations where incendiary devices fail to function.
- 49. Hazardous Condition, Standby not classified above.
- 40. Hazardous Condition, Standby; insufficient information available to classify further.

### 5. Service Call

- 51. Person in distress.  
Included are persons locked out, needing a ring removed, needing assistance in returning to bed.
- 52. Water problem.
- 53. Smoke, odor problem.  
Included are actual smoke conditions regardless of its source.  
Excluded are smoke conditions from a hostile fire (division 1).
- 54. Animal problem.
- 55. Public service assistance.  
Included is police assistance.
- 56. Unauthorized burning.  
Included are fires that are under control and not endangering property.  
Excluded are fires where burning is authorized and under control (63).
- 57. Cover assignment, standby at fire station, move-up.
- 59. Service Call not classified above.
- 50. Service Call; insufficient information available to classify further.

### 6. Good Intent Call

- 61. Incident cleared prior to arrival.  
Included are incidents where apparatus is placed in service prior to its arrival on the scene.  
Excluded are fires out on arrival (division 1).
- 62. Wrong location.
- 63. Controlled burning.  
Included are fires where burning is authorized and under control.
- 64. Vicinity alarm.  
Included are separate locations reported for an actual fire and multiple boxes pulled for one fire.
- 65. Steam, other gas mistaken for smoke.
- 66. EMS call where injured parties have been transported or left scene prior to arrival.
- 69. Good Intent Call not classified above.
- 60. Good Intent Call; insufficient information available to classify further.

### 7. False Call

- 71. Malicious, mischievous false call.
- 72. Bomb scare, no bomb.
- 73. System malfunction.
- 74. Unintentional.  
Included are tripping an interior device accidentally, running a drain test without knowledge of the alarm connection, and the like.
- 79. False Call not classified above.
- 70. False Call; insufficient information available to classify further.

### 8. Natural Disaster

When response is to another specific type of incident during these disasters, classify the type of incident more specifically using the classifications above.

- 81. Earthquake.
- 82. Flood.
- 83. Wind storm.  
Included are tornado, hurricane, cyclone, etc.

- 84. Lightning strike.
- 89. Natural Disaster not classified above.
- 80. Natural Disaster; insufficient information available to classify further.

### 9. Other Type of Incident

- 91. Citizen's complaint.  
Included are reports of code or ordinance violation.
- 99. Type of Incident not classified above.
- 00. Type of Incident undetermined or not reported.

### JCB. Condition of Fire on Arrival

- 1. Emergency cleared prior to arrival.
- 2. Fire with no evidence visible from street.
- 3. Fire with smoke showing only.  
Included are smoldering wildland fires.
- 4. Flames showing from small area.  
Included are flames showing on one story or less, flames showing from part of a vehicle, and creeping fires in wildlands.
- 5. Flames showing from large area.  
Included are flames showing on more than one story and running, spotting wildfire.
- 6. Fully involved.  
Included are total involvement of a structure or vehicle and crowning wildfires.
- 7. Exposure involved.  
Included are multiple structures/vehicles involved and wildfires which also involve structures or vehicles.
- 9. Condition of Fire on Arrival not classified above.
- 0. Condition of Fire on Arrival undetermined or not reported.

### JD. Action Taken

#### JDA. Type of Action Taken

Where more than one action is applicable report the one that is highest on the list.

- 11. Rescue, ventilation, extinguishment, salvage, and overhaul.
- 12. Ventilation, extinguishment, salvage, and overhaul.
- 13. Extinguishment, salvage, and overhaul.
- 14. Salvage and overhaul.
- 15. Extinguishment.
- 16. Smoke removal.
- 17. Establish wildfire fire lines.  
Included are setting and controlling backfires and clearing firebreaks.
- 31. Rescue, remove from harm.  
Included is providing emergency medical service to those rescued if needed.
- 32. Extrication, disentanglement.  
Included is providing emergency medical service to those extricated if needed.
- 33. Provide emergency medical service.
- 34. Provide manpower.  
Included are assisting police or rescue/ambulance units.
- 35. Search.
- 36. Transport.
- 37. Forcible entry.

- 41. Remove hazard.  
Included is neutralizing a hazardous condition, containing a spill.
- 42. Identification/analysis of hazardous materials.
- 43. Evacuation.
- 44. Establish safe area.
- 45. Monitor/sample hazardous materials.
- 46. Decontamination of persons/equipment.
- 47. Decontamination of occupancy/area.
- 51. Assist invalids.
- 52. Fill in, move up.
- 53. Standby, firewatch.
- 54. Water removal.
- 55. Restore sprinkler system.
- 56. Restore alarm system.
- 57. Assist animal.  
Included are capturing, removing, rescuing animals.
- 61. Crowd control.
- 62. Traffic control.
- 63. Notify other agencies including mutual/automatic aid, state emergency agencies, etc.
- 64. Provide public and media information.
- 71. Investigate.
- 72. Placed in service en route.
- 73. Shut down system.
- 81. Restore city services.  
Included are restoring water supplies and public fire alarm systems.
- 82. Secure property.
- 91. Code enforcement.
- 92. Refer to proper authority.
- 98. No action taken.
- 99. Type of Action Taken not classified above.
- 00. Type of Action Taken undetermined or not reported.

#### JDB. Method of Extinguishment

The mechanism by which the fire was finally extinguished.

- 1. Self-extinguished.
- 2. Makeshift aids.  
Included are garden hoses, sand, rakes, shovels, baking soda, and the like.
- 3. Portable extinguisher.
- 4. Automatic extinguishing system.
- 5. Water carried on apparatus initially assigned to the incident (first alarm units).
- 6. Water from hydrant, draft, or standpipe.
- 7. Water from tanker shuttle regardless of where tankers are refilled.
- 8. Ground crews with equipment and/or air support.
- 9. Method of Extinguishment not classified above.
- 0. Method of Extinguishment undetermined or not reported.

#### JDC. Reason for Follow-Up

This data element is for use in identifying why a fire is of interest and is being followed-up or is being investigated in depth.

- 1. Fatality, injury.
- 2. High dollar loss.
- 3. Incendiary, suspicious.
- 4. Determine responsibility.

5. Code violation suspected.
6. Structure deficiency suspected.
7. Other problem suspected.
8. Special request.
9. Reason for Follow-Up not classified above.
0. Reason for Follow-Up undetermined or not reported.

### JE. Origin Information

#### JEA. Level of Origin

##### 1. Structure with Floors, Origin Above Ground.

11. Grade level.
12. Second story above grade.
13. Third story above grade.
14. 4th - 5th story above grade.
15. 6th - 10th story above grade.
16. 11th - 15th story above grade.
17. 16th - 20th story above grade.
18. Over 20th story above grade.
10. Undetermined level above grade inside structure.

##### 2. Structure with Floors, Origin Below Grade.

21. 1 story below grade.
22. Second story below grade.
23. Third story below grade.
24. 4th - 5th story below grade.
25. 6th - 10th story below grade.
26. 11th - 15th story below grade.
27. 16th - 20th story below grade.
28. Over 20th story below grade.
20. Undetermined level below grade inside structure.

##### 3. Structure with No Floors or Floors of Irregular Heights and for Fires on the Exterior of Buildings or Outside, Origin Above Ground.

31. Grade to 3 m (9 ft) above grade.
32. 3.1 to 6 m (10 to 19 ft) above grade.
33. 6.1 to 9 m (20 to 29 ft) above grade.
34. 9.1 to 15 m (30 to 49 ft) above grade.
35. 15.1 to 30 m (50 to 99 ft) above grade.
36. 30.1 to 45 m (100 to 149 ft) above grade.
37. 45.1 to 60 m (150 to 199 ft) above grade.
38. 60.1 m (200 ft) or over above grade.
30. Undetermined level above grade (nonstructure or no floors).

##### 4. Structure with No Floors or Floors of Irregular Heights and for Fires on the Exterior of Buildings or Outside, Origin Below Ground.

Included here are tunnels, mass transit stations and mines.

41. Grade to 3 m (9 ft) below grade.
42. 3.1 to 6 m (10 to 19 ft) below grade.
43. 6.1 to 9 m (20 to 29 ft) below grade.
44. 9.1 to 15 m (30 to 49 ft) below grade.
45. 15.1 to 30 m (50 to 99 ft) below grade.
46. 30.1 to 45 m (100 to 149 ft) below grade.
47. 45.1 to 60 m (150 to 199 ft) below grade.
48. 60.1 m (200 ft) or over below grade.
40. Undetermined level below grade (nonstructure or no floors).

#### 0. Level of Origin Unclassified.

00. Level of Origin undetermined or not reported.

#### JEB. Occupant of Room or Space of Origin at Time of Ignition

NOTE: An occupant is any person within the room or space where the fire originated.

1. Owner.  
Included are family members.
2. Employee and/or customer.
3. Lessee, renter, guest, patient.  
Included are family members.
4. Maintenance personnel.
5. Contractor on premises.
6. Trespasser.  
Included are fires in stolen vehicles.
7. Room or space of origin temporarily not occupied.  
Included are spaces where there have been no people present for up to one week.
8. Room or space of origin not occupied.  
Included are spaces where there have been no people present for one week or more.
9. Occupant of Room or Space of Origin at Time of Ignition not classified above.
0. Occupant of Room or Space of Origin at Time of Ignition undetermined or not reported.

#### JEC. Activity Involved in Fire Start

1. Inside activity normal to occupancy of structure.
2. Inside activity not normal to occupancy of structure.
3. Outside commercial activity.  
Included are logging operations, farming, construction, and transportation.
4. Outside noncommercial activity not recreational.
5. Hunting, fishing, hiking, sightseeing.
6. Camping, picnicking.
7. Off-road vehicular use.  
Included are the use of motor bikes, all terrain vehicles, and motor vehicles.
8. Malicious activity.
9. Activity Involved in Fire Start not classified above.  
Included are fires where there is no activity involved.
0. Activity Involved in Fire Start undetermined or not reported.

#### JED. Occupant Condition Factor

Mobile is defined as having the ability to move 45 m (150 ft) in 90 seconds unaided. Children under 5 years old, invalids, persons confined to a specific small area and the like are generally non-mobile. Impaired persons include those under the influence of alcohol or drugs whose ability to act is impaired.

1. All mobile with at least one responsible person awake.
2. All mobile - all asleep.
3. Mobile and non-mobile or impaired, with at least one responsible mobile person awake.
4. Mobile and non-mobile or impaired, all asleep.
5. All non-mobile or impaired.
6. Dead before ignition.

8. No occupants.
9. Occupant Condition Factor not classified above.
0. Occupant Condition Factor undetermined or not reported.

### JEE. Fuel Model

Fuel model is a simulated fuel complex for which all the required fuel descriptors have been determined. It consists of a complete set of the fuel parameters required for solution of the mathematical model. Fuel models were devised as a means for organizing the required wildland fuels information that is used in the National Fire Danger Rating System to predict the behavior of a potential wildfire.

01. Fuel Model A - Annual grasses.

This fuel model represents grasslands vegetated by annual grasses and forbs. Brush or trees may be present but are very sparse, occupying less than one-third of the area. Examples of types where Fuel Model A should be used are cheatgrass and medusahead. Open pinyon-juniper, sagebrush-grass, and desert shrub association may appropriately be assigned this fuel model if the woody plants meet the density criteria. The quantity and continuity of the ground fuels vary greatly with rainfall from year to year.

02. Fuel Model B - Mature brush [2 m (6 ft) and over].

Mature, dense fields of brush 2 m (6 ft) or more in height are represented by this fuel model. One-fourth or more of the aerial fuel in such stands is dead. Foliage burns readily. Model B fuels are potentially very dangerous, fostering intense, fast-spreading fires. This model is for California mixed chaparral generally 30 years or older. The B model is more appropriate for pure chamise stands. The B model may also be used for the New Jersey pine barrens.

03. Fuel Model C - Open pine with grass.

Open pine stands typify Model C fuels. Perennial grasses and forbs are the primary ground fuel but there is enough needle litter and branchwood present to contribute significantly to the fuel loading. Some brush and shrubs may be present but they are of little consequence. Situations covered by Fuel Model C are open, longleaf, slash, ponderosa, Jeffrey, and sugar pine stands. Some pinyon-juniper stands may qualify.

04. Fuel Model D - Southern rough.

This fuel model is specifically for the palmetto-gallberry understory-pine overstory association of the southeast coastal plains. It can also be used for the so-called "low pocosins" where Fuel Model O might be too severe. This model should only be used in the Southeast because of a high moisture of extinction.

05. Fuel Model E - Hardwood litter (fall).

Use this model after leaf fall for hardwood and mixed hardwood-conifer types where the hardwoods dominate. The fuel is primarily hardwood leaf litter. The oak-hickory types are best represented by Fuel Model E, but E is an acceptable choice for northern hardwoods and mixed forests of the Southeast. In high winds, the fire danger may be underrated because rolling and

blowing leaves are not accounted for. In the summer after the trees have leafed out, Fuel Model E should be replaced by Fuel Model R.

06. Fuel Model F - Intermountain West brush.

Model F represents mature closed chamise stands and oakbrush fields of Arizona, Utah, and Colorado. It also applies to young, closed stands and mature, open stands of California mixed chaparral. Open stands of pinyon-juniper are represented; however, fire activity will be overrated at low windspeeds and where there are sparse ground fuels.

