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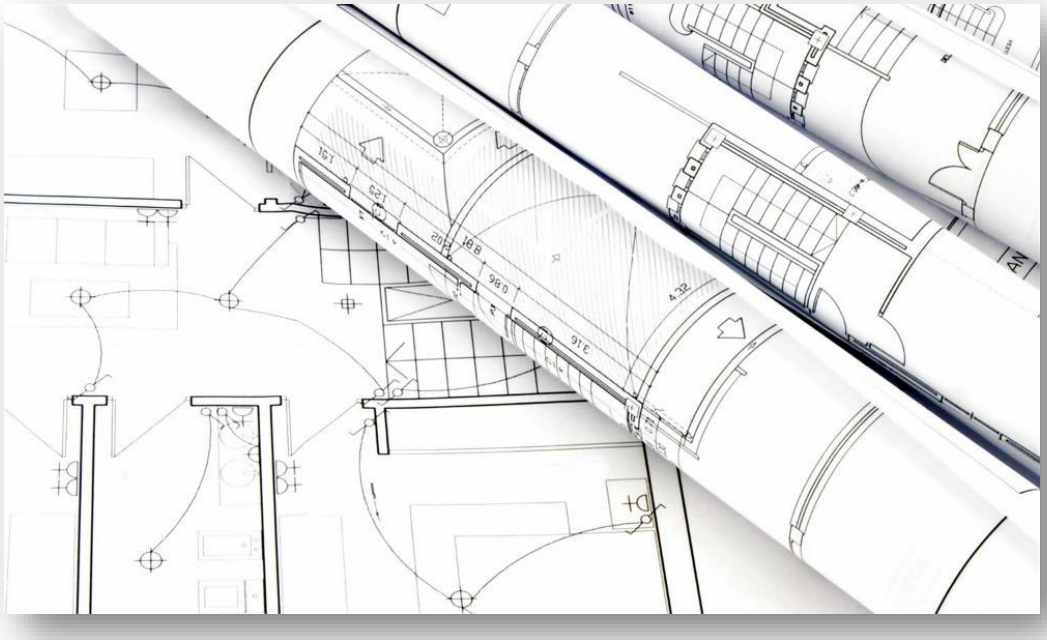
Commonwealth of Virginia
Department of General Services
Division of Engineering & Buildings

Project Identification Codes

For Commonwealth of Virginia projects, the Project Identification Code is the most essential project identifier. It may also be variously referred to as the Project Code Number, the P.C. Number, the Project Code, or the Project Number. Regardless which of these variants is used, the complete Project Identification Code as used on Commonwealth of Virginia projects is a concatenation of a three-character Agency Code, a five-character Project Code, and a three-character Subproject Code. It is usually displayed in the format "aaa-ppppp-sss," where "aaa" = Agency Code, "ppppp" = Project Code, and "sss" = Subproject Code. In reality, the "ppppp-sss" portion of the Project Identification Code is a unique project identifier, as the five-character Project Code is never used for different agencies; however, the Agency Code is always included in the eleven-digit full Project Identification Code for convenience.



Project Identification Codes must be used on all project records throughout the life of the project including, but not limited to; correspondence, design narratives, plans, specifications, addenda, contracts, sketches, invoices, and forms. DEB emphasizes this requirement in the Construction and Professional Services Manual (CPSM), in training seminars, in project initiation meetings, in review comments and in correspondence. This requirement is described in CPSM Section 5.0.1, Project Identification on Documents, and is reinforced throughout other sections of the Manual. The complete and consistent use of the correct Project Identification Code on all project documents is especially important should a project later proceed into litigation. Documents without the correct Project Identification Code may not be considered admissible in court.

There are two primary types of projects - Capital Projects and Non-Capital Projects, and while the same eleven-character Project Identification Code format is used for both, there are certain differences.

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Capital Project Identification Codes

The assignment of the five-character Project Codes to capital projects is made via the Appropriations Act. Thereafter, a capital project may be subdivided into separate Subprojects by assigning sequential subproject codes, starting with "001." This may be done for reasons such as, but not limited to; projects with a blanket or umbrella appropriation, a project that will be accomplished by separate contracts at multiple locations, projects with acquisitions at multiple locations, a single project to be accomplished through two or more construction contracts, projects with phased construction or early release packages, or, in some cases, for projects with separate buildings that will require separate building permits.

