AACE® International Recommended Practice No. 10S-90

COST ENGINEERING TERMINOLOGY
TCM Framework: General Reference (All Sections)

Rev. March 23, 2021

Note: As AACE International Recommended Practices evolve over time, please refer to web.aacei.org for the latest revisions.

Any terms found in AACE Recommended Practice 10S-90, Cost Engineering Terminology, supersede terms defined in other AACE work products, including but not limited to, other recommended practices, the Total Cost Management Framework, and Skills & Knowledge of Cost Engineering.
INTRODUCTION

This recommended practice provides the basic meanings of terms, as they are used in the cost engineering field described in AACE International’s Total Cost Management Framework. Some terms may have different meanings when applied in fields other than cost engineering. Some terms may have different meanings for the various disciplines within cost engineering. Multiple definitions are given for terms where applicable. Definitions specific to each discipline are often introduced by identifying the relevant discipline—e.g., “In planning and scheduling,” “In estimating and budgeting,” “In risk analysis,” etc.

The definitions may not provide all available information on each term; nor do they explain every possible variation in application. This recommended practice intends to provide clear and concise definitions; it intends to identify common usage in the context of cost engineering.

Many of the terms are closely related. Review of the definitions of related terms is recommended for an understanding of the similarities and differences in their meaning and usage. Relationships between terms are designated as follows:

- Syn.: Indicates another term with the same meaning.
- See: Indicates a closely related term with a similar but slightly different meaning or usage and may be written as “See also:”

Unless otherwise noted, all terms contained in this document have been developed by various AACE International technical subcommittees, special interest groups, or project teams. All terms have been subject to a thorough review process, followed by AACE International Technical Board approval.

The (month yyyy) at the end of each definition, indicates the date that the definition was adopted or its most recent revision date.

Any terms found in AACE Recommended Practice 105-90, Cost Engineering Terminology, supersede terms defined in other AACE work products, including but not limited to, other recommended practices, the Total Cost Management Framework, and Skills & Knowledge of Cost Engineering.
CHANGE LOG

Changes in March 23, 2021 revision:
CONSTRUCTABILITY (revised)
COST ESTIMATING METHODOLOGY, DETERMINISTIC (new)
COST ESTIMATING METHODOLOGY, STOCHASTIC (new)
DISCOVERY WORK (new)
EMERGENT WORK (new)
KEY PERFORMANCE PROJECT PARAMETER (new)
PREMISE DOCUMENT (new)

Changes in February 23, 2021 revision:
ACCURACY RANGE (revised)
CONFIDENCE INTERVAL (revised)
CONFIDENCE LEVEL (revised)
CONTINGENCY (revised)
COST ESTIMATE (revised)
EXPECTED ACCURACY RANGE (new)
EXPECTED ESTIMATE ACCURACY (new)
ISSUE (revised)
P-VALUE (new)
RISK, BACKGROUND (new)
UNCERTAINTY (revised)

Changes in November 3, 2020 revision:
ACCURACY RANGE (revised)
BENCHMARKING (revised)
CAPITAL EFFECTIVENESS (new)
CHANGE DRIVER (new)
COMPETITIVENESS (new)
CONTROL SCHEDULE (new)
CURRENT SCHEDULE (revised)
ESTIMATE COST STRATEGY (new)
ESTIMATE REVIEW (new)
ESTIMATE VALIDATION (new)
INTEGRATED PROJECT PLAN (IPP) (new)
PREDICTABILITY (new)
PROJECT EXECUTION PLAN (PEP) (new)
SCHEDULE UPDATE (revised)
SERVICE CONTRACT (new)

Changes in October 10, 2019 revision:
COST BREAKDOWN STRUCTURE (CBS) (revised)
COST ELEMENT (revised)
RECASTING (new)

Changes in April 26, 2019 revision:
UNCERTAINTY (revised)

Changes in April 17, 2019 revision:
COST ENGINEER (revised)
COST ENGINEERING (new)
PROJECT ATTRIBUTES (new)

Changes in October 8, 2018 revision:
BROWNFIELD (new)
GREENFIELD (new)