07. Fuel Model G - West Coast conifers; close, heavy down materials.

Fuel Model G is used for dense conifer stands where there is a heavy accumulation of litter and downed woody material. Such stands are typically overmature and may also be suffering insect, disease, wind, or ice damage - natural events that create a very heavy buildup of dead material on the forest floor. The duff and litter are deep and much of the woody material is more than 7.5 cm (3 in.) in diameter. The undergrowth is variable, but shrubs are usually restricted to openings. Types meant to be represented by Fuel Model G are hemlock-Sitka spruce, Coast Douglas-fir, and wind-thrown or bug-killed stands of lodgepole pine and spruce.

08. Fuel Model H - Short needle conifers; normal, down woody materials.

The short-needled conifers (white pines, spruces, larches, and firs) are represented by Fuel Model H. In contrast to Model G fuels, Fuel Model H describes a healthy stand with sparse undergrowth and a thin layer of ground fuels. Fires in H fuels are typically slow spreading and are dangerous only in scattered areas where the downed woody material is concentrated.

09. Fuel Model I - Heavy slash, clearcut conifers greater than 25 tons per acre.

Fuel Model I was designed for clearcut conifer slash where the total loading of materials less than 15 cm (6 in.) in diameter exceeds 25 tons/acre. After settling and the fines (needles and twigs) fall from the branches, Fuel Model I will overrate the fire potential. For lighter loadings of clearcut conifer slash, use Fuel Model J, and for light thinnings and partial cuts where the slash is scattered under a residual overstory, use Fuel Model K.

10. Fuel Model J - Medium slash, heavily thinned conifers (less than 25 tons per acre).

This model complements Fuel Model I. It is for clearcuts and heavily thinned conifer stands where the total loading of materials less than 15 cm (6 in.) in diameter is less than 25 tons/acre. Again, as the slash ages, the fire potential will be overrated.

11. Fuel Model K - Light slash (less than 15 tons per acre).

Slash fuels from light thinnings and partial cuts in conifer stands are represented by Fuel Model K. Typically the slash is scattered about under an open overstory. This model applies to hardwood slash and to southern pine clearcuts where the loading of all fuels is less than 15 tons/acre.



12. **Fuel Model L** Perennial grasses.  
This fuel model is meant to represent grasslands vegetated by perennial grasses. The principal species are coarser and the loading heavier than those in Model A fuels. Otherwise the situations are very similar; shrubs and trees occupy less than one-third of the area. The quantity of fuel in these areas is more stable from year to year. In sagebrush areas Fuel Model T may be more appropriate.
13. **Fuel Model N** Saw grass, marsh needle-like grass.  
This fuel model was constructed specifically for the sawgrass prairies of south Florida. It may be useful in other marsh situations where the fuel is coarse and reedlike. The model assumes that one-third of the aerial portion of the plants is dead. Fast-spreading, intense fires can occur even over standing water.
14. **Fuel Model O** High pocosin.  
The O fuel model applies to dense, brushlike fuels of the Southeast. O fuels, except for a deep litter layer, are almost entirely living in contrast to B fuels. The foliage burns readily except during the active growing season. The plants are typically over 2 m (6 ft) tall and are often found under an open stand of pine. The high pocosins of the Virginia, North and South Carolina coasts are the ideal of Fuel Model O. If the plants do not meet the 2-m (6-ft) criteria in those areas, Fuel Model D should be used.
15. **Fuel Model P** Southern long-needle pine.  
Closed, thrifty stands of long-needled southern pines are characteristic of P fuels. A 5- to 10-cm (2- to 4-in.) layer of lightly compacted needle litter is the primary fuel. Some small-diameter branchwood is present but the density of the canopy precludes more than a scattering of shrubs and grass. Fuel Model P has the high moisture of extinction characteristic of the Southeast. The corresponding model for other long-needled pines is U.
16. **Fuel Model Q** Alaska black spruce.  
Upland Alaskan black spruce is represented by Fuel Model Q. The stands are dense but have frequent openings filled with usually flammable shrub species. The forest floor is a deep layer of moss and lichens, but there is some needle litter and small-diameter branchwood. The branches are persistent on the trees, and ground fires easily reach into the tree crowns. This fuel model may be useful for jack pine stands in the Lake States. Ground fires are typically slow spreading, but a dangerous crowning potential exists.
17. **Fuel Model R** Hardwood litter (summer).  
This fuel model represents the hardwood areas after the canopies leaf out in the spring. It is provided as the off-season substitute for F. It should be used during the summer in all hardwood and mixed conifer-hardwood stands where more than half of the overstory is deciduous.
18. **Fuel Model S** - Tundra.  
Alaskan or alpine tundra on relatively well-drained sites is the S fuel. Grass and low shrubs are often present, but the principal fuel is a deep layer of lichens and moss. Fires in these fuels are not fast spreading or intense, but are difficult to extinguish.
19. **Fuel Model T** - Sagebrush with grass.  
The bothersome sagebrush-grass types of the Great Basin and the Intermountain West are characteristic of T fuels. The shrubs burn easily and are not dense enough to shade out grass and other herbaceous plants. The shrubs must occupy at least one-third of the site or the A or L fuel models should be used. Fuel Model I might be used for immature scrub oak and desert shrub associations in the West, and the scrub oak-wire grass type in the Southeast.
20. **Fuel Model U** Western long-leaf pine.  
Closed stands of western long-needled pines are covered by this model. The ground fuels are primarily litter and small branchwood. Grass and shrubs are precluded by the dense canopy but occur in the occasional natural opening. Fuel Model U should be used for ponderosa, Jeffrey, sugar pine, and red pine stands of the Lake States. Fuel Model P is the corresponding model for southern pine plantations.
98. Fuel Model not applicable.
00. Fuel Model undetermined or not reported.

## **JEF. Factor Contributing to Hazardous Materials Container Failure**

### **1. Metal Container Failure**

11. Metal container failure due to impact against other object.
12. Metal container failure as a result of internal reaction of contents.
13. Metal container failure as a result of reaction from foreign substance.
19. Metal Container Failure not classified above.
10. Metal Container Failure; insufficient information to classify further.

### **2. Paper or Cardboard Container Failure**

21. Paper or cardboard container failure due to impact against other object.
22. Paper or cardboard container failure as a result of internal reaction of contents.
23. Paper or cardboard container failure as a result of reaction from foreign substance.
29. Paper or Cardboard Container Failure not classified above.
20. Paper or Cardboard Container Failure; insufficient information to classify further.

### **3. Plastic Container Failure**

31. Plastic container failure due to impact against other object.
32. Plastic container failure as a result of internal reaction of contents.
33. Plastic container failure as a result of reaction from foreign substance.
39. Plastic Container Failure not classified above.
30. Plastic Container Failure; insufficient information to classify further.

**4. Wood Container Failure**

- 41. Wood container failure due to impact against other object.
- 42. Wood container failure as a result of internal reaction of contents.
- 43. Wood container failure as a result of reaction from foreign substance.
- 49. Wood Container Failure not classified above.
- 40. Wood Container Failure; insufficient information to classify further.

**5. Glass Container Failure**

- 51. Glass container failure due to impact against other object.
- 52. Glass container failure as a result of internal reaction of contents.
- 53. Glass container failure as a result of reaction from foreign substance.
- 59. Glass Container Failure not classified above.
- 50. Glass Container Failure; insufficient information to classify further.

**9. Other Container Failure**

- 91. Other container failure due to impact against other object.
- 92. Other container failure as a result of internal reaction of contents.
- 93. Other container failure as a result of reaction from foreign substance.
- 99. Other Container Failure not classified above.
- 00. Container Failure undetermined or not reported.

**JF. Flame and Smoke Information****JFA. Factor Contributing to Flame Travel**

The factor or avenue that allowed rapid, unusual, or intense flame spread (char) beyond the room or area of origin.

**1. Interior Finish**

- 11. Combustible ceiling finish, covering.
- 12. Combustible wall finish, covering.
- 13. Combustible floor finish, covering.
- 14. Combustible ceiling and wall finish, covering.
- 15. Combustible ceiling and floor finish, covering.
- 16. Combustible wall and floor finish, covering.
- 17. Combustible ceiling, wall, floor finish.
- 19. Interior Finish allowing fire spread not classified above.

**2. Structural Factor Allowing Vertical Travel**

- 21. Nonenclosed stairwell, elevator shaft.
- 22. Inadequate firestopping.  
Included are inside of walls, around pipes, poke-throughs, and the like.
- 23. Air-handling ducts.
- 24. Utility shaft, pipe shaft.
- 25. Failure of a rated assembly.
- 26. Exterior spread.
- 27. Floor, ceiling.
- 29. Structural Factor Allowing Vertical Travel not classified above.

**3. Structural Factor Allowing Horizontal Travel**

- 31. Air-handling duct.
- 32. Attic space, ceiling, concealed space.
- 33. Door burned through.
- 34. Door open.
- 35. Corridor, excessive open area.
- 36. Utility opening, pipe opening.
- 37. Window.
- 38. Wall.
- 39. Structural Factor Allowing Horizontal Travel not classified above.

**4. Physical Transfer of Material Ignited**

- 41. Human being, animal.
- 42. Conveyor, special materials handling equipment.
- 43. Gravity (fell on).
- 44. Wind.
- 45. Pipeline, material transfer system.
- 49. Physical Transfer of Material Ignited not classified above.

**5. Building Contents**

- 51. Decoration.
- 52. Furniture, fixture.
- 53. Flammable liquid not properly handled or contained.
- 54. Flammable gas not properly handled or contained.
- 55. Flammable dust, solid chemical.
- 56. Explosive, fireworks.
- 57. Stored material.
- 59. Building Contents not classified above.

**9. Other Flame Travel Factor**

- 98. No important factor contributing to flame travel.
- 99. Factor Contributing to Flame Travel not classified above.
- 00. Factor Contributing to Flame Travel undetermined or not reported.

**JFB. Avenue of Smoke Travel**

The avenue that allowed the smoke to travel beyond the room or area of origin.

- 1. Air-handling duct.
- 2. Corridor.
- 3. Elevator shaft.
- 4. Stairwell.
- 5. Opening in construction.  
Included are gaps between slabs and walls, over doors, and the like.
- 6. Utility opening.
- 7. Doorway, passageway.  
Included are normal openings between rooms. Excluded are smoke travel in corridors (2) and stairwells (4).
- 9. Avenue of Smoke Travel not classified above.
- 0. Avenue of Smoke Travel undetermined or not reported.

**JFC. Method of Heat Transfer**

- 1. Heat from direct flame, convection currents.
- 2. Radiated heat.
- 3. Heat from flying brand, ember, spark.

4. Conducted heat.
9. Method of Heat Transfer not classified above.
0. Method of Heat Transfer undetermined or not reported.

#### **JFD. Structural Collapse of Building Assembly**

1. Exterior wall assembly.
2. Interior wall assembly.
3. Floor assembly.
4. Roof assembly.
5. Column, beam, structural frame.
6. Progressive collapse.
8. No structural collapse.
9. Structural Collapse of Building Assembly not classified above.
0. Structural Collapse of Building Assembly undetermined or not reported.

#### **JFE. Ventilation During Fire Development**

This data element is designed to measure the ventilation available to a developing structure fire in the room of origin prior to suppression attempts.

1. Windows closed/not broken and door closed.
2. Windows open/broken and door closed.
3. Windows closed/not broken and door open.
4. Windows open/broken and door open.
5. Windowless area and door closed.
6. Windowless area and door open.
9. Ventilation During Fire Development not classified above.
0. Ventilation During Fire Development undetermined or not reported.

#### **JG. Time and Delay Information**

##### **JGA. Time from Ignition to Detection**

Ignition occurs the moment heat or overheat reaches the point of self-perpetuated combustion in the combustible ignited whether or not there is open flame.

Detection occurs the moment a person senses the danger or an automatic detector closes its contacts.

1. Less than 1 minute.
2. 1 to 2 minutes.
3. 3 to 5 minutes.
4. 6 to 9 minutes.
5. 10 to 19 minutes.
6. 20 to 39 minutes.
7. 40 to 60 minutes.
8. Over 1 hour.
9. Detected after self-termination or before ignition occurred.  
Included are overheat conditions.
0. Time from Ignition to Detection undetermined or not reported.

##### **JGB. Method of Detection**

The purpose of this section is to identify the first person or system to detect the fire regardless of what action that person or system took toward reporting the fire.

1. Building occupant.
2. Watchman, guard for the property on a full-time basis.

3. Roving police, guard patrol.
4. Passerby.
5. Automatic suppression system with alarm.
6. Automatic fire, heat, smoke detection system.
7. Detected after self-termination.
9. Method of Detection not classified above.
0. Method of Detection undetermined or not reported.

##### **JGC. Time from Detection to Alarm**

Alarm occurs the moment the first signal light or sound arrives at the fire alarm center of the officially responding organization. This is generally a public fire department facility, but could be an organized and manned private fire department. It is not a building guard, a building manager, telephone operator, or a maintenance shop.

1. Less than 1 minute.
2. 1 to 2 minutes.
3. 3 to 5 minutes.
4. 6 to 9 minutes.
5. 10 to 19 minutes.
6. 20 to 39 minutes.
7. 40 to 60 minutes.
8. Over 1 hour.
9. Fire detected but no alarm given.  
Included are fires that have burned themselves out when detected and fires where the person discovering the fire extinguishes it without notifying the authorities.
0. Time from Detection to Alarm undetermined or not reported.

##### **JGD. Delay in Alarm**

Cause for unusual delay in transmission of alarm to the fire department once the person detected the fire.