- Agencies should coordinate the assignment of Subproject Codes with DEB's CO Forms Program Administrator to assure the Agency, DEB, and DPB (Department of Planning & Budget) are on the same page in understanding precisely how the overall project will be subdivided. The assignment and coordination of Subproject Codes should be done as soon as possible.
- The "000" Subproject Code should be used only when referring to the complete project (i.e., all subprojects combined), whereas other Subproject Codes are used for the reasons cited earlier.

An Example Project Identification Code for the Complete Capital Project, 194-17777-000 where:

- 194 = 3-digit agency code
- 17777 = 5-digit project code
- 000 = 3-digit subproject code (again, the "000" subcode represents the complete project)

An Example Project Identification Code for a Project with Early Release Packages:

- 194-18888-001 Site Utilities Work
- 194-18888-002 Foundations
- 194-18888-000 Full Project (the complete Project- the last permit to be issued)

Example Capital Project Identification Codes for a Project with Multiple Subprojects:

- 194-19999-001 Laboratory Building (Subproject #1)
- 194-19999-002 Administration Building (Subproject #2)
- 194-19999-003 Research Building (Subproject #3)
- 194-19999-000 Laboratory, Administration, and Research Complex (the complete Project)

Non-Capital Project Identification Codes

Non-capital (or "non-cap") Project Identification Codes are assigned by DEB and should be requested by the Agency prior to the first submission of any project documents. Like capital Project Identification Codes, non-capital Project Identification Codes still consist of a three-digit Agency Code, a five-character Project Code, and a sequential three-character "Subproject" Code. However, for non-cap projects, the combination of the Project Code and the Subproject Code (i.e., each "ppppp-sss" code combination) represents a complete and unique non-cap project. Also, the "ppppp" portion of the project code has a special syntax: "yyaaa", where "yy" = the last two digits of the calendar year in which the non-cap project was first originated and "aaa" is a repeat of the agency code (to enforce uniqueness). Simplified, the format for a non-cap project is "aaa-yyaaa-sss" (See an additional clarification regarding the "yy" portion of the Non-cap Project Identification Code for years 2010 and beyond in the box below).

To request a non-cap Project Identification Code from DEB, the agency should send an email to capout@dgs.virginia.gov. Following is the suggested email format:

Email Subject: Project Code Request
Email Body:

Please assign a Project Code for the following project:

Agency: 156 (DSP)
Project Title: Reroofing of Headquarters Building
Funding Source(s): Maintenance Reserve Funds
Location: Chesterfield County
Facility/Campus: N/A

Example Non-Capital Project Identification Codes:

Note: All of these examples are for DGS (Agency 194) Projects, using the prescribed "aaa-yyaaa-sss" format.

- **194-98194-001** Washington Building Loading Dock Renovation (first DGS non-cap project originated in 1998)
- **194-98194-002** Pocahontas Building Entrance Modifications (second DGS non-cap project originated in 1998)
- **194-08194-001** Washington Building Roof Replacement (first DGS non-cap project originated in 2008)
- **194-A3194-003** Madison Building Computer Room HVAC (third DGS non-cap project originated in 2013)
- **194-B0194-005** Monroe Building ADA Upgrades (fifth DGS non-cap project originated in 2020)

Why do some non-cap numbers use "A" or "B" in the project code in the "yy" (year) portion of the code?

The Project Number field in BITS and certain other state computer systems was restricted to 5 characters. When 2010 hit, continued use of "1" in the first position of the "yy" field, would have caused conflict with (potential duplication of) the capital project codes which also started with that digit. To avoid this conflict and to avoid significant (and expensive) upgrades to BITS (under DGS/DEB control) and other state computer systems (not under DGS/DEB control), DEB chose to merely substitute an "A" for the digit "1", to represent the years in the 2010-2019 decade AND a "B" for the digit "2" to represent the years in the 2020 to 2029 decade. This small syntax change avoided these issues.

In simplified terms, the letter "B" will appear in all new Project Identification Codes for any non-capital projects originated over the next nine years.