Changes in October 5, 2018 revision:
AS-OF DATE (revised)
COMMON CAUSE VARIATION (new)
DATA DATE (revised)
RECOMMENDED PRACTICE (RP) (new)
SCHEDULE REVISION (revised)
SCHEDULE UPDATE (revised)
SPECIAL CAUSE VARIATION (new)
STATUSING (revised)
TIME NOW (revised)
UNCERTAINTY (revised)
UPDATE DATE (revised)

Changes in June 20, 2018 revision:
HALF-STEP/DUAL-TRACKING SCHEDULE UPDATES (new)
SCHEDULE LOG (new)

Changes in October 31, 2017 revision:
RESOURCE (revised)

Changes in October 18, 2017 revision:
MERGE POINT (new)
SCHEDULE REPORT (revised)
SCHEDULE UPDATE NARRATIVE (new)

Changes in June 6, 2017 revision:
FRAGNET (revised)
IMPACTED SCHEDULE (new)
TARGET ACTIVITY (new)
UNIMPACTED SCHEDULE (new)

Changes in December 28, 2016 revision:
PROCUREMENT LOG (new)
PROCUREMENT SCHEDULE (new)
SUBMITTAL (new)
SUBMITTAL LOG (new)
SUBMITTAL PACKAGE (new)
SUBMITTAL PROCESS (new)
SUBMITTAL STATUS (new)

Changes in November 23, 2016 revision:
ACCURACY (new)
PRECISION (new)
Changes in March 1, 2016 revision:
- EARNED SCHEDULE (ES) (revised)
- INDEPENDENT ESTIMATE AT COMPLETION (IEAC) (new)
- INDEPENDENT ESTIMATE AT COMPLETION [IEAC(t)] (revised)

Changes in January 28, 2016 revision:
- QUALITY AUDIT (revised)
- PROJECT SUMMARY WORK BREAKDOWN STRUCTURE (deleted)
- PROJECT WORK BREAKDOWN STRUCTURE (new)
- WORK PACKAGE (revised)

Changes in September 22, 2015 revision:
- ADVERSE WEATHER (new)
- NORMAL WEATHER (revised)
- PLANNED ADVERSE WEATHER DAY (new)
- SEVERE WEATHER (new)
- UNUSUALLY ADVERSE WEATHER DAY (new)
- UNUSUALLY SEVERE WEATHER (deleted)
- WEATHER DAY (new)
- WEATHER EVENT (new)
- WEATHER PREPARATION DAY (new)
- WEATHER RECOVERY DAY (new)

Changes in November 14, 2014 revision:
- ACTUAL TIME (AT) (new)
- APPORTIONED EFFORT (revised)
- EARNED SCHEDULE (ES) (new)
- ESTIMATE AT COMPLETION [EAC(t)] (new)
- INDEPENDENT ESTIMATE AT COMPLETION [IEAC(t)] (new)
- LEVEL OF EFFORT (LOE) (revised)
- PLANNED DURATION (PD) (new)
- PLANNED DURATION OF WORK REMAINING (PDWR) (new)
- SCHEDULE PERFORMANCE INDEX [SPI(t)] (new)
- SCHEDULE VARIANCE [SV(t)] (new)
- VARIANCE AT COMPLETION [VAC(t)] (new)

Changes in January 14, 2014 revision:
- CREW (new)
- DAILY CREW OUTPUT (new)
- LABOR NORM (new)
- LABOR NORM PREAMBLE (new)
- LABOR PRODUCTIVITY NORM (new)
- LEVEL OF EFFORT (LOE) (revised)
- LOGIC - DYNAMIC (CONDITIONAL) (new)
- LOGIC - STATIC (FIXED) (new)
- ORGANIZATION BREAKDOWN STRUCTURE (OBS) (revised)
- RESPONSIBILITY ASSIGNMENT MATRIX (RAM) (revised)