1. Physically, mentally disabled (not fire related).
2. Assumed call was made, used undue time in verifying that there was a fire.
3. Too busy with emergency.
4. Thought could control fire by self.
5. Couldn't get through to fire department on phone.
6. Couldn't get correct message conveyed.
7. Alarm transmission system failure.  
Included are alarm box malfunctions.
8. No unusual delay.
9. Delay in Alarm not classified above.
0. Delay in Alarm undetermined or not reported.

##### **JGE. Time from Alarm to Extinguishing Agent Application**

The time of extinguishing agent application is when the agent first hits the flame. This time segment is generally controlled by Fire Service Management.

1. Agent applied before alarm to fire department.
2. Less than 2 minutes.
3. 2 to 5 minutes.
4. 6 to 9 minutes.
5. 10 to 19 minutes.
6. 20 to 39 minutes.
7. 40 to 60 minutes.
8. Over 1 hour.
9. No agent application necessary.

0. Time from Alarm to Extinguishing Agent Application undetermined or not reported.

#### **JGF. Delay in Arrival**

Cause for unusual delay in arrival of the first fire service apparatus at the scene.

1. Apparatus at false alarm.
2. Apparatus at other alarm.
3. Apparatus failure.
4. Signal not properly transmitted or received.
5. Traffic delay en route.  
Included are railroad crossing delays, traffic congestion, vehicles involved in accident, and the like.
6. Couldn't find fire once at site.  
Included are wrong address given and no one at alarm box to direct apparatus.
7. Severe weather conditions slowed apparatus or prevented response to the immediate area of the incident.
8. No unusual delay.
9. Delay in Arrival not classified above.
0. Delay in Arrival undetermined or not reported.

#### **JGG. Delay in Application of Extinguishing Agent**

Cause for unusual delay after the arrival of fire fighting apparatus before extinguishing agents are applied to the fire.

1. Hydrant inaccessible.  
Included are parked cars, poor location, and the like.
2. Hydrant malfunctions.
3. Other external water supply malfunctions.
4. Building water supply malfunctions.  
Included are hose failures, valve failures, stand-pipe problems, pump problems, siamese connection problems, and the like.
5. Building equipment malfunctions.  
Included are elevators, HVAC systems, alarm systems, and the like.
6. Permanent obstructions.  
Included are gates, locks, walls, small sash, and the like.
7. Temporary obstructions.  
Included are high piled stock, confusing partition layouts, and the like.
8. No unusual delay in application of agent.
9. Delay in Application of Extinguishing Agent not classified above.
0. Delay in Application of Extinguishing Agent undetermined or not reported.

#### **JGH. Time from Extinguishing Agent Application to Fire Blackout**

Blackout is when all evidence of open flame or glow of burned material has been removed.

1. Less than 2 minutes.
2. 2 to 5 minutes.
3. 6 to 9 minutes.
4. 10 to 19 minutes.
5. 20 to 39 minutes.
6. 40 to 59 minutes.
7. 1 to 2 hours.

8. Over 2 hours.
9. No agent application necessary.
0. Time from Extinguishing Agent Application to Fire Blackout undetermined or not reported.

#### **JGI. Probable Burning Time**

1. Less than 1 minute.
2. 1 to 5 minutes.
3. 6 to 15 minutes.
4. 16 to 30 minutes.
5. 31 to 45 minutes.
6. 46 to 90 minutes.
7. 91 to 180 minutes.
8. Over 3 hours.
9. Did not reach or pass through open flame stage.
0. Probable Burning Time undetermined or not reported.

#### **JH. Fire Defense Effectiveness**

##### **JHA. Detector Type**

1. Smoke detector, ionization principle.
2. Smoke detector, photoelectric principle.
3. Smoke detector, undetermined or combined principles.
4. Heat detector, rate of rise.
5. Heat detector, fixed temperature.
6. Heat detector, undetermined or combined principles.
7. Combination of detection principles present in 1 or more devices.
8. No detector present.
9. Other type detector present.  
Included are gas sensing and flame sensing devices.
0. Detector Type undetermined or not reported.

##### **JHB. Detector Power Supply**

1. Battery only.
2. Hard wire only.
3. Plug in only.
4. Hard wire with battery backup.
5. Plug in with battery backup.
6. Mechanical power.  
Included are springs and pressurized cylinders of gas.
7. More than one type of power supply (different detectors).
8. No detector present.
9. Detector Power Supply not classified above.
0. Detector Power Supply undetermined or not reported.

##### **JHC. Performance of Fire Detection Equipment**

1. Detector(s) in the room or space of fire origin, and it alerted the occupants.
2. Detector(s) not in the room or space of fire origin, and it alerted the occupants.
3. Detector(s) in the room or space of fire origin, and it did not operate.
4. Detector(s) not in the room or space of fire origin, and it did not operate.
5. Detector(s) in the room or space of fire origin, but fire too small to require it to operate.

6. Detector(s) operated but were not a factor in the discovery of the fire.
7. Detector(s) operated but the occupants failed to respond to detector notification.
8. No detectors present.
9. Performance of Fire Detection Equipment not classified above.
0. Performance of Fire Detection Equipment undetermined or not reported.

#### **JHD. Performance of Automatic Extinguishing Equipment**

1. Equipment operated and was effective in controlling or extinguishing the fire.
2. Equipment operated and was not effective in controlling or extinguishing the fire.
3. Equipment should have operated but did not.
4. Equipment present but fire too small to require operation.
8. No equipment present in room or space of fire origin.
9. Performance of Automatic Extinguishing Equipment not classified above.
0. Performance of Automatic Extinguishing Equipment undetermined or not reported.

#### **JHE. Performance of Fire Spread Limitation Devices**

Included are enclosing walls, doors, dampers, and the like.

1. Operated satisfactorily.
2. Operated unsatisfactorily.
3. Fire too small to affect performance.
8. No fire spread limitation devices.
9. Performance of Fire Spread Limitation Devices not classified above.
0. Performance of Fire Spread Limitation Devices undetermined or not reported.

#### **JHF. Performance of Exit System**

1. Enabled timely egress for all occupants.
2. Restricted egress for one or more occupants.
3. Prevented egress for one or more occupants.
8. Not a factor in outcome.
9. Performance of Exit System not classified above.
0. Performance of Exit System undetermined or not reported.

#### **JHG. Reason for Sprinkler System Failure**

1. Water shut off.
2. Not enough water discharged to control the fire.
3. Water discharged could not reach the fire.  
Included are fire above sprinklers, fires originating in small unsprinklered spaces, and sprinkler discharge shielded from the fire by stock, machinery, and contents.
4. Sprinkler piping damaged.
5. No sprinklers in room or space of fire origin, including concealed spaces.
8. No sprinkler system failure.
9. Reason for Sprinkler System Failure not classified above.
0. Reason for Sprinkler System Failure undetermined or not reported.

#### **JHH. Reason for Detector Failure**

1. Failure of power supply.  
Included are power supply shut off or disconnected, and batteries missing or discharged.
2. Improper installation or placement of detector.
3. Defective detector instrument.
4. Inadequate maintenance.
8. No detector failure.
9. Reason for Detector Failure not classified above.
0. Reason for Detector Failure undetermined or not reported.

### **II. Weather Information**

#### **JIA. Type of Weather**

1. Clear.
2. Cloudy.
3. Rain.
4. Snow.
5. Hail, sleet, ice storm.
6. Electrical storm.
7. Fog.
8. Hurricane, tornado, earthquake.
9. Type of Weather not classified above.
0. Type of Weather undetermined or not reported.

#### **JIB. Air Temperature**

- | Fahrenheit                                       | Celsius        |
|--|----------------|
| 1. Over 100°                                     | Over 38°       |
| 2. 90° to 100°                                   | 32° to 38°     |
| 3. 80° to 89°                                    | 26° to 31°     |
| 4. 50° to 79°                                    | 10° to 25°     |
| 5. 32° to 49°                                    | 0° to 9°       |
| 6. 10° to 31°                                    | -12° to -1°    |
| 7. -10° to 9°                                    | -23° to -13°   |
| 8. Less than -10°                                | Less than -23° |
| 0. Air Temperature undetermined or not reported. |                |

#### **JIC. Relative Humidity**

1. 80 percent or over.
2. 50 to 79 percent.
3. 40 to 49 percent.
4. 30 to 39 percent.
5. 20 to 29 percent.
6. 10 to 19 percent.
7. 5 to 9 percent.
8. Less than 5 percent.
0. Relative Humidity undetermined or not reported.

#### **JID. Wind Direction**

1. North.
2. Northeast.
3. East.
4. Southeast.
5. South.
6. Southwest.
7. West.
8. Northwest.
9. Shifting winds.
0. Wind Direction undetermined or not reported.

#### **JIE. Wind Speed**

1. Less than 2 km/hr (1 mph).

- Smoke rises vertically.
2. 2 to 6 km/hr (1 to 4 mph).  
Direction of wind shown by smoke drift but not by weather vanes.
  3. 7 to 13 km/hr (5 to 8 mph).  
Wind felt on face; rustles leaves; ordinary vanes moved by wind.
  4. 14 to 22 km/hr (9 to 14 mph).  
Leaves and small twigs in constant motion; wind extends light flag.
  5. 23 to 32 km/hr (15 to 20 mph).  
Wind raises dust and loose papers; small branches are moved.
  6. 33 to 40 km/hr (21 to 25 mph).  
Small trees and leaves begin to sway; crested wavelets form on inland waters.
  7. 41 to 50 km/hr (26 to 31 mph).  
Large branches in motion; whistling heard on wires; umbrellas used with difficulty.
  8. 51 to 74 km/hr (32 to 46 mph).  
Whole trees in motion; small twigs break off trees; walking against wind impeded.
  9. Over 74 km/hr (over 46 mph).  
Slight to heavy structural damage; branches break; trees uprooted above 96 km/hr (60 mph and up).
  0. Wind Speed undetermined or not reported.

## JJ. Incendiary/Suspicious Act Information

The following four data elements are intended solely for reporting data on incendiary or suspicious fires or suspicious acts involving toxic or hazardous substances.

### JJA. Property Security

1. Property secured in a normal manner.
2. Property unsecured, no signs of forced entry.
3. Sign of forced entry evident.
9. Property Security not classified above.
0. Property Security undetermined or not reported.

### JJB. Method of Fire Initiation

1. Accelerant only.
2. Delay device only.
3. Accelerant and delay device.
8. No accelerant or delay devices.
9. Method of Fire Initiation not classified above.
0. Method of Fire Initiation undetermined or not reported.

### JJC. Sabotage

1. Fire protection systems sabotaged.
2. Extinguishing effort sabotaged.
3. Fire protection systems and extinguishing effort sabotaged.
8. No sabotage.
9. Sabotage not classified above.
0. Sabotage undetermined or not reported.

### JJD. Motive

1. Fraud.  
Included are fires for direct or indirect gain.  
Excluded is crime concealment.
2. Pyromania, mental illness.

Included are fires started to gain recognition and vanity fires.

3. Crime concealment.  
Included are destruction of books/records, evidence of fire to conceal murder, criminal activity.
4. Spite, revenge, anger.
5. Vandalism, malicious mischief.
6. Murder.
7. Civil disturbance, terrorist activity.
8. Suicide.
9. Motive not classified above.
0. Motive undetermined or not reported.

## Chapter K. Measurement of Fire Losses and Manpower Use

**Purpose:** This chapter presents a means of summarizing the losses that occur as a result of a fire. Losses are measured as the physical damage from the fire to the property, injuries to persons, loss of use of facilities, and financial loss. Also measured is the man-effort required to handle the incident.

### Definitions:

**FLAME.** Products of combustion that are illuminated by the heat of combustion and accompany the burning of most materials in normal atmospheres.

**SMOLDERING.** Self-sustaining combustion of a material without any flame evident.

### Coded Data:

#### KA. Termination Stage of Fire

See Definitions above for terminology.

1. Fire terminated in the smolder stage, before any flame.
2. Fire terminated in or after the flame stage.
9. Termination Stage of Fire not classified above.
0. Termination Stage of Fire undetermined or not reported.

#### KB. Extent of Flame Damage

Describe burned or charred area of a structure. Area of actual flame impingement is sought. "Browned" paper and similar areas scorched by heat but not attacked by flame should be covered in "Extent of Smoke Damage" (KCA).

The classification that defines the largest area of the structure damaged should be used. For example, a fire in a one-story building which destroys the building should be classified as "confined to structure of origin" not "confined to story of origin."

1. Confined to the object of origin.
2. Confined to part of room or area of origin.
3. Confined to room of origin.
4. Confined to the fire division compartment of origin.
5. Confined to story of origin.
6. Confined to structure of origin.
7. Extended beyond structure of origin.

0. Extent of Flame Damage undetermined or not reported.

#### KC. Extent of Nonflame Damage

##### KCA. Extent of Smoke Damage

Describe extent of smoke and heat scorched or "brown-ed" damage of a structure. The classification that defines the largest area of the structure damaged should be used.

1. Confined to the object of origin.
2. Confined to part of room or area of origin.
3. Confined to room of origin.
4. Confined to fire division compartment of origin.
5. Confined to story of origin.
6. Confined to structure of origin.
7. Extended beyond structure of origin.
8. No damage of this type.
0. Extent of Smoke Damage undetermined or not reported.

##### KCB. Extent of Extinguishing Agent Damage

Describe extent of water and other fire extinguishing agent damage to a structure. The classification that defines the largest area of the structure damaged should be used.

1. Confined to the object of origin.
2. Confined to part of room or area of origin.
3. Confined to room of origin.
4. Confined to the fire division compartment of origin.
5. Confined to story of origin.
6. Confined to structure of origin.
7. Extended beyond structure of origin.
8. No damage of this type.
0. Extent of Extinguishing Agent Damage undetermined or not reported.

