

PRECEDENCE RELATIONSHIP AMONG ACTIVITIES

Precedence relations between activities signify that the activities must take place in a particular sequence. Numerous natural sequences exist for construction activities due to requirements for structural integrity, regulations and other technical requirements.

activity direct cost

This is the cost that can be traced in full with the execution of a specific activity. It consists of costs of direct labour, direct equipment and other direct costs.

For example: in the activity of roof concreting, the following direct costs would be involved.

Types of costs item of costs

Direct materials cost of concrete and steel

Direct labour cost of labour employed

coding systems:

One objective in many construction planning efforts is to define the plan within the constraints of a universal coding system for identifying activities. Each activity defined for a project would be identified by a pre-defined code specific to that activity. The use of a common nomenclature or identification system is basically motivated by the desire for

better integration of organizational efforts and improved information flow. In particular, coding systems are adopted to provide a numbering system to replace verbal descriptions of items. These codes reduce the length or complexity of the information to be recorded. A common coding system within an organization also aids consistency in definitions and categories between projects and among the various parties involved in a project. Common coding systems also aid in the retrieval of historical records of cost, productivity and duration on particular activities. Finally, electronic data storage and retrieval operations are much more efficient with standard coding systems.

The most widely used standard coding system for constructed facilities is the MASTERFORMAT system developed by the Construction Specifications Institute (CSI) of the United States and Construction Specifications of Canada. After development of separate systems, this combined system was originally introduced as the Uniform Construction Index (UCI) in 1972 and was subsequently adopted for use by numerous firms, information providers, professional societies and trade organizations. The term MASTERFORMAT was introduced with the 1978 revision of the UCI codes.

MASTERFORMAT provides a standard identification code for nearly all the elements associated with building construction.

MASTERFORMAT involves a hierarchical coding system with multiple levels plus keyword text descriptions of each item. In the numerical coding system, the first two digits represent one of the sixteen divisions for work; a seventeenth division is used to code conditions of the contract for a constructor. In the latest version of the MASTERFORMAT, a third digit is added to indicate a subdivision within each division. Each division is further specified by a three digit extension indicating another level of subdivisions. In many cases, these subdivisions are further divided with an additional three digits to identify more specific work items or materials. For example, the code 16-

950-960, "Electrical Equipment Testing" are defined as within Division 16 (Electrical) and Sub-Division 950 (Testing). The keywords "Electrical Equipment Testing" is a standard description of the activity.

While MASTERFORMAT provides a very useful means of organizing and communicating information, it has some obvious limitations as a complete project coding system. First, more specific information such as location of work or responsible organization might be required for project cost control. Code extensions are then added in addition to the digits in the basic MASTERFORMAT codes. For example, a typical extended code might have the following elements:

0534.02220.21.A.00.cf34

The first four digits indicate the project for this activity; this code refers to an activity on project number 0534. The next five digits refer to the MASTERFORMAT secondary division; referring to Table 9-7, this activity would be 02220 "Excavating, Backfilling and Compacting." The next two digits refer to specific activities defined within this MASTERFORMAT code; the digits 21 in this example might refer to excavation of column footings. The next character refers to the block or general area on the site that the activity will take place; in this case, block A is indicated. The digits 00 could be replaced by a code to indicate the responsible organization for the activity. Finally, the characters cf34 refer to the particular design element number for which this excavation is intended; in this case, column footing number 34 is intended. Thus, this activity is to perform the excavation for column footing number 34 in block A on the site.

activity indirect cost:

This is the cost that incurred while performing an activity, but cannot be traced directly to its execution. In other words, all costs other than the direct ones fall in this category. These represent the apportioned share of supervision; general and administration costs are commonly referred to as overheads

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