Changes in October 23, 2013 revision:
- 50/50 TECHNIQUE (new)
- ACCRUAL (new)
ACTUAL COSTS (deleted)
ACTUAL COST (AC) (new)
ACTUAL COST OF WORK PERFORMED (ACWP) (revised)
APPORTIONED EFFORT (revised)
BASELINE (revised)
BUDGET AT COMPLETION (BAC) (new)
BUDGETED COST OF WORK PERFORMED (BCWP) (revised)
BUDGETED COST OF WORK SCHEDULED (BCWS) (revised)
BURDEN (revised)
CHANGE NOTICE (revised)
CONTRACT BUDGET BASE (CBB) (new)
CONTROL ACCOUNT (CA) (revised)
CONTROL ACCOUNT MANAGER (CAM) (new)
COST ELEMENT (new)
COST PERFORMANCE REPORT (CPR) (new)
EARNED VALUE (EV) (revised)
EARNED VALUE MANAGEMENT [SYSTEM] (EVM[S]) (new)
EQUIVALENT UNITS TECHNIQUE (new)
ESTIMATE TO COMPLETE (ETC) (revised)
ESTIMATED ACTUAL COSTS (new)
FORMAL REPROGRAMMING (new)
INCREMENTAL MILESTONE TECHNIQUE (new)
INDIRECT COSTS (revised)
INTEGRATED PRODUCT TEAMS (IPT) (new)
LABOR EFFICIENCY VARIANCE (new)
LABOR RATE VARIANCE (new)
MANAGEMENT RESERVE (revised)
NEAR-CRITICAL ACTIVITY (revised)
NEGATIVE LAG (new)
ORGANIZATION BREAKDOWN STRUCTURE (OBS) (revised)
OVER TARGET BASELINE (OTB) (new)
OVER TARGET SCHEDULE (OTS) (new)
PERCENT COMPLETE (new)
PERFORMANCE MEASUREMENT VERSUS BASELINE (revised)
PHYSICAL PERCENTAGE COMPLETE (revised)
PLANNED VALUE (PV) (revised)
REPLANNING (revised)
REPROGRAMMING (revised)
RESPONSIBILITY ASSIGNMENT MATRIX (RAM) (new)
ROLLING WAVE PLANNING (revised)
RUBBER BASELINE (new)
SCHEDULE BASELINE (new)
SCHEDULE CONTINGENCY (revised)
SCHEDULE MARGIN (SM) (revised)
SCHEDULE RESERVE (new)
SCHEDULE TRACEABILITY (new)
STATUS DATE (revised)
SUMMARY LEVEL PLANNING PACKAGE (SLPP) (new)
SUMMARY SCHEDULE (revised)
SUMMARY TASK (revised)
TARGET (new)
TECHNICAL PERFORMANCE MEASUREMENT (new)
TO COMPLETE PERFORMANCE INDEX (TCPI) (new)
TOTAL ALLOCATED BUDGET (TAB) (new)
TRACEABILITY (new)
UNDISTRIBUTED BUDGET (UB) (new)
VARIANCE AT COMPLETION (VAC) (revised)
VARIANCE THRESHOLD (new)
WORK BREAKDOWN STRUCTURE (WBS) (revised)
WORK PACKAGE (revised)

Changes in October 17, 2013 revision:
MANAGEMENT SCHEDULE RESERVE (MSR) (new)
SCHEDULE BUFFER (new)
SCHEDULE CONTINGENCY (revised)
SCHEDULE MARGIN (new)

Changes in October 10, 2013 revision:
CONTINGENCY (revised)
DE-SCOPE (new)
MANAGEMENT RESERVE (MR) (revised)

Changes in April 25, 2013 revision:
RISK MANAGEMENT TEAM (new)
ENTERPRISE RISK MANAGEMENT (new)

Changes in November 3, 2012 revision:
COST ESTIMATING (revised)
COST ESTIMATOR (PROJECT) (new)

Changes in August 24, 2012 revision:
RISK SAFEGUARD (new)
RISK CONTAINMENT (new)
50/50 Technique – In earned value, a technique to earn budget based on assignment of budget equally across two accounting months. Budget is earned at 50% when started, and the remainder at completion. This technique is limited to work package less than two months in duration. (November 2013)

Acceleration – Conduct by the owner or its agent (either in a directed or constructive manner) in which a contractor is required to complete performance of a contracted scope of work earlier than scheduled. A directed acceleration occurs when the owner formally directs such acceleration completion. A constructive acceleration generally occurs when a contractor is entitled to an excusable delay; the contractor requests a time extension from the owner; the owner declines to grant a time extension or grants one in an untimely manner; the owner or its agent either expressly orders completion within the original performance period or implies in a clear manner that timely completion within the original performance period is expected; and the contractor gives notice to the owner or its agent that the contractor considers this action an acceleration order. (June 2007)