##### KCC. Extent of Fire Control Damage

Describe extent of physical damage of fire control activities to a structure other than extinguishing agent damage which is classified in KCB. The classification that defines the largest area of the structure damaged should be used.

1. Confined to the object of origin.
2. Confined to part of room or area of origin.
3. Confined to room of origin.
4. Confined to the fire division compartment of origin.
5. Confined to story of origin.
6. Confined to structure of origin.
7. Extended beyond structure of origin.
8. No damage of this type.
0. Extent of Fire Control Damage undetermined or not reported.

#### KD. Casualty Summary (Deaths)

Each death should be recorded using Chapter M as a basis for the report. Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. 1 death.
2. 2 deaths.

3. 3 to 5 deaths.
4. 6 to 10 deaths.
5. 11 to 20 deaths.
6. 21 to 50 deaths.
7. Over 50 deaths.
8. No deaths.
0. Casualty Summary (Deaths) undetermined or not reported.

#### KE. Casualty Summary (Injuries)

Each injury should be recorded using Chapter M as a basis for the report. Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. 1 injury.
2. 2 injuries.
3. 3 to 5 injuries.
4. 6 to 10 injuries.
5. 11 to 20 injuries.
6. 21 to 50 injuries.
7. Over 50 injuries.
8. No injuries.
0. Casualty Summary (Injuries) undetermined or not reported.

#### KF. Number of Persons Assisted

The number of persons assisted in leaving the building by the action of the fire department. Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. 1 person.
2. 2 persons.
3. 3 to 5 persons.
4. 6 to 10 persons.
5. 11 to 20 persons.
6. 21 to 50 persons.
7. 51 to 100 persons.
8. Over 100 persons.
9. No persons assisted.
0. Number of Persons Assisted undetermined or not reported.

#### KG. Number of Persons Made Homeless

The number of persons who could not reside in their building the night after the fire. Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. 1 person.
2. 2 persons.
3. 3 to 5 persons.
4. 6 to 10 persons.
5. 11 to 20 persons.
6. 21 to 50 persons.
7. Over 50 persons.
8. No persons.
9. Not a factor, residential property not involved.
0. Number of Persons Made Homeless undetermined or not reported.

#### KH. Number of Businesses Made Unusable

Those businesses that could not operate over 60 percent of their facility the first working day following the fire. Any agency collecting this data is encouraged to

record the actual value rather than reduce that value to a classification number.

1. 1 business.
2. 2 businesses.
3. 3 to 5 businesses.
4. 6 to 10 businesses.
5. 11 to 20 businesses.
6. 21 to 50 businesses.
7. Over 50 businesses.
8. No businesses made unusable.
9. No businesses involved.
0. Number of Businesses Made Unusable undetermined or not reported.

#### **KI. Lost Time of Business**

If the business where the fire originated cannot resume 60 percent or more of its operation the first working day following the fire, then it has "lost time." The lost time is measured in whole days, and may be estimated. Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. 1 day.
2. 2 days.
3. 3 days.
4. 4 to 7 days.
5. 8 to 60 days.
6. Over 60 days.
7. Not expected to resume at this location.
8. No lost time of business.
9. No businesses involved.
0. Lost Time of Business undetermined or not reported.

#### **KJ. Monetary Loss**

This data element can be used to measure any aspect of the monetary loss associated with an incident. When measuring direct fire loss, the loss should be calculated for replacement on a like kind and quality basis. Direct fire loss includes loss to structures, contents, machinery and equipment, vehicles, and vegetation. Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. No dollar loss.
2. 1 to 99 dollars.
3. 100 to 249 dollars.
4. 250 to 499 dollars.
5. 500 to 999 dollars.
6. 1000 to 2499 dollars.
7. 2500 to 4999 dollars.
8. 5000 to 9999 dollars.
9. 10,000 to 14,999 dollars.
10. 15,000 to 19,999 dollars.
11. 20,000 to 24,999 dollars.
12. 25,000 to 34,999 dollars.
13. 35,000 to 49,999 dollars.
14. 50,000 to 79,999 dollars.
15. 80,000 to 99,999 dollars.
16. 100,000 to 199,999 dollars.
17. 200,000 to 299,999 dollars.
18. 300,000 to 399,999 dollars.
19. 400,000 to 499,999 dollars.
20. 500,000 to 999,999 dollars.

21. 1,000,000 to 1,999,999 dollars.
22. 2,000,000 to 2,999,999 dollars.
23. 3,000,000 to 4,999,999 dollars.
24. 5,000,000 to 9,999,999 dollars.
25. 10,000,000 or more dollars.
98. Property Damage Classification could not be determined.
00. Property Damage Classification not reported.

#### **KK. Manpower Use**

Multiply the number of men on each unit used at the incident by number of hours the unit was out of service for this incident, and accumulate for each unit at the incident. Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. Less than 0.5 manhours.
2. 0.5 to 0.9 manhours.
3. 1.0 to 2.9 manhours.
4. 3.0 to 9.9 manhours.
5. 10.0 to 23.9 manhours.
6. 24.0 to 47.9 manhours.
7. 48.0 to 71.9 manhours.
8. 72.0 and over manhours.
0. Manpower Use undetermined or not reported.

#### **KL. Acres Burned**

Any agency collecting this data is encouraged to record the actual value rather than reduce that value to a classification number.

1. 0.25 acres or less.
2. 0.26 to 0.99 acre.
3. 1 to 9 acres.
4. 10 to 99 acres.
5. 100 to 299 acres.
6. 300 to 999 acres.
7. 1,000 to 4,999 acres.
8. 5,000 acres and over.
9. No acres burned.
0. Acres Burned undetermined or not reported.

#### **KM. Loss to the Environment**

1. Air pollution significant effect on the health of humans or wildlife.
2. Air pollution insignificant effect on the health of humans or wildlife.
3. Potable water contamination with significant effect on the health of humans or wildlife.
4. Potable water contamination with insignificant effect on the health of humans or wildlife.
5. Nonpotable water (including salt water) with significant effect on the health of humans or wildlife.
6. Nonpotable water (including salt water) with insignificant effect on the health of humans or wildlife.
7. Ground contamination with significant effect on the health of humans or wildlife.
8. Ground contamination with insignificant effect on the health of humans or wildlife.
9. Loss to the Environment not classified above.
0. Loss to the Environment undetermined or not reported.



**KN. Volume of Hazardous Materials**

Any agency collecting this data is encouraged to record the actual quantity rather than reduce that quantity to a classification number.

1. Less than 20 L (5 gal).
2. 20-100 L (5-25 gal).
3. 101-380 L (26-100 gal).
4. 381-1900 L (101-500 gal).
5. 1901-3800 L (500-1000 gal).
6. 3801-38,000 L (1001-10,000 gal).
7. Over 38,000 L (10,000 gal).
8. No hazardous material measured by volume involved.
9. Volume of Hazardous Material undetermined or not reported.

**KO. Weight of Hazardous Material**

Any agency collecting this data is encouraged to record the actual weight rather than reduce that weight to a classification number.

1. Less than 2.2 kg (5 lb).
2. 2.2-11 kg (5-25 lb).
3. 12-22 kg (26-50 lb).
4. 23-45 kg (51-100 lb).
5. 46-450 kg (101-1000 lb).
6. 451-4500 kg (1001-10,000 lb).
7. Over 4500 kg (10,000 lb).
8. No hazardous material measured by weight involved.
9. Weight of Hazardous Material undetermined or not reported.

**Chapter L. Demographic Data**

**Purpose:** This chapter provides data elements and classifications that can be used to identify information about a person whether it be for the purpose of reporting injuries suffered by that person, collecting data about a person associated with a fire start, or studying people and their reactions at the time of a fire.

**LA. Age**

1. Less than 1 year old.
2. 1-4 years old.
3. 5-14 years old.
4. 15-24 years old.
5. 25-34 years old.
6. 35-44 years old.
7. 45-54 years old.
8. 55-64 years old.
9. 65 years old or over.
0. Age undetermined or not reported.

**LB. Sex**

1. Male.
2. Female.
0. Sex undetermined or not reported.

**LC. Race/Origin**

1. White.
2. Black.

3. American Indian, Eskimo, Aleut.
4. Asian.  
Included are Japanese, Chinese, Filipino, Korean, Asian Indian, Vietnamese, Hawaiian, Pacific Islanders.
5. Spanish origin.  
Included are Mexican, Puerto Rican, Cuban.
9. Race/Origin not classified above.
0. Race/Origin undetermined or not reported.

**LD. Affiliation**

1. Fire service personnel.
2. Emergency medical service personnel.
3. Police.
4. Other emergency personnel.  
Included are utility company employees and persons from other city departments working at the scene.  
Excluded are EMS personnel (2) and police (3).
5. Civilian.
9. Affiliation not classified above.
0. Affiliation undetermined or not reported.

**LE. Condition of Person**

A description that best identifies the condition or apparent condition of the person. This data element can be used to measure a person's condition whether before an injury occurred or whether escape was successful without injury.

1. Asleep, no known impairment.
2. Bedridden, other physical handicap affecting mobility under normal circumstances.
3. Impaired by drugs, alcohol.
4. Under restraint.
5. Too young to act.
6. Deaf, mute, blind.
7. Mentally handicapped, senile.
8. Awake, unimpaired.
9. Condition of Person not classified above.
0. Condition of Person undetermined or not reported.

**LF. Relationship of Person to Fire Location**

1. Lived or worked in building and unit of fire origin.
2. Lived or worked in building but not in unit of fire origin.
3. Did not live or work in building of fire origin, presence valid.
4. Did not live or work in building of fire origin, presence not explained.
5. Fire not in a building, presence in fire area valid.
6. Fire not in a building, presence in fire area not explained.
7. Performing emergency service.
8. Not a factor.
9. Relationship of Person to Fire Location not classified above.
0. Relationship of Person to Fire Location undetermined or not reported.

**LG. Reason for Presence in Fire Area**

1. Short-term visitor.  
Less than 1 day of association with the property.

2. Long-term visitor.  
One day or greater but less than 1 week association with the property. Classify visitors over 1 week as seasonal residents.
3. Short-term seasonal resident, employee.  
1 week to 1 month association with the property.
4. Long-term seasonal resident, employee.  
1 month or greater association with the property.
5. New permanent resident, employee, student.  
Less than 1 month association with the property.
6. Established permanent resident, employee, student.  
1 month or greater association with the property.
9. Reason for Presence in Fire Area not classified above.
0. Reason for Presence in Fire Area undetermined or not reported.

#### LH. Familiarity with Structure

The length of time the person was acquainted with the inside of the building or structure.

1. Less than 1 day.
2. 1 to 7 days.
3. 8 to 30 days.
4. 1 to 2 months.
5. 3 to 6 months.
6. 7 to 12 months.
7. Over 1 year.
8. Not a structure.
0. Familiarity with Structure undetermined or not reported.

#### LI. Location of Person with Relation to Point of Origin

1. Person intimately involved with ignition.  
Included are ignition of clothing on a person and ignition of bedding or furniture on which a person is sitting or lying.
2. Person in the room or space of fire origin.  
Included are vehicle compartments, porches, tents and playhouses, within 15 m (50 ft) of outside fire.
3. Person in same fire division compartment.
4. Person on same floor as origin of fire.
5. Person in same building as origin of fire.
6. Person on property of fire origin.  
Included are persons outside of a building fire, outside a vehicle or over 15 m (50 ft) from an outside fire.
7. Person off property of fire origin at time at ignition.  
Included are fire fighters and emergency service personnel.
9. Location of Person with Relation to Point of Origin not classified above.
0. Location of Person with Relation to Point of Origin undetermined or not reported.

#### LJ. Condition Preventing Escape

Most significant condition preventing the person's escape.

1. Not time to escape; explosion or fire progressed too rapidly.
2. Fire between person and exit.

3. Locked door.
4. Illegal gates, locks.
5. Clothing on person burning.
6. Moved too slowly.  
Included are failures to follow correct (available) escape procedures.
7. Person incapacitated prior to ignition.
8. No conditions prevented escape or not a factor.
9. Condition Preventing Escape not classified above.
0. Condition Preventing Escape undetermined or not reported.

### Chapter M. Casualty Data

**Purpose:** This chapter provides data elements and classifications that can be used to identify information about a person injured. Details of the prehospital care given that person can be recorded using Chapter N, and specific data about fire service and emergency personnel can be recorded using Chapter O.

There are two situations that raise concern when reporting injuries and deaths. The first is the situation of self-annihilation (suicide) by fire. These should be treated as fire deaths. The second is the case of asphyxiation or illness from a fire that is otherwise a non-hostile fire. These are not fire deaths or injuries.

#### MA. Casualty Type of Situation Found

##### 1. Vehicle Related

Excluded are pedestrians struck by vehicle (26).

11. Aviation accident.
12. Boat accident.
13. Train accident.
14. Motor vehicle accident.
15. Motorcycle, moped accident.  
Excluded are two-wheel powered vehicles designed exclusively for use off the road (16).
16. Other motorized vehicle accident.  
Included are snowmobiles, all-terrain vehicles, two-wheel powered vehicles designed exclusively for use off the road, etc.
17. Bicycle accident.
18. Nonmotorized vehicle accident.  
Included are accidents involving skateboards, tricycles, sleds, etc.  
Excluded are bicycle accidents (17).
19. Vehicle Related not classified above.
10. Vehicle Related; insufficient information available to classify further.