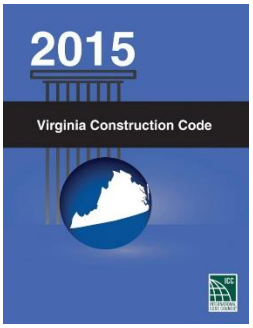
Methods of Fire Alarm System Communications

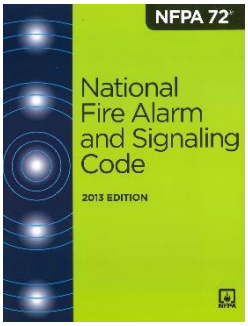
We have all heard the old adage, "If a tree falls in the forest and no one is around to hear it, does it make a sound?" What if the same idea was considered with respect to a building fire alarm system? The question might sound something like this: "If a fire alarm system in a building is activated, but no one outside of that building ever knows about it, has the system really achieved its intended purpose?" Horns and strobes may continue to function within the building, but if the fire alarm signals are not successfully transmitted offsite to trained responders, it may very well be too late once the fire is actually discovered.

One of the most critical components of a fire alarm system is its ability to communicate to the outside world – namely, to an approved supervising station where trained individuals continuously monitor the status of the fire alarm system and are prepared to respond immediately. This article will focus on the communications methodologies between the protected premises (i.e. the building, or buildings, being protected by the fire alarm system) and the supervising station. The types and characteristics of approved supervising stations will be explained in a future article.

The Requirement (or Not) for Fire Alarm Systems and their Supervision

The requirement for fire alarm system supervision is rooted in the 2015 Virginia Construction Code (VCC). First and foremost, this is a code requirement. While the 2013 National Fire Alarm and Signaling Code (NFPA 72) contains specific provisions for how this required supervision is implemented, it does not provide the mandate. With few exceptions, VCC sections 901.6.1, 901.6.2, and 901.6.3 require that automatic sprinkler systems, fire alarm systems, and High Hazard (H) emergency alarm systems, respectively, be monitored by an approved supervising station in accordance with NFPA 72. Depending on the use, size, and components of a building, monitored systems might range from nothing at all, to a dedicated function fire alarm system (ref. NFPA 72 section 3.3.102.2.1), to a full-fledged building fire alarm system.





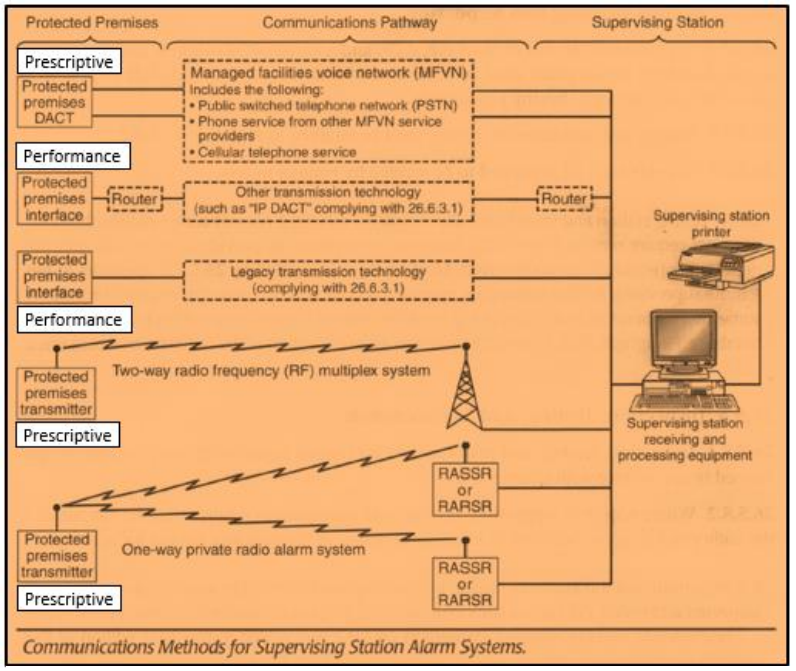
It should also be noted that various types of fire alarm systems are often implemented in buildings at the Owner's option. Even systems which are not required by the code shall nonetheless be installed in conformance with NFPA 72 and the relevant provisions of the VCC. Sections such as VCC 901.2 and 901.4.5 of the 2015 Virginia Statewide Fire Prevention Code (VSFPC) are intended to ensure that all fire protection systems are installed and maintained to provide the intended fire protection functions. This includes proper monitoring and supervision of fire alarm systems, no matter the basis for their installation. Refer to the 2020 Construction and Professional Services Manual (CPSM), Revision 0, section 4.1.2.5 - Safety Equipment Not Required by Code. Once the requirements have been determined based on the VCC and the Owner, NFPA 72 contains the provisions for the installation of such systems. Specific to the topic at hand, NFPA 72 section 26.6 describes various communications methods between a fire alarm system and an approved supervising station.