Accept/Acceptance –
(1) The formal process of accepting delivery of a product or a deliverable.
(2) The act of taking custody based on satisfactory verification.
(3) The act of an authorized representative, for itself or as agent for another, assumes ownership of existing identified supplies tendered or approves specific services rendered as partial or complete performance of the contract.
(4) In TCM risk management, a response strategy for both threats and opportunities. See also: Risk Response. (December 2011)

Acceptance, Final (Partial) – The formal action by the owner accepting the work (or a specified part thereof), following written notice from the engineer that the work (or specified part thereof) has been completed and is acceptable subject to the provisions of the contract regarding acceptance. (November 1990)

Acceptance Criteria – Implicit or explicit specifications that must be achieved for a product or service to be acceptable within the terms of the contract or agreement seeking its delivery. (August 2007)

Accepted Risk – Risks that are identified but for which no other risk response is taken in the risk treatment process (e.g., avoid, reduce, transfer). See also: Residual Risk; Risk Response. (December 2011)

Access to the Work – The right of the contractor to ingress and egress, and to occupy the work site as required to reasonably perform the work described in the contract documents. An example of denial of access to the work would be on the segment of a sewer installation project where no easements or work limits are indicated, but the contractor is ordered, after contract award, to conduct operations within a narrow work corridor necessitating different or unanticipated construction methods (e.g., use of sheeting). (November 1990)

Accountability – Answerable, but not necessarily charged personally with doing the work. Accountability cannot be delegated but it can be shared. (November 1990)

Account Code Structure – System used to assign summary numbers to elements of the work breakdown and account numbers to individual work packages. (November 1990)

Account Number – An alphanumeric identification of a work package. An account number may be assigned to one or more activities. Syn.: Shop Order Number. (June 2007)

Accounts Payable – The value of goods and services rendered on which payment has not yet been made. See also: Taxes Payable. (November 1990)
ACCOUNTS RECEIVABLE – The value of goods shipped, or services rendered to a customer on which payment has not yet been received. Usually includes an allowance for bad debts. (November 1990)

ACCRUAL – In earned value management, the actual costs that are recorded for goods and/or material received or services rendered before payment. For example, subcontractor service for a safety inspection for a specific piece of equipment in the month of January which was validated as completed may be recorded by accrual based on an estimated cost. However, the accruals originally recorded in January for the cost of this activity are adjusted after a final cost is determined. See also: ACTUAL COST (AC) (October 2013)

ACCURACY – Correctness that the measured value is very close to the true value. See also: PRECISION. (November 2016)

ACCURACY RANGE – An expression of an estimate’s predicted closeness to final actual costs or time. Typically expressed as high/low percentages by which actual results will be over and under the estimate along with the confidence interval these percentages represent. Syn.: RANGE OF ACCURACY. See also: CONFIDENCE INTERVAL; EXPECTED ACCURACY RANGE; PREDICTABILITY; RANGE. (February 2021)

ACTION – A measure taken or implemented that is intended to influence the course of the project. (June 2007)

ACTION ITEM – Something agreed to be done as a meeting outcome and usually recorded in meeting minutes. (June 2007)

ACTION OWNER – In TCM risk management, the party charged with implementing a risk response. See also: RISK OWNER. (December 2011)

ACTION PLAN – A plan that describes what needs to be done and by when. Project plans are action plans. (June 2007)

ACTIVITY – An operation or process consuming time and possibly resources (with the exception of dummy activities). An activity is an element of work that must be performed in order to complete a project. An activity consumes time and may have resources associated with it. Activities must be measurable and controllable. An activity may include one or more tasks. See also: TASK. (June 2007)

ACTIVITY ATTRIBUTES – Schedule-related characteristics and designations that uniquely describe a network activity. Attributes can include early and late start and finish dates; identification codes; resource assignments; predecessor and successor activities; and any other information that places the activity into accurate context of its place in the activity network. (August 2007)

ACTIVITY BAR – A rectangle representing an activity on the bar chart. Its length is scaled according to the time scale. See also: EARLY BAR. (June 2007)

ACTIVITY CALENDAR – In computer scheduling, calendar that defines the working and non-working patterns applicable to an activity. The activity calendar is normally overridden by the project calendar. See also: RESOURCE CALENDAR. (June 2007)