##### 2. Natural Activity Related

21. Exposure to weather.  
Included are frostbite, heat exhaustion, etc.
22. Insect sting.
23. Snake bite.
24. Sports accident, supervised.
25. Sports accident, unsupervised.
26. Pedestrian struck by vehicle.
29. Natural Activity Related not classified above.
20. Natural Activity Related; insufficient information available to classify further.

**3. Fire, Explosive, Fireworks Related**

Includes smoke or gas related to fire.

- 31. Structure fire injury.
- 32. Vehicle fire injury.
- 33. Grass, brush, woodlands fire injury.
- 34. Flammable gas, flammable liquid or chemical fire injury outside.
- 35. Outside fire injury (not included in 33 or 34 above).
- 36. Explosives injury.
- 37. Fireworks injury.
- 39. Fire, Explosive, Fireworks Related not classified above.
- 30. Fire, Explosive, Fireworks Related; insufficient information available to classify further.

**4. Inflicted Injury Related**

- 41. Altercation (fistfight).
- 42. Physical abuse.
- 43. Thermal burn not associated with hostile fire (30-39).  
Included are scalds.  
Excluded are chemical burns (62).
- 44. Gunshot, accident.
- 45. Gunshot, assault.
- 46. Knifing, cutting, stabbing.
- 47. Mugging.
- 48. Struck by thrown or falling object.
- 49. Inflicted Injury Related not classified above.
- 40. Inflicted Injury Related; insufficient information available to classify further.

**5. Miscellaneous Injury Related**

- 51. Building collapse.
- 52. Cave-in.
- 53. Construction accident.  
Excluded are building collapse (51) and cave-in (52).
- 54. Hand tool mishap.  
Excluded are construction accidents (53).
- 55. Lawn mower mishap.
- 56. Power tool mishap.  
Excluded are construction accidents (53).
- 57. Minor slip or fall.  
Included are most household falls and other falls of 15 ft (5 m) or less.
- 58. Major slip or fall.  
Included are falls of greater than 15 ft (5 m).

**6. Miscellaneous Injury Related (continued)**

- 61. Body part stuck in/caught in machinery.
- 62. Hazardous materials or chemical burn.  
Excluded is inhalation of fumes from hazardous materials or chemicals (66).
- 63. Electrical shock.
- 64. Motor vehicle repair accident.
- 65. Radiation, exposure to.
- 66. Smoke or gas inhalation (other than when related to a fire).
- 67. Exposure to hazardous materials (not included in 62, 65, or 66 above).
- 69. Miscellaneous Injury Related not classified above.
- 60. Miscellaneous Injury Related; insufficient information available to classify further.

**7. General Type Sickness Related**

- 71. Cancer.
- 72. Cardiac related.
- 73. Disease.
- 74. Mental disorder.
- 75. Seizure.
- 76. Sickness, general.
- 77. Stroke (C.V.A.).
- 78. Trouble breathing.  
Included are choking, obstructed airway.
- 79. General Type Sickness Related not classified above.
- 70. General Type Sickness Related; insufficient information available to classify further.

**8. Other Medical Situation Related**

- 81. Alcoholic overdose.
- 82. Animal bite.
- 83. Childbirth or pregnancy problem.
- 84. Drowning.
- 85. Drug overdose, legal drugs.  
Excluded are attempted suicide or suicide (88).
- 86. Drug overdose, illegal drugs.  
Excluded are attempted suicide or suicide (88).
- 87. Rape, sexual assault.
- 88. Suicide or attempted suicide.
- 89. Other Medical Situation Related not classified above.
- 80. Other Medical Situation Related; insufficient information available to classify further.

**9. No Casualty Found**

- 91. Person seen, but not in need of medical care.  
Includes person sleeping in car or along side of road.
- 92. Patient not seen, unable to determine situation.  
Includes patient left scene.
- 93. Stand-by at scene or crew used at a fire incident.
- 94. Manpower assist to another EMS vehicle.
- 95. Nothing found at location given, not suspect.  
Includes dispatched to wrong location.
- 96. Suspected false alarm.
- 99. Casualty Type of Situation Found not classified above.
- 00. Casualty Type of Situation Found undetermined or not reported.

**MB. Case Severity**

- 1. Minor - The patient is not in danger of death or permanent disability. Immediate medical care is not necessary.
- 2. Moderate - There is little danger of death or permanent disability. Quick medical care is advisable. This category includes injuries such as fractures or lacerations requiring sutures.
- 3. Severe - The situation is potentially life threatening if the condition remains uncontrolled. Immediate medical care is necessary even though body processes may still be functioning and vital signs may be normal.

**Example:** When the ambulance arrived, the patient's vital signs were close to normal; however, his respiratory rate was high, and he suffered from chest pain and short-

ness of breath. The patient's cardiac symptoms indicated a case that was potentially life threatening.

4. Life Threat - Death is imminent; body processes and vital signs are not normal. Immediate medical care is necessary. This category includes cases such as severe hemorrhaging, severe multiple trauma, and multiple internal injuries.

5. D.O.A. - Dead on arrival at the scene.

6. Died subsequent to arrival.

8. Case Severity not applicable.

0. Case Severity undetermined or not reported.

### MC. Apparent Symptom

Preliminary identification of the principal (and secondary) conditions chiefly responsible for the patient's need for emergency medical services. This information is determined by the emergency medical technician or other health provider who is primarily responsible for treating the patient during the prehospital emergency phase.

39. Abortion, miscarriage-obstetrics.

01. Abrasion.

02. Amputation.

03. Asphyxiation.

Included is smoke inhalation.

04. Avulsion (of eye).

31. Bleeding/hemorrhaging.

05. Burn: chemical.

06. Burn: electric.

07. Burn: thermal.

08. Burn: scald.

09. Cancer.

10. Cardiac arrest.

11. Cardiac symptoms.

05. Chemical burn.

12. Chills.

13. Contusion/bruise-minor trauma.

14. Convulsion/seizure unspecified.

Included is petit mal.

15. Convulsions/seizure systemic.

Included is grand mal.

16. Crushing.

35. Cut, lacerations.

17. Dehydration.

38. Delivery, obstetrics.

18. Diabetic coma.

19. Diabetic shock.

20. Difficulty breathing/shortness of breath.

21. Dislocation.

22. Disorientation.

23. Dizziness/fainting-weakness.

24. Drowning.

25. Drug overdose.

06. Electric burn.

49. Electric shock.

04. Eye (avulsion of) trauma, out of socket.

26. Fever.

27. Foreign body, obstruction.

28. Fracture: closed.

29. Fracture: open.

30. Frostbite.

46. Gunshot, projectile wound.

31. Hemorrhaging, bleeding.

32. Hypersensitivity.

Included is allergic reaction to medicines.

33. Impairment similar to that caused by alcohol.

34. Internal trauma (closed blunt).

35. Laceration, cut.

36. Mental disorder.

39. Miscarriage/obstetrics.

37. Nausea.

42. Numbness, tingling.

38. Obstetrics - delivery.

39. Obstetrics - miscarriage.

40. Pain only.

41. Paralysis.

42. Parasthesia, numbness, tingling.

43. Pneumonia.

44. Puncture wound/penetrating.

Included are stab wounds.

45. Poison not listed elsewhere.

46. Projectile wound-high velocity.

Included are gunshot wounds.

47. Respiratory arrest.

08. Scald.

48. Shock: anaphylactic.

49. Shock: electrical.

50. Sickness.

03. Smoke inhalation, asphyxiation.

51. Sprain, strain.

44. Stabbing, puncture wound.

52. Stroke (C.V.A.).

53. Swelling.

07. Thermal burn.

54. Unconscious.

55. Vomiting.

59. Other long-term illness.

98. No apparent symptom.

99. Apparent Symptom not classified above.

00. Apparent Symptom undetermined or not reported.

### MD. Part of Body

#### 1. Head Area

11. Ear.

12. Eye.

13. Face.

14. Mouth - lips.

15. Mouth - interior.

16. Nose.

17. Nose lining.

18. Teeth.

19. Head Area not elsewhere classified.

10. Head area; insufficient information to classify further.

#### 2. Trunk

21. Neck.

22. Shoulder.

23. Back-upper, surface only - see 61 for spine.

24. Back-lower, surface only - see 61 for spine.

25. Chest.

26. Abdomen.

27. Buttocks.

28. Groin.

29. Trunk not elsewhere classified.

20. Trunk; insufficient information to classify further.

### 3. Arm/Hand

31. Arm-upper not including elbow (33) or shoulder (22).
32. Arm-lower not including elbow (33) or wrist (34).
33. Elbow.
34. Wrist.
35. Hand.
36. Fingers.
37. Thumb.
39. Arm/Hand not elsewhere classified.
30. Arm/Hand; insufficient information to classify further.

### 4. Leg/Foot

41. Leg-upper.
42. Leg-lower.
43. Knee.
44. Ankle.
45. Foot.
46. Toes.
49. Leg/Foot not elsewhere classified.
40. Leg/Foot; insufficient information to classify further.

### 5. Internal

51. Throat.
52. Trachea.
53. Lungs.
54. Heart.
55. Stomach.
56. Intestinal tract.
57. Genito-urinary.
58. Internal organ not otherwise specified.
59. Internal not elsewhere classified.
50. Internal; insufficient information to classify further.

### 6. Other Parts of Body

61. Spine.
62. Pelvis.
63. Hip.

### 7. Multiple Parts of Body

71. Multiple head parts.
72. Multiple trunk parts.
73. Multiple arm/hand parts.
74. Multiple leg/foot parts.
75. Multiple internal parts.
76. Multiple body parts-upper.
77. Multiple body parts-lower.
78. Multiple body parts-whole body.

### 9. Other

98. Part of body not applicable.
99. Part of Body not classified above.
00. Part of Body undetermined or not reported.

### ME. Cause of Civilian Injury

The action or lack of action directly resulting in the injury. When the injury occurred as a result of contact with

an object, the classification that best describes the manner in which that contact occurred should be identified.

1. Caught in, under, between; trapped by.
2. Exposed to fire products.  
Included are flame, heat, smoke, and gas.
3. Exposed to chemicals, radiation.  
Excluded are fire products (2).
4. Fell or stepped on, over, into.
5. Overexertion.
6. Rubbed by, contact with.
7. Struck by.
8. Not applicable.
9. Cause of Civilian Injury not classified above.
0. Cause of Civilian Injury undetermined or not reported.

### MF. Type of Casualty

1. Fireground injury before F.D. arrival.
2. Fireground injury after F.D. arrival.
3. Injury during response to or return from incident.
4. Non-fire incident injury creating the alarm.
5. Non-fire incident injury after alarm.
6. Medical aid call, illness creating the alarm.
9. Type of Casualty not classified above.
0. Type of Casualty undetermined or not reported.

### MG. Activity at Time of Injury

1. Escaping.
2. Rescue attempt.
3. Fire control attempt.
4. Returned to vicinity of fire (not rescue).
5. Cleanup, salvage, mop-up.
6. Asleep, no known impairment.
7. Unable to act.
8. Irrational action.
9. Activity at Time of Injury not classified above.
0. Activity at Time of Injury undetermined or not reported.

### MH. Patient Taken To

1. Hospital, emergency room or general admission.
2. Doctor's office/clinic.
3. Long-term care facility.
4. Morgue.
5. Funeral home.
6. Residence.
7. Not transported.
9. Patient Taken To not classified above.
0. Patient Taken To undetermined or not reported.

### MI. Casualty Care Provided

1. None.
2. Treated at scene only.
3. Treated en route to medical care.
4. Transported only.
9. Casualty Care Provided not classified above.
0. Casualty Care Provided undetermined or not reported.

## Chapter N. Prehospital Care

**Purpose:** This chapter provides data elements and classifications that can be used to identify the prehospital condition of a person and the care provided by emergency service personnel. Such emergency services personnel may be part of any organized program designed and operated for the purpose of providing emergency medical care to victims at the scene, en route to, and at the hospital. The level of medical care provided may vary from simple first aid (immobilization, splinting, bandaging, etc.) administered by fire department or rescue personnel to complex, sophisticated medical treatment administered by trained paramedics, nurses, doctors, etc.

### Definitions:

**A.L.S.U.** Advanced Life Support Unit, or a Mobile Intensive Care Unit (M.I.C.U.).

**B.L.S.U.** Basic Life Support Unit or an ambulance.

**C.C.T.** Cardiac Care Technician, see Paramedic.

**CLOSED BLUNT.** Internal trauma or injury caused by a blunt object, e.g., steering wheel, baseball bat, that does not cause a break in the skin.

**C.P.R.** Cardio-Pulmonary Resuscitation. A system used to revive a victim whose heart and breathing have stopped; it includes applying external heart massage and forcing oxygen into the lungs.

**DECEREBRATE.** Posturing associated with an injury to the brain characterized by marked straightening (extension) of all four extremities.

**DECORTICATE.** Posturing associated with an injury to the brain characterized by marked straightening (extension) of the legs but bending (flexion) of the arms at the elbows.

**DEFIBRILLATION.** A system that utilizes a machine-produced electric impulse to restore synchronization to a heart experiencing erratic rhythm.

**D.O.A.** Dead on Arrival.

**D.O.T.** Department of Transportation.

**EMERGENCY CARE ATTENDANT.** One who has trained to at least advanced first aid and has additional training but has not met the D.O.T. course requirements for E.M.T.

**E.M.S.** Emergency Medical Services.

**E.M.T.** Emergency Medical Technician - completed D.O.T., 81-hour course, certified by exam, and holding a current certificate.

**EMERGENCY RESCUE VEHICLE.** A vehicle, not designed for patient transport, that contains advanced life support equipment and personnel capable of providing extrication and emergency care at the scene or in conjunction with transport.