Communications Methodologies – the "Big Picture"

The creators of the NFPA 72 handbook have produced a helpful graphic to illustrate the main categories for fire alarm communications methods. Refer to Exhibit 26.10. As explained, the focus of this artide is the center category labeled:

Communications Pathway

This is the critical bridge between the protected premises and the approved supervising station.



NFPA 72 Exhibit 26.10 *("Prescriptive" and "Performance" labels added for clarification)*

Illustrated in this graphic are two broad categories: prescriptive and performance-based communications. First, as the name conveys, prescriptive methods must meet a prescribed list of requirements for a specific technology which is clearly defined in the applicable portions of NFPA 72 section 26.6. Prescriptive methods include Digital Alarm Communicator Transmitters (DACTs) in section 26.6.3.2, Two-Way Radio Frequency (RF) Multiplex Systems in section 26.6.3.3.1, and One-Way Private Radio Alarm Systems in section 26.6.3.3.2.

In Virginia state agency projects, DACT systems are by far the most prevalent prescriptive technology utilized, with the latter radio systems being relatively uncommon. DACT systems have traditionally utilize the Public Switched Telephone Network (PSTN) via copper wire, otherwise referred to as Plain Old Telephone Service (POTS) lines. In recent years, the PSTN has evolved into a more sophisticated network with shared communications pathways and various technological capabilities. This has led to the emergence of Managed Facilities-Based Voice Networks (MFVNs), which are essentially new and improved private versions of the public utility telephone companies.

Historically, DACT systems were required to utilize two separate telephone lines as a means of redundancy and increased reliability. However, in light of newer technologies and the gradual sunsetting of the copper phone line network, the 2013 edition of NFPA 72 section 26.6.3.2.1.4(A) requires DACTS to now utilize one telephone line as the primary means of transmission and one alternate technology (i.e. non-phone line) as a secondary, or redundant transmission means. Unless specifically approved by DEB under special circumstances, two phone lines are no longer permitted to satisfy this requirement.

The provisions for performance-based communications methods, to quote from NFPA 72 section A.26.6.3.1, do not "give details of specific technologies but rather give basic operating parameters of the transmission supervision rates of technologies." In other words, these methods may consist of a variety of technologies, incorporate single or multiple communications pathways, and utilize shared or dedicated communications equipment. Examples of performance-based systems include internet protocol technologies and digital

cellular communicators, to name a few. Whichever arrangement is chosen, NFPA 72 provides the framework for the supervision, signal transmission speed, and overall reliability of the means of communications for performance-based technologies. These communications methods offer flexibility and more options for the Owner when determining the most efficient and cost-effective strategy for fire alarm system monitoring.

How Does This Translate to My Project?

Fire alarm systems in existing protected premises need to be updated and/or replaced on a regular basis as technologies expand and improve, as existing equipment becomes obsolete, and as needs change for a given building. Additional considerations are also necessary for Owners with a campus full of buildings, such as a University. Working with a fire protection engineering or a code consulting firm is generally the best way to accurately assess the specific needs of a building (or buildings) and to determine the most efficient and long-term solution based on the availability of technologies in a particular region. In a campus setting, it is critical to establish the long view up front so that each individual project along the way, as existing systems turn into candidates for replacement and new systems are installed, can be designed to move toward a common goal.

From a Virginia Construction Code standpoint, as discussed at the beginning of this article, the requirement is simply that fire protection systems "shall be monitored by an approved supervising station in accordance with NFPA 72." When the Agency (with the help of the necessary design professionals) demonstrates to DEB that their proposed means of fire alarm system supervision meets the requirements of the relevant portions of NFPA 72 section 26.6, then the requirement of the building code has been successfully met. Specifically, the Agency shall identify the appropriate path to compliance by citing the applicable prescriptive or performance-based communications method (NFPA 72 section 26.6.3.1, 26.6.3.2, or 26.6.3.3) and demonstrating how each sub-requirement from that section is proposed to be met for a given project.

Often times, the selection of the appropriate communications method is complex and involves a number of factors and considerations. It is recommended to initiate a meeting with DEB early in the design process to discuss possible options and to sift through the various details, many of which can have significant short term and long-term impacts.

State Review Mechanical Engineer (EE011)

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2) A professional engineering license in Virginia, and
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