ACTIVITY CODE – Alphanumeric designation system, with code(s) assigned to an activity to group or categorize its properties. Coding is used for detail and summary reporting purposes. Syn.: ACTIVITY IDENTIFIER; ACTIVITY NUMBER. See also: CODING; WORK BREAKDOWN STRUCTURE (WBS). (June 2007)
ACTIVITY COST – The monetary amount expended to complete an activity. Depending upon the cost model and job cost system used, Activity cost may or may not include indirect costs (jobsite and home office) as well as direct costs. (June 2007)

ACTIVITY DESCRIPTION – A unique activity name and word description, which generally defines the work to be accomplished which easily identifies an activity to any recipient of the schedule. (June 2007)

ACTIVITY DEFINITION – Process of identifying specific activities that must be performed to produce project deliverables. [8] (June 2007)

ACTIVITY DURATION –
(1) Length of time from start to finish of an activity, estimated or actual, in working or calendar time units.
(2) Best estimate of continuous time (hours, days, weeks, and months) needed to complete the work involved in an activity. This takes into consideration the nature of the work, and the resources needed to complete the task. Baseline activity duration development can become very complex when productivity impacts and nonstandard production rates must be utilized to meet the constraints of the project. See also: DURATION. (June 2007)

ACTIVITY DURATION ESTIMATING – Estimation of the number of work periods that will be needed to complete the activity. (June 2007)

ACTIVITY IDENTIFIER – Syn.: ACTIVITY CODE; ACTIVITY NUMBER. (June 2007)

ACTIVITY LIST – A table of scheduled activities listing their respective descriptions, unique identification codes, sufficiently detailed scopes, and predecessor and successor activities, so that the project team can readily discern the work of each activity and the project as a whole. (August 2007)

ACTIVITY NUMBER – Syn.: ACTIVITY CODE; ACTIVITY IDENTIFIER. (June 2007)

ACTIVITY ON ARROW (AOA) – An activity network format. Schedule activities are represented by arrows and nodes are represented by circles. AOA networks require the use of “dummy” activities to properly model work flow. (June 2007)

ACTIVITY ON NODE (AON) – An activity network format. Schedule activities are represented by boxes or bars and relationships are represented by arrows. Pure AON networks rely solely on finish-to-start relationships and do not employ the use of activity lags to model work flow. (June 2007)

ACTIVITY RELATIONSHIP – Activity relationships determine how activities relate to one another and establish schedule logic. See also: LOGIC. (June 2007)

ACTIVITY SEQUENCING – The process of identifying and documenting dependencies among schedule activities. (June 2007)

ACTIVITY SPLITTING – Dividing (i.e., splitting) an activity of stated scope, description and schedule into two or more activities which are rescoped and rescheduled. The sum of the split activities is normally the total of the original. See also: LOGIC, HARD; LOGIC, SOFT. (November 1990)

ACTIVITY STATUS – Information about the performance of an activity that is used to update schedule progress. Typical status information includes actual start and finish dates, percent complete, and remaining duration. This is information used to update the critical path method calculations periodically. (June 2007)
ACTIVITY TIMES – Time information generated through the critical path method calculation that identifies the start and finish times for each activity in the network. (November 1990)

ACTIVITY TYPE – Dictates calendar used in scheduling software for schedule calculations. Typical activity types are: independent, task, hammock, WBS, and milestone. (June 2007)

ACTIVITY TOTAL SLACK – The latest allowable end time minus earliest allowable end time. The activity slack is always greater than or equal to the slack of the activity ending event. (November 1990)

ACTS OF GOD –
(1) An extraordinary interruption by a natural cause, as a flood or earthquake, or the usual course of events that experience, foresight or care cannot reasonably foresee or prevent.
(2) An event in nature over which neither the owner nor the contractor has any control. (November 1990)

ACTUAL [DURATION, START, FINISH, LOGIC, ETC.] – Schedule information that shows what has actually occurred. For example, the actual start date for a task is the day on which the task actually started, and its actual cost is the expenditures incurred spent up to the present. (June 2007)

ACTUAL AND SCHEDULED PROGRESS – A comparison of the observable work done at a given time with the work planned up to that time. (June 2007)

ACTUAL COMPLETION DATE – The calendar date on which an activity was completed. See also: ACTUAL FINISH DATE. (November 1990)