**H.L.R.** Heart-Lung Resuscitator.

**MOBILE INTENSIVE CARE UNIT.** A vehicle designed to include space, equipment, supplies, communications, and biomedical capabilities necessary for the provision of supportive, definitive, and therapeutic emergency medical care for the ill or injured both on site and during transport by specially qualified personnel.

**PARAMEDIC.** A person who has been certified as an EMT and is qualified to perform body invasive techniques.

**PHYSICIAN'S ASSISTANT.** A person who has been trained to perform patient histories, simple diagnostic lab tests, implement basic treatment procedures for common illness, treat emergency cases, give comprehensive physical exams, provide continual care and counseling for patients and work directly with patients under the supervision of a licensed physician.

**TELEMETRY.** Transmission of biomedical data (electrocardiogram) via radio communications.

**TRIAGE.** To sort and treat patients according to order of medical priority.

### NA. Emergency Vehicle Identification

Sections NAA and NAB, when used together, identify each emergency vehicle.

#### NAA. Type of Unit Handling EMS Calls

1. Ambulance.
2. Mobile intensive care unit, medic/heart unit.
3. Emergency rescue vehicle.
4. Other specific EMS unit.
5. Engine company.
6. Truck company.
7. Other fire department apparatus.
0. Type of Unit Handling EMS Calls undetermined or not reported.

#### NAB. Municipal Affiliation of Unit

1. Volunteer organization owned.
2. Municipally owned - operated by fire department.
3. Municipally owned - operated by police department.
4. Municipally owned - operated by department other than fire or police.
5. U.S. Government owned.
6. Private ambulance company owned.
7. Funeral home owned.
8. Hospital owned.
0. Municipal Affiliation of Unit undetermined or not reported.

#### NB. Emergency Vehicle Staff Training Level

These codes should uniquely identify the level of staff training for each individual on the vehicle whether they are functioning as the driver or attendant.

1. None.
2. Basic first aid.
3. Advanced first aid.

4. Emergency care attendant.
5. Basic emergency medical technician.  
Included is basic life support.
6. Advanced life support.  
Included are cardiac care technician or paramedic (qualified to perform body invasive techniques).
7. Nurse.
8. Physician's assistant.
9. Doctor, physician.
0. Emergency Vehicle Staff Training Level undetermined or not reported.

### NC. Vital Signs

Set of key biomedical indicators used to characterize a patient's overall health status.

#### NCA. Lung Sounds

1. Clear.
2. Stridor.
3. Rales - includes wheeze, ronchi.
4. Diminished.
5. Absent.
0. Lung Sounds undetermined or not reported.

#### NCB. Lung Location

1. Bilaterally equal.
2. Right.
3. Left.
4. None.
0. Lung Location undetermined or not reported.

#### NCC. Skin Color

1. Normal.
2. Cyanotic.
3. Pale, ashen.
4. Flush.
0. Skin Color undetermined or not reported.

#### NCD. Skin Temperature

1. Normal.
2. Hot, dry.
3. Hot, wet.
4. Cool, dry.
5. Cool, wet.
0. Skin Temperature undetermined or not reported.

#### NCE. Pupil Size

1. Equal.
2. Unequal.
3. Med./Surg. anomaly.
0. Pupil Size undetermined or not reported.

#### NCF. Pupil Reactivity

1. Reactive.
2. Not reactive.
0. Pupil Reactivity undetermined or not reported.

#### NCG. Pupil Position

1. Midposition.
2. Dilated.
3. Constricted.
0. Pupil Position undetermined or not reported.

### NCH. Pulse Character

Includes both character and regularity of rate.

1. Strong and regular.
2. Strong and irregular.
3. Weak and regular.
4. Weak and irregular.
5. None.
0. Pulse Character undetermined or not reported.

### NCI. Respiration Character

Includes both rhythm and depth with rate.

1. Regular rhythm and normal depth.
2. Regular rhythm and deep depth.
3. Regular rhythm and shallow depth.
4. Irregular rhythm and normal depth.
5. Irregular rhythm and deep depth.
6. Irregular rhythm and shallow depth.
8. None.
0. Respiration Character undetermined or not reported.

### ND. Patient Status

General state of mental and physiological awareness.

1. Conscious.
2. Semiconscious.
3. Unconscious.
4. Apparently dead.
0. Patient Status undetermined or not reported.

### NE. Patient Behavior

1. Normal (for the situation).
2. Acutely depressed, disturbed, upset.
3. Confused, disoriented, stuporous.
4. Hallucinatory.
5. Homicidal.
6. Impaired by drugs/alcohol.
7. Uncontrollable, unduly aggressive, unruly.
8. Suicidal.
9. Patient Behavior not classified above.
0. Patient Behavior undetermined or not reported.

### NF. Prehospital Treatment

01. Antishock trousers.
02. Aspirate (suction).
03. Blood drawn.
04. CPR.
05. Cervical collar.
06. Control bleeding.
07. Defibrillation.
08. Demand valve ventilation (inhalation).
09. Dress wound.
10. EKG transmitted.
11. Esophageal obturator airway.
12. Extricate patient.
13. Ice pack.
14. Irrigate with water/saline.
15. OB delivery.
16. Oropharyngeal airway.
17. Orthopedic stretcher.
18. Positive pressure ventilation (resuscitation).  
Excluded is demand valve ventilation (08).
20. Psychiatric intervention.
21. Restrain patient.

- 22. Rotating tourniquet.
- 23. Sand bags.
- 24. Sling.
- 25. Spine board [1 m (3 ft)].
- 26. Spine board [2 m (6 ft)].
- 27. Splint.  
Included are air, board, other splints.
- 28. Thrust - abdomen/chest.
- 29. Tourniquet.
- 30. Tracheal intubation.
- 31. Traction splint.
- 32. Valsalva maneuver.
- 98. No treatment given.
- 99. Prehospital Treatment not classified above.
- 00. Prehospital Treatment undetermined or not reported.

### NG. Monitor Code

#### 1. Sinus

- 11. N.S.R. (normal sinus rhythm).
- 12. Sinus tach (sinus tachycardia).
- 13. Sinus brad (sinus bradycardia).
- 14. Sinus arrhythmia.
- 15. S.A. arrest (sino-atrial arrest).

#### 2. Atrial.

- 21. Wandering Pacemaker.
- 22. P.A.C.'s (premature atrial contractions).
- 23. P.A.T.'s (paroxysmal atrial tachycardia).
- 24. Atrial flutter.
- 25. Atrial fibrillation.

#### 3. Nodal Junction

- 31. P.N.C.'s (premature nodal contractions).
- 32. Nodal rhythm/junctional.
- 33. AV nodal tach - SVT (Atrial - ventricular nodal tachycardia - supra-ventricular tachycardia).

#### 4. Blocks

- 41. 1st A.V. block (1st degree atrial-ventricular block).
- 42. 2nd A.V. block T-1 (2nd degree atrial-ventricular block type 1).
- 43. 2nd A.V. block T-2 (2nd degree atrial-ventricular block type 2).
- 44. 3rd A.V. block (3rd degree atrial-ventricular block).

#### 5. Ventricular

- 51. PVC - 5 or less per minute (premature ventricular contraction).
- 52. PVC - 6 or more per minute.
- 53. PVC - on T-Wave.
- 54. PVC - Bigeminy.
- 55. PVC - Trigeminy.
- 56. V tach (ventricular tachycardia).
- 57. V fibrillation (ventricular fibrillation).

#### 6. Non-Productive

- 61. Asystole.
- 62. Idioventricular rhythm.
- 63. EMD - (electro-mechanical dissociation).

#### 9. Other

- 99. Monitor Code not classified above.
- 00. Monitor Code undetermined or not reported.

### NH. Drugs/Fluids Administered

- 01. Activated charcoal.
- 02. Atropine.
- 03. Calcium chloride or gluconate.
- 04. Corticosteroids.
- 05. Dextrose in water D<sup>5</sup>O w/glucose.
- 06. Diazepam (Valium).
- 07. Diphenhydramine HCL (Benadryl).
- 08. Dopamine.
- 09. Epinephrine.
- 10. Furosemide (Lasix).
- 11. Intravenous fluids.  
Included are dextrose in water D<sup>5</sup>W, dextrose in saline, dextrose in ringers lactate, ringers lactate (RL), and saline (NSS).
- 12. Ipecac.
- 13. Isoproterenol (Isuprel).
- 14. Lidocaine HCL.
- 15. Metaraminol (Aramine).
- 16. Naloxone (Narcan).
- 17. Narcotic.  
Including MS.
- 18. Nitroglycerine (NTG).
- 19. Nitros oxide (NO<sub>2</sub>).
- 20. Plasmanate.
- 21. Sodium bicarbonate.
- 99. Drugs/Fluids Administered not classified above.
- 00. Drugs/Fluids Administered undetermined or not reported.

### NI. Medication Route

- 01. Endotracheal.
- 02. Intramuscular.
- 03. Subcutaneous.
- 04. Oral.
- 05. Sublingual.
- 06. Suppository.
- 07. IV bolus (push).
- 08. IV infusion (drip).
- 09. Inhalation.
- 99. Medication Route not classified above.
- 00. Medication Route undetermined or not reported.

### NJ. Intravenous

- 1. Successful.
- 2. Unsuccessful.
- 3. Discontinued.
- 0. Intravenous undetermined or not reported.

### NK. Run Outcome

Indicates the transportation aspects of the EMS run.

- 1. Transported patient under emergency conditions.
- 2. Transported patient under nonemergency conditions.
- 3. Treatment given but patient not transported.
- 4. Patient refused service or EMS crew declined to transport.
- 5. Patient transported by other means.
- 6. Good intent call - no patient transported.



7. Nothing found at location given.
8. Proven or suspected false call.
9. Standby at other than EMS incident.
0. Run Outcome undetermined or not reported.

## Chapter O. Fire Service/Emergency Personnel Data

**Purpose:** This chapter provides data elements and classifications that can be used to identify information about fire service casualties and possible reasons for such casualties.

### OA. Assignment

1. Fire suppression.
2. Emergency Medical Service (EMS).
3. Fire prevention/inspection.
4. Training.
5. Maintenance.
6. Fire alarm/communications.
7. Administrative.
9. Assignment not classified above.
0. Assignment undetermined or not reported.

### OB. Status of Injured Prior to Alarm at which Injury Occurred

1. Asleep.
2. Awake.
9. Status of Injured Prior to Alarm at which Injury Occurred not classified above.
0. Status of Injured Prior to Alarm at which Injury Occurred undetermined or not reported.

### OC. Physical Condition at Time of Injury

1. Rested.
2. Fatigued.
3. Impaired (drugs, alcohol).
4. Impaired (illness).
9. Physical Condition at Time of Injury not classified above.
0. Physical Condition at Time of Injury undetermined or not reported.

### OD. Number of Incident Responses During Prior 24 Hours

This data element captures the number of incidents to which the injured person has responded during the 24 hours prior to the alarm.

1. One.
2. Two.
3. Three.
4. Four.
5. Five.
6. Six to eight.
7. Nine to twelve.
8. Over twelve.
9. None.
0. Number of Incident Responses During Prior 24 Hours undetermined or not reported.

### OE. Amount of Experience

This data element captures the amount of experience the injured person had performing the type of activity or task being performed at the time of the injury.

1. Less than 1 month.
2. 1 to 3 months.
3. 4 to 6 months.
4. 7 to 12 months.
5. 1 to 2 years.
6. 3 to 5 years.
7. 6 to 10 years.
8. Over 10 years.
0. Amount of Experience undetermined or not reported.

### OF. Interval Since Last Training

This data element captures the interval of time from the last training on the subject area that caused the injury.

1. Less than 1 week.
2. 1 week to 1 month.
3. 1 month to 3 months.
4. 3 months to 6 months.
5. 6 months to 1 year.
6. Over 1 year.
8. No training ever received in subject area.
0. Interval Since Last Training undetermined or not reported.

### OG. Type of Training

This data element identifies the type of training given in the subject that was most directly related to the injury.

1. Training by company officer following department or state training manual.
2. Training by company officer without benefit of department or state training manual.
3. Training by department training officer at a local facility or the fire station.
4. Training by a state training instructor at a local facility or the fire station.
5. Training at a regional or county training facility.
6. Training at a state training facility.
7. Training at a federal training facility.
8. No training received.
9. Type of Training not classified above.
0. Type of Training undetermined or not reported.

### OH. Activity at Time of Injury/Accident

#### 1. Riding Vehicle

11. Boarding fire apparatus, emergency vehicle.
12. Riding fire apparatus: standing.
13. Riding fire apparatus: sitting.
14. Riding fire apparatus: position unknown.
15. Riding other emergency vehicle.  
Included are ambulances, boats, planes, etc.
16. Riding nonemergency vehicle.
17. Getting off fire apparatus, emergency vehicle.
18. Jumping from aircraft.
19. Riding Vehicle not classified above.
0. Riding Vehicle; insufficient information to classify further.

**2. Driving/Operating Apparatus**

- 21. Driving fire apparatus.
- 22. Tiller ladder truck.
- 23. Driving other emergency vehicle.  
Included are ambulances, boats.
- 24. Flying aircraft.
- 25. Operating engine/pump.
- 26. Operating ladder truck, elevated platform.
- 27. Operating other apparatus/equipment.  
Included are power winches, stationary generators, etc.
- 29. Driving/Operating Apparatus not classified above.
- 20. Driving/Operating Apparatus; insufficient information to classify further.