ACTUAL COST (AC) – Syn.: ACTUAL COST OF WORK PERFORMED (ACWP). (October 2013)

ACTUAL COST OF WORK PERFORMED (ACWP) –
(1) The actual expenditures incurred by a program or project.
(2) The direct costs actually incurred and the direct costs actually recorded and assigned in accomplishing the work performed. These costs should reconcile with the contractor's incurred cost ledgers when they are audited by the client.
(3) In earned value management, a measure of the actual cost of the work performed as of a data date.
Syn.: ACTUAL COST (AC), see also: BUDGETED COST OF WORK PERFORMED (BCWP); BUDGETED COST OF WORK SCHEDULED (BCWS); EARNEO VALUE (EV); PLANNED VALUE (PV). (October 2013)

ACTUAL FINISH DATE – Date when work on an activity is substantially complete. Activity substantial completion is when only minor or remedial work remains, and successor activities may proceed without hindrance from the predecessor’s remaining work. It is not necessarily the last day work will be performed on that activity. The remaining duration of this activity is zero. (June 2007)

ACTUAL START DATE – Date when work on an activity actually started with intention of completing activity within the planned duration. The actual start date is not necessarily the first date work was performed on that activity. Interim starts and stops for an activity may show the need for splitting the activity into component parts. (June 2007)

ACTUAL TIME (AT) – The number of whole project time increments from project inception through time now (data date). (November 2014)

ADDENDA – Written or graphic instruments issued prior to the date for opening of bids which may interpret or modify the bidding documents by additions, deletions, clarification, or corrections. (November 1990)
ADJUSTED INTERNAL RATE-OF-RETURN (AIRR) – The compound rate of interest that, when used to discount the terminal values of costs and benefits of a project over a given study period, will make the costs equal the benefits when cash flows are reinvested at a specified rate. [1] (November 1990)

ADM – Syn.: ARROW DIAGRAMMING METHOD (ADM). (November 1990)

ADMINISTRATIVE COST – Syn.: GENERAL & ADMINISTRATIVE COSTS (G&A). (June 2007)

ADVERSE WEATHER – Normal weather events that negatively affect the productivity of workers and/or which may affect a project’s critical path or consume float. What deems weather as being adverse is defined differently for each project depending on several factors, including location of a project, the project scope, and even the terms of union construction worker labor agreements. The definition of adverse weather cannot be standardized for all projects or locations but represents conditions that should be expected during project execution that may impact work progress. See also: NORMAL WEATHER; PLANNED ADVERSE WEATHER DAY; UNUSUALLY ADVERSE WEATHER DAY; WEATHER DAY: WEATHER EVENT; WEATHER PREPARATION DAY; WEATHER RECOVERY DAY. (September 2015)

AGENT – A person authorized to represent another (the principal) in some capacity. The agent can only act within this capacity or "scope of authority" to bind the principal. Agency agreements can be oral or in writing. (November 1990)

AGGREGATE – A collection of items arbitrarily brought together as associated variables for analytical or comparative purposes. (November 1990)

AGREEMENT – The written agreement between the owner and the contractor covering the work to be performed; other contract documents are attached to the agreement and made a part thereof as provided therein. (November 1990)

ALLOCATED BASELINE – Requirements allocated to lower level system elements controlled by formal change control. (June 2007)

ALLOCATED REQUIREMENTS – Requirements apportioned to the elements of a system by applying applicable knowledge and experience. Determination of allocated requirements is not as scientifically rigorous as determination of derived requirements. (June 2007)

ALLOCATION –
1. In planning and scheduling, the process of distributing or assigning work on an activity to specific resources.
2. In cost estimating and budgeting, the process of distributing or assigning cost of an item or activity (often an overhead or indirect cost) to specific cost or budget accounts.
See also: COST DISTRIBUTION. (June 2007)

ALLOWANCES –
1. For estimating, resources included in estimates to cover the cost of known but undefined requirements for an individual activity, work item, account or sub-account.
2. For scheduling, dummy activities and/or time included in existing activities in a schedule to cover the time for known, but undefined requirements for a particular work task, activity, account or sub-account. (December 2011)

ALTERNATIVE DISPUTE RESOLUTION (ADR) – Any procedure or combination of procedures used to resolve issues in controversy without the need to resort to litigation. ADR typically includes assisted settlement negotiations, conciliation, facilitation, mediation, fact-finding, mini-trials, and arbitration. (June 2007)
AMBIGUITY – An uncertainty in the meaning of provisions of a contract, document or specification. Mere disagreement about the meaning of a provision does not indicate an ambiguity. There must be genuine uncertainty of meaning based on logical interpretation of the language used in the contract. Generally, ambiguities in contracts are construed against the drafter of the agreement. (November 1990)

AMENDMENT – A modification of the contract by a subsequent agreement. This does not change the entire existing contract but does alter the terms of the affected provisions or requirements. (November 1990)

AMORTIZATION –
(1) As applied to a capitalized asset, the distribution of the initial cost by periodic charges to operations as in depreciation. Most properly applies to assets with indefinite life.
(2) The reduction of a debt by either periodic or irregular payments.
(3) A plan to pay off a financial obligation according to some rearranged schedule. (November 1990)

ANALOGOUS CRITICAL PATH – The logic path determined by transferring the calculated critical path of the collapsed as-built onto the analogous logic path on the as-built schedule. The analogous critical path allows the analyst to reconcile the total difference in completion date between the collapsed state and the as-built state with the sum of the extracted delays, whole or in part, lying on the analogous path. (June 2007)

ANALYSIS – The examination of a complex whole and the separation and identification of its constituent parts and their relationships. (November 1990)

ANALYSIS (SCHEDULE VARIANCE) – Comparison of actual cost/schedule performance to that planned. This comparison includes identification of “potential change notices” and their cause. Derives from the monitoring of project expenditures, progress and performance. Requires application of independent review and creative thought processes to come up with a comprehensive understanding of how, why, and where project accounts are headed. Analysis should result in corrective action to offset/minimize any potential overruns and maximize any potential under runs. See also: SCHEDULE VARIANCE (SV). (June 2007)

ANALYST-CAUSED RISK – Syn.: ANALYST-INDUCED RISK; IATROGENIC RISK. (December 2011)

ANALYST-INDUCED RISK – Syn.: ANALYST-CAUSED RISK; IATROGENIC RISK. (December 2011)

AND RELATIONSHIP – Logical relationship between two or more activities that converges on or diverges from an event. The “and” relationship indicates that every one of the activities has to be undertaken. (June 2007)

ANNUAL VALUE – A uniform annual amount equivalent to the project costs or benefits taking into account the time value of money throughout the study period. Syn.: ANNUAL WORTH; EQUIVALENT UNIFORM ANNUAL VALUE. See also: AVERAGE ANNUAL COST. [1] (November 1990)

ANNUAL WORTH – Syn.: ANNUAL VALUE; EQUIVALENT UNIFORM ANNUAL VALUE. (November 1990)

ANNUALLY RECURRING COSTS – Those costs that are incurred in a regular pattern each year. (June 2007)

ANNUITY –
(1) An amount of money payable to a beneficiary at regular intervals for a prescribed period of time out of a fund reserved for that purpose.
(2) A series of equal payments occurring at equal periods of time. (November 1990)
ANTICIPATORY BREACH – A specific refusal by the contractor to perform within the terms of the contract documents before performance is due; or a clear indication that the contractor is unable or unwilling to perform. Syn.: REPUDIATION. (November 1990)

APPLICATION AREA – Projects sharing specialized components that logically segregate work by product or production technology or by user. (August 2007)

APPLICATION FOR PAYMENT – The form furnished by the owner or the engineer which is to be used by the contractor in requesting progress or final payments and which shall contain an affidavit, if required, in the general or supplementary conditions. The application for payment includes all supporting documentation as required by the contract documents. (November 1990)

APPORTIONED EFFORT –
(1) An earned value technique that status is assessed consistent with a base task(s). The earned value percent complete of the base effort is used to status the apportioned effort work package. Apportioned effort is technically related and time-phased proportionally to the base until designated.
(2) Effort that cannot be readily measured or divided into discrete work packages, but its performance can be measured in proportion to other measureable efforts. (November 2014)

APPROVE – To accept as technically satisfactory by person or persons in authority. The approval may still require confirmation by someone else at a higher level of authority for legal or commercial considerations. (November 1990)