**3. Extinguishing Fire/Neutralizing Incident**

- 31. Handling charged hose lines.
- 32. Using hand extinguishers.
- 33. Operating master stream device.
- 34. Using hand tools in extinguishment activity.
- 35. Removing power lines.
- 36. Removing flammable liquids/chemicals.
- 37. Shutting off utilities, gas lines, etc.
- 39. Extinguishing Fire/Neutralizing Incident not classified.
- 30. Extinguishing Fire/Neutralizing Incident; insufficient information to classify further.

**4. Suppression Support**

- 41. Forcible entry.
- 42. Ventilation with power tools.
- 43. Ventilation with hand tools.
- 44. Salvage.
- 45. Overhaul.
- 49. Suppression Support not classified.
- 40. Suppression Support; insufficient information to classify further.

**5. Access/Egress**

- 51. Carrying ground ladder.
- 52. Raising ground ladder.
- 53. Lowering ground ladder.
- 54. Climbing ladder.
- 55. Scaling.
- 56. Escaping fire/hazard.
- 59. Access/Egress not classified.
- 50. Access/Egress; insufficient information to classify further.

**6. Rescue**

- 61. Searching for fire victim.
- 62. Rescue of fire victim.
- 63. Rescue of nonfire victim.
- 64. Water rescue.
- 65. Providing emergency medical care.
- 66. Diving operations.
- 67. Extraction with power tools.
- 68. Extraction with hand tools.
- 69. Rescue not classified above.
- 60. Rescue; insufficient information to classify further.

**7. Miscellaneous Incident Scene Activity**

- 71. Directing traffic.
- 72. Catching hydrant.
- 73. Laying hose.
- 74. Moving tools or equipment around scene.
- 75. Picking up tools, equipment, hose on scene.
- 76. Setting up lighting.  
Included are portable generator operations.
- 77. Operating portable pump.
- 79. Miscellaneous Incident Scene Activity not classified above.
- 70. Miscellaneous Incident Scene Activity; insufficient information to classify further.

**8. Station Activity**

- 81. Moving about station, alarm sounding.
- 82. Moving about station, normal activity.
- 83. Station maintenance.
- 84. Vehicle maintenance.
- 85. Equipment maintenance.
- 86. Physical fitness activity: supervised.
- 87. Physical fitness activity: unsupervised.
- 88. Training activity or drill.
- 89. Station Activity not classified above.
- 80. Station Activity; insufficient information to classify further.

**9. Other Activity**

- 91. Incident investigation: during incident.
- 92. Incident investigation: after incident.
- 93. Inspection activity.
- 94. Administrative work.
- 95. Communication work.
- 99. Activity at Time of Injury/Accident not classified above.
- 00. Activity at Time of Injury/Accident undetermined or not reported.

**OI. Where Injury/Accident Occurred****1. En Route/Returning**

- 11. En route to emergency.
- 12. Returning from emergency.
- 13. En route to nonemergency: public assistance response.
- 14. Returning from nonemergency: public assistance response.
- 15. En route to nonemergency: other duty assignment.
- 16. Returning from nonemergency: other duty assignment.
- 19. En Route/Returning not classified above.
- 10. En Route/Returning; insufficient information to classify further.

**2. At Emergency Scene - Outside At or Above Grade**

- 21. Outside on ground level.
- 22. Outside above grade level.
- 23. On structure roof.
- 24. On ladder or in basket of aerial apparatus.
- 25. On ground ladder.
- 26. On wall or ledge.
- 27. On fire escape.
- 28. On steep hillside.

- 29. At Emergency Scene - Outside At or Above Grade not classified above.
- 20. At Emergency Scene - Outside At or Above Grade; insufficient information to classify further.

### 3. At Emergency Scene - Outside Below Grade

- 31. In open pit.
- 32. In ditch/trench.
- 33. In quarry/mine.
- 34. In ravine.
- 35. In well.
- 36. In water.
- 39. At Emergency Scene - Outside Below Grade not classified above.
- 30. At Emergency Scene - Outside Below Grade; insufficient information to classify further.

### 4. At Emergency Scene - Inside Structure at or Above Grade

- 41. Grade level.
- 42. Second through fourth stories or equivalent above grade.
- 43. Fifth through seventh stories or equivalent above grade.
- 44. Above seventh story or equivalent above grade.
- 45. In attic regardless of height above grade.
- 49. At Emergency Scene - Inside Structure at or Above Grade not classified above.
- 40. At Emergency Scene - Inside Structure at or Above Grade; insufficient information to classify further.

### 5. At Emergency Scene - Inside Structure Below Grade

- 51. One story or equivalent below grade.
- 52. Two or more stories below grade.
- 53. In tunnel.
- 54. In sewer.
- 59. At Emergency Scene - Inside Structure Below Grade not classified above.
- 50. At Emergency Scene - Inside Structure Below Grade; insufficient information to classify further.

### 6. At Emergency Scene - Inside Vehicle

- 61. Motor vehicle passenger compartment.
- 62. Motor vehicle cargo compartment.
- 63. Rail vehicle.
- 64. Boat/ship/barge.
- 65. Aircraft.
- 69. At Emergency Scene - Inside Vehicle not classified above.
- 60. At Emergency Scene - Inside Vehicle; insufficient information to classify further.

### 7. At Fire Department Managed Location

- 71. At fire station including surrounding department-owned property.
- 72. At training school.
- 73. At off station drill site.
- 74. At administrative offices.
- 75. At maintenance facility.
- 76. At communication center.
- 77. At off station work site.

- 79. At Fire Department Managed Location not classified above.
- 70. At Fire Department Managed Location; insufficient information to classify further.

### 8. At Inspection Site

- 81. Inside structure - normally occupied areas.
- 82. Inside structure - service or storage areas.
- 83. On roof, fire escape, outside stairways, etc.
- 84. On ground outside structure.
- 89. At Inspection Site not classified above.
- 80. At Inspection Site; insufficient information to classify further.

### 9. Other

- 99. Where Injury/Accident Occurred not classified above.
- 00. Where Injury/Accident Occurred undetermined or not reported.

## OJ. Cause of Fire Fighter Injury

### Major Headings

- 1. Fell/slipped.
- 2. Caught, trapped—in, by, between.
- 3. Struck by.
- 4. Contact with/exposure to.
- 5. Overexertion/strain.
- 6. Exiting or escaping - jumped.
- 7. Fire department apparatus accident.
- 8. Assaulted.
- 9. Other cause.

### 1. Fell/Slipped

- 101. In hole, outside structure.
- 102. In hole burned in floor.
- 103. In hole burned in roof.
- 104. In unguarded opening in floor.
- 105. In unguarded opening in roof.
- 106. Over object.
- 107. On wet surface.
- 108. On icy surface.
- 109. On flat surface.
- 110. On steps/stairs.
- 111. From ladder.
- 112. From structure.
- 113. From emergency apparatus (safety bar/belt not fastened).
- 114. From emergency apparatus (safety bar/belt failed).
- 115. In or into emergency apparatus.
- 116. Off station sliding pole.
- 117. Over/off curb.
- 199. Fell/Slipped not classified above.
- 100. Fell/Slipped; insufficient information to classify further.

### 2. Caught/Trapped - In, By, Between

- 201. Collapsing roof.
- 202. Collapsing wall.
- 203. Collapsing floor.
- 204. Collapsing ceiling.
- 205. Fire progress.
- 206. Back draft.

- 207. Flashover.
- 208. Explosion.
- 209. Falling object(s).
- 210. Between objects.
- 211. Lost inside building.
- 212. Fire department apparatus.
- 213. Earth cave-in.
- 214. Underwater object(s) or obstacle(s).
- 299. Caught/Trapped not classified above.
- 200. Caught/Trapped; insufficient information to classify further.

### 3. Struck By

Use when injury-producing object moved toward injured person.

- 301. Collapsing roof.
- 302. Collapsing wall.
- 303. Collapsing ceiling.
- 304. Pieces of wall.
- 305. Ceiling being pulled by self.
- 306. Ceiling being pulled by others.
- 307. Dirt particles.
- 308. Flying glass.
- 309. Glass broken by self.
- 310. Glass broken by others.
- 311. Water stream, hand line.
- 312. Water stream, master stream.
- 313. Portable extinguisher stream.
- 314. Ladder.
- 315. Hand tools/equipment.
- 316. Hose.
- 317. Coupling.
- 318. Fire department apparatus.
- 319. Non-fire department vehicle.
- 320. Falling object(s).
- 321. Thrown objects, nonmalicious (see 803 for Malicious).
- 322. Apparatus and compartment doors.
- 323. Other doors.
- 324. Fire station equipment.
- 325. Other personnel (not intentional).
- 399. Struck By not classified above.
- 300. Struck By; insufficient information to classify further.

### 4. Contact with/Exposure to

- 401. Heat.
- 402. Embers.
- 403. Hot metal.
- 404. Hot tar, etc.
- 405. Fire.
- 406. Splinters.
- 407. Nails.
- 408. Glass.
- 409. Water.
- 410. Steam.
- 411. Smoke/toxic fire products.
- 412. Unusual fumes, gases.
- 413. Chemicals.
- 414. Radioactive material.
- 415. Electricity.
- 416. Utility flames, flares, torches, etc.
- 417. Underwater objects.
- 418. Insects.

- 419. Poisonous plants.
- 420. Contagious disease.
- 421. Extreme weather.
- 499. Contact with/Exposure to not classified above.
- 400. Contact with/Exposure to; insufficient information to classify further.

### 5. Overexertion/Strain

Use if related to the activity at the time injury is received.

- 501. While lifting hose.
- 502. While lifting ladder.
- 503. While lifting hand tools, saws, etc.
- 504. While lifting victim (during rescue from fire operation).
- 505. While lifting property/contents.
- 506. While lifting during rescue operation.
- 507. While lifting other, not classified above.
- 508. While carrying hose.
- 509. While carrying ladder.
- 510. While carrying hand tools, saws, etc.
- 511. While carrying victim (during rescue from fire operation).
- 512. While carrying property/contents.
- 513. While carrying during rescue operation.
- 514. While carrying, not classified above.
- 515. While pulling hose.
- 516. While pulling ladder.
- 517. While pulling hand tools, saws, etc.
- 518. While pulling victim (during rescue from fire operation).
- 519. While pulling property/contents.
- 520. While pulling during rescue operation.
- 521. While pulling other, not classified above.
- 522. While in rescue operation.
- 523. While climbing ladders.
- 524. While climbing stairs.
- 525. While climbing cliff or wall.
- 526. While climbing not classified above.
- 599. Overexertion/Strain not classified above.
- 500. Overexertion/Strain; insufficient information to classify further.

### 6. Exiting or Escaping - Jumped

- 601. From ladder.
- 602. From wall, ledge, or window.
- 603. From roof.
- 604. From other part of structure.
- 605. From fire department apparatus.
- 699. Exiting or Escaping - Jumped not classified above.
- 600. Exiting or Escaping - Jumped; insufficient information to classify further.

### 7. Fire Department Apparatus Accident

- 701. Collision with other vehicle.
- 702. Collision with pedestrian.
- 703. Collision with stationary object(s).
- 704. Collision not classified above.
- 705. Collision; insufficient information available to classify further.
- 706. Left road (no collision).
- 707. Overturned (no collision).
- 799. Fire Department Apparatus Accident not classified above.

700. Fire Department Apparatus Accident; insufficient information available to classify further.

#### 8. Assaulted

- 801. Struck by individual(s) (deliberate act).
- 802. Struck by individuals (crowd action pushing or shoving).
- 803. Struck by thrown object(s).
- 804. Cut/stabbed.
- 805. Gunshot.
- 806. Bitten.
- 899. Assault not classified above.
- 800. Assault; insufficient information available to classify further.

#### 9. Other Cause

- 999. Cause of Fire Fighter Injury not classified above.
- 000. Cause of Fire Fighter Injury undetermined or not reported.

#### OKA. Protective Coat Being Worn When Injured

- 1. Nomex protective coat with liner.
- 2. Nomex protective coat without liner.
- 3. Canvas protective coat with liner.
- 4. Canvas protective coat without liner.
- 5. Rubber (or rubberized) protective coat with liner.
- 6. Rubber (or rubberized) protective coat without liner.
- 7. Other protective coat with liner.
- 8. Other protective coat without liner.
- 9. No protective coat being worn when injured.
- 0. Protective Coat Being Worn When Injured undetermined or not reported.

#### OKB. Status of Protective Coat at Time of Injury

- 1. Open.
- 2. Partially open.
- 3. Closed, collar up.
- 4. Closed, collar down.
- 8. No protective coat being worn.
- 9. Status of Protective Coat at Time of Injury not classified above.
- 0. Status of Protective Coat at Time of Injury undetermined or not reported.

#### OKC. Problem with Protective Coat

- 1. Burned.
- 2. Ripped.
- 3. Melted.
- 4. Cut.
- 5. Trapped steam or hazardous gases.
- 7. No failure of the protective coat.
- 8. No protective coat worn.
- 9. Problem with Protective Coat not classified above.
- 0. Problem with Protective Coat undetermined or not reported.

#### OLA. Protective Trousers Being Worn When Injured

- 1. Nomex protective trousers with liner.
- 2. Nomex protective trousers without liner.
- 3. Canvas protective trousers with liner.
- 4. Canvas protective trousers without liner.
- 5. Rubber (or rubberized) protective trousers with liner.

- 6. Rubber (or rubberized) protective trousers without liner.
- 7. Other protective trousers with liner.
- 8. Other protective trousers without liner.
- 9. No protective trousers being worn when injured.
- 0. Type of Protective Trousers Being Worn When Injured undetermined or not reported.

#### OLB. Protective Trousers Status

- 1. Protective trousers worn properly.
- 2. Protective trousers worn inside boots.
- 3. Protective trousers worn without suspension.
- 8. No protective trousers worn.
- 9. Protective Trousers Status not classified above.
- 0. Protective Trousers Status undetermined or not reported.

#### OLC. Problem with Protective Trousers

- 1. Burned.
- 2. Ripped.
- 3. Melted.
- 4. Cut.
- 5. Trapped steam or hazardous gases.
- 7. No failure of the protective trousers.
- 8. No protective trousers worn.
- 9. Problem with Protective Trousers not classified above.
- 0. Problem with Protective Trousers undetermined or not reported.

#### OMA. Boots/Shoes Being Worn When Injured

- 1. Boots, knee length (steel baseplate and steel toe).
- 2. Boots, knee length (steel toe only).
- 3. Boots,  $\frac{3}{4}$  length (steel baseplate and steel toe).
- 4. Boots,  $\frac{3}{4}$  length (steel toe only).
- 5. Shoes, safety (steel baseplate and steel toe).
- 6. Shoes, safety (steel toe only).
- 7. Boots, without steel reinforcement.
- 8. Shoes, nonsafety.
- 9. Boots/Shoes Being Worn When Injured not classified above.
- 0. Boots/Shoes Being Worn When Injured undetermined or not reported.

#### OMB. Status of Boots at Time of Injury

- 1.  $\frac{3}{4}$  length boots pulled up (full length).
- 2.  $\frac{3}{4}$  length boots not pulled up.
- 3. Knee length boots worn.
- 4. Shoes worn.
- 8. No boots or shoes worn.
- 9. Status of Boots at Time of Injury not classified above.
- 0. Status of Boots at Time of Injury undetermined or not reported.

#### OMC. Problem with Boots/Shoes

- 1. Burned.
- 2. Ripped.
- 3. Cut.
- 4. Punctured.
- 5. Object fell into.
- 6. Failed under impact.
- 8. No failure of boots/shoes.
- 9. Problem with Boots/Shoes not classified above.

- 0. Problem with Boots/Shoes undetermined or not reported.

#### **ONA. Helmet Being Worn When Injured**

- 1. Leather helmet.
- 2. Aluminum helmet.
- 3. Glass fiber helmet.
- 4. Polycarbonate helmet.  
Includes lexan, etc.
- 8. No helmet being worn.
- 9. Helmet Being Worn When Injured not classified above.
- 0. Helmet Being Worn When Injured undetermined or not reported.

#### **ONB. Status of Helmet at Time of Injury**

- 1. Chin strap in use.
- 2. Chin strap and ear/neck protector in use.
- 3. Ear/neck protector only in use.
- 4. Chin strap and ear/neck protector not in use.
- 8. No helmet being worn.
- 9. Status of Helmet at Time of Injury not classified above.
- 0. Status of Helmet at Time of Injury undetermined or not reported.

#### **ONC. Problem with Helmet**

- 1. Burned.
- 2. Melted.
- 3. Fractured.
- 4. Punctured.
- 5. Knocked off.
- 7. No failure of helmet.
- 8. No helmet worn.
- 9. Problem with Helmet not classified above.
- 0. Problem with Helmet undetermined or not reported.

#### **OOA. Face Protection Being Worn When Injured**

- 1. Full face protection.
- 2. Partial face protection.
- 3. Goggles worn.
- 8. No face protection being worn.
- 9. Face Protection Being Worn When Injured not classified above.
- 0. Face Protection Being Worn When Injured undetermined or not reported.

#### **OOB. Problem with Face Protection**

- 1. Burned.
- 2. Melted.
- 3. Fractured/cracked/broke.
- 4. Scratched.
- 7. No failure of face protection.
- 8. No face protection being used.
- 9. Problem with Face Protection not classified above.
- 0. Problem with Face Protection undetermined or not reported.

#### **OPA. Breathing Apparatus Being Used When Injured**

- 1. Self-contained open circuit demand-type apparatus.

- 2. Self-contained open circuit pressure-type apparatus.
- 3. Self-contained closed circuit-type apparatus.
- 4. Not self-contained.
- 8. No breathing apparatus being used when injured.
- 9. Breathing Apparatus Being Used When Injured not classified above.
- 0. Breathing Apparatus Being Used When Injured undetermined or not reported.

#### **OPB. Status of Breathing Apparatus**

- 1. Face piece and regulator connected.
- 2. Air supply turned off.
- 3. Face piece not in place.
- 4. Harness not secured.
- 5. Breathing apparatus properly worn.
- 8. No breathing apparatus.
- 9. Status of Breathing Apparatus not classified above.
- 0. Status of Breathing Apparatus undetermined or not reported.

#### **OPC. Problems with Breathing Apparatus**

##### **1. Face Piece/Hose**

- 11. Burned.
- 12. Ripped.
- 13. Melted.
- 14. View plate cracked/broken.
- 15. Detached.
- 16. Exhalation valve inoperative/damaged.
- 19. Problem with Face Piece/Hose not classified above.
- 10. Problem with Face Piece/Hose; insufficient information available to classify further.

##### **2. Harness**

- 21. Burned.
- 22. Ripped.
- 23. Melted.
- 24. Detached/separated.
- 29. Problem with Harness not classified above.
- 20. Problem with Harness; insufficient information available to classify further.

##### **3. Regulator**

- 31. Failed.
- 32. Damaged by contact.
- 33. Problem with admissions valve.
- 39. Problem with Regulator not classified above.
- 30. Problem with Regulator; insufficient information available to classify further.

##### **4. Alarm**

- 41. Failed to operate.
- 42. Damaged by contact.
- 49. Problem with Alarm not classified above.
- 40. Problem with Alarm; insufficient information available to classify further.

##### **5. Supply Cylinder/Valve**

- 51. Failed to operate.
- 52. Damaged by contact.
- 53. Contained insufficient air/oxygen.

- 59. Problem with Supply Cylinder/Valve not classified above.
- 50. Problem with Supply Cylinder/Valve; insufficient information available to classify further.

#### 9. Other Problems with Breathing Apparatus

- 97. No failure of breathing apparatus.
- 98. No breathing apparatus being used.
- 99. Problems with Breathing Apparatus not classified above.
- 00. Problems with Breathing Apparatus undetermined or not reported.

#### OQA. Gloves Being Worn When Injured

Gloves made of a combination of materials should be classified by the major material the glove is made of.

- 1. Cotton.
- 2. Wool.
- 3. Canvas.
- 4. Leather.
- 5. Asbestos.
- 6. Rubber.
- 7. Synthetic.  
Including Nomex.
- 8. No gloves being worn when injured.
- 9. Gloves Being Worn When Injured not classified above.
- 0. Gloves Being Worn When Injured undetermined or not reported.

#### OQB. Problem with Gloves

- 1. Burned.
- 2. Ripped.
- 3. Melted.
- 4. Cut, punctured.
- 5. Object fell into.
- 6. Insufficient insulation.
- 7. No failure of the gloves.
- 8. No gloves being worn.
- 9. Problem with Gloves not classified above.
- 0. Problem with Gloves undetermined or not reported.

#### ORA. Special Equipment

- 1. Proximity suit.
- 2. Chemical suit.
- 3. Scuba gear.
- 4. Exposure suit.
- 5. Life preservers.
- 6. Life belt, ladder belt.
- 7. Personal lighting.
- 8. No special equipment being used.
- 9. Special Equipment not classified above.
- 0. Special Equipment undetermined or not reported.

#### ORB. Special Equipment Status

- 1. Being worn properly and used for designed purpose.
- 2. Being worn properly but not used for designed purpose.
- 3. Not being worn properly but used for designed purpose.
- 4. Not being worn properly and not used for designed purpose.

- 8. No special equipment being used.
- 0. Special Equipment Status undetermined or not reported.

#### ORC. Problem with Special Equipment

- 1. Burned.
- 2. Ripped, torn, cut, punctured.
- 3. Melted.
- 4. Not properly serviced/stored prior to use.
- 5. Not used for designed purpose.
- 6. Not used as recommended by manufacturer.
- 7. No problem with special equipment.
- 8. No special equipment being used.
- 9. Problem with Special Equipment not classified above.
- 0. Problem with Special Equipment undetermined or not reported.

#### OSA. Medical Care Provided

- 1. None.
- 2. Treated at scene.
- 3. Treated at medical clinic.
- 4. Treated at doctor's office.
- 5. Hospital emergency room.
- 6. Hospital outpatient.
- 7. Hospital inpatient.
- 8. Continued care after hospital release.
- 9. Medical Care Provided not classified above.
- 0. Medical Care Provided undetermined or not reported.

#### OSB. Length of Hospitalization

The time should reflect the total elapsed time period in days or weeks regardless of working schedules.

- 1. No hospitalization required.  
Included are casualties treated in emergency room and released.
- 2. One day.
- 3. Two days.
- 4. Three days.
- 5. Four to five days.
- 6. Six to ten days.
- 7. Eleven to twenty days.
- 8. Twenty-one to thirty days.
- 9. Over thirty days.
- 0. Length of Hospitalization undetermined or not reported.

#### OSC. Time Lost from Normal Duties

The time should reflect the total elapsed time period in days or weeks regardless of working schedules.

"Normal duties" is considered the assignment the person had prior to the injury.

- 1. No time lost.
- 2. Less than one day.
- 3. One to three days.
- 4. Four days to one week.
- 5. One to two weeks.
- 6. Two weeks to one month.
- 7. One to three months.
- 8. Three to six months.
- 9. Over six months.
- 0. Time Lost from Normal Duties undetermined or not reported.

**OSD. Time on Restricted Duty**

The time should reflect the total elapsed time period in days or weeks regardless of working schedules.

1. Not on restricted duty.
2. Less than one day.
3. One to three days.
4. Four days to one week.
5. One to two weeks.
6. Two weeks to one month.
7. One to three months.
8. Three to six months.
9. Over six months.
0. Time on Restricted Duty undetermined or not reported.

**OSE. Time Off for Medical Treatment**

The time should reflect the total elapsed time period in days or weeks regardless of working schedules.

1. No time lost.
2. Less than one day.
3. One to three days.
4. Four days to one week.
5. One to two weeks.
6. Two weeks to one month.
7. One to three months.
8. Three to six months.
9. Over six months.
0. Time Off for Medical Treatment undetermined or not reported.

**OSF. Final Outcome of Injury**

1. Return to regular assignment.
2. Temporarily transferred to other fire service duties due to disability.
3. Permanently transferred to other fire service duties due to disability.
4. Disability retirement.
5. Fatal at scene.
6. Fatal prior to hospital admission.  
Excluded is fatal at scene (5).
7. Fatal subsequent to hospital admission.
9. Final Outcome of Injury not classified above.
0. Final Outcome of Injury undetermined or not reported.

**PART IV — ALPHABETICAL LISTINGS**

Part III of this standard presents data elements that have a coding structure associated with them in their logical sequence (classification number order). In this part of the standard, the materials presented in Chapters A, B, C, E, F, G, HA, HB, and I of Part III are shown in alphabetical order by a short description. The same code number will often appear more than once in these lists. It is suggested that persons using these alphabetical lists consult the appropriate classification in Part III to determine whether there are any qualifications on the use of the classification.

**Chapter A'. General Property Use**

The following alphabetical list is based on the logic and definitions presented in Chapter A of Part III for General Property Use. A person using this list should consult Chapter A of Part III to ensure that there are no qualifications on the definition of the term.

97	Airport	70	Manufacturing use
11	Amusement park	94	Marina
42	Apartment	33	Medical center
12	Armory	14	Men's club
12	Athletic facility	33	Mental institution
12	Ball park	63	Military reservation
40	Business with residential use	67	Mine, quarry
11	Campsite: improved	47	Mobile home park
31	Care of handicapped	44	Motel
14	Casino	92	National forest
13	Cemetery	59	Office
14	Club	65	Orchards
22	College	11	Park
64	Communications facilities	17	Passenger terminal
42	Condominium	61	Power production, distribution
91	Construction site	34	Prison
14	Country club	12	Racetrack
64	Data processing center	95	Railroad use
63	Defense use	11	Recreation park
91	Demolition site	93	Refuse disposal
51	Department store	13	Religious use
51	Discount store	62	Research facility
41	Dwelling	40	Residential with business use
12	Exhibition hall	16	Restaurant
65	Farm	51	Retail sales use
16	Food service use	96	Road
13	Funeral use	21	School through secondary level
14	Golf club	52	Service use
59	Government office use (not military)	51	Shopping center
11	Government park	12	Sports garden
43	Group living use	12	Stadium
31	Handicapped care	92	State forest
96	Highway	80	Storage use
33	Hospital	51	Store
44	Hotel	96	Street
66	Indian reservation	18	Studio
70	Industrial plant	14	Tennis club
44	Inn	17	Terminal: passenger
15	Judicial use	18	Theater
15	Legislative use	65	Timberland
15	Library	22	University
65	Livestock production	94	Waterfront
92	Local forest	92	Wildland
44	Lodge	14	Women's club
52	Maintenance use	11	Zoo

**Chapter B'. Specific Property Use**

The following alphabetical list is based on the logic and definitions presented in Chapter B of Part III for Specific Property Use. A person using this list should consult the appropriate classification in Chapter B of Part III to ensure that there are no qualifications on the definition of the term.

This breakdown is to assist the user in finding the appropriate classification. The user should first determine which of the following principal classifications the Specific Property Use falls into and ensure that the classification ultimately chosen is within that classification.

1. Public Assembly Property
2. Educational Property