ARBITRATION – A method for the resolution of disputes by an informal tribunal in which a neutral person or persons with specialized knowledge in the field in question renders a decision on the dispute. An arbitrator may grant any award which is deemed to be just and equitable after having afforded each party full and equal opportunity for the presentation of the case. Arbitration does not strictly follow the rules of evidence and discovery procedures found in litigation. Arbitration may be conducted under the auspices of an organization (e.g., the American Arbitration Association) which is available as a vehicle for conducting arbitration. (November 1990)

ARROW – The graphic representation of activities in ADM network. One arrow represents one activity. The tail of the arrow represents the start of the activity. The head of arrow represents the finish. The arrow is not a vector quantity and is not drawn to scale. A solid line is used for actual activities and a dashed line for dummies. It is uniquely defined by two events. (June 2007)

ARROW DIAGRAM – A network (logic diagram) on which the activities are represented by arrows between event nodes. (November 1990)

ARROW DIAGRAMMING METHOD (ADM) – A method of constructing a logical network of activities using arrows to represent the activities and connecting those head-to-tail. This diagramming method shows the sequence, predecessor and successor relationships of the activities. Syn.: ADM. (November 1990)

ARTIFACT (PLANNING) – A piece of information that is produced, modified, or used by a process, defines an area of responsibility, and is subject to version control. An artifact can be a model, a model element, or a document. A document can enclose other documents. (June 2007)

AS-BUILT SCHEDULE – Historical project record showing actual start and finish dates for work performed. Generally, shows logic used in the sequence of construction, along with actual start and finish dates. (June 2007)

AS-PLANNED SCHEDULE – The plan or baseline schedule the contractor developed to estimate/bid/contract to perform the work. The as-planned schedule incorporates planned production rates, work calendars, resource
availability, logic ties, constraints and activity durations to meet contract requirements and contractor needs or desires. (June 2007)

AS-LATE-AS-POSSIBLE (ALAP) – An activity for which the scheduling application sets the early dates as late as possible without delaying the early dates of any successor. (June 2007)

AS-OF DATE – Syn.: DATA DATE; UPDATE DATE; TIME NOW. (October 2018)

AS-SOON-AS-POSSIBLE (ASAP) – An activity for which the scheduling application sets the early dates to be as soon as possible. This is the default activity type in most project management systems. (June 2007)

ASSETS – Anything owned that has a monetary value, e.g., property, both real and personal, including notes, accounts and accrued earnings or revenues receivable and cash or its equivalent. Assets may be subdivided into current, fixed, etc. Property: real, i.e. physical; or intangible, i.e. knowledge, systems, or practices. Assets are created through the investment of resources in projects. (June 2007)

ASSESSED VALUE – That value entered on the official assessor’s records as the value of the property applicable in determining the amount of taxes to be assessed against that property. (November 1990)

ATTRIBUTE – In the context of asset or project planning, a characteristic or property which is appraised in terms of whether it does or does not exist, (e.g., go or not-go) with respect to a given requirement. (June 2007)

AUDIT – In the context of asset or project performance assessment, a formal, independent examination with intent to verify conformance with established requirements through surveillance and inspection. They may be either internal or external. (June 2007)

AUTHORITY –
(1) Power of influence, either granted to or developed by individuals, that leads to others doing what those individuals direct.
(2) Formal conferment of such influence through an instrument such as a project charter. [8] (June 2007)

AUTHORIZE – Give final approval; a person who can authorize something is vested with authority to give final endorsement and which requires no further approval or agreement. [8] (June 2007)

AUTHORIZED WORK – An effort that has been approved by higher authority and may or may not be definitive. (June 2007)

AVERAGE ANNUAL COST – The conversion, by an interest rate and present worth technique, of all capital and operating costs to a series of equivalent equal annual costs. As a system for comparing proposal investments, it requires assumption of a specific minimum acceptable interest rate. (November 1990)

AVERAGE-INTEREST METHOD – A method of computing required return on investment based on the average book value of the asset during its life or during a specified study period. (November 1990)

AVOID – In TCM risk management, a response strategy for threats that involves eliminating either the probability or impact. See also: RISK RESPONSE. (December 2011)

AVOIDANCE (RISK) – Risk response strategy that eliminates the threat or opportunity of a specific risk event, usually by eliminating its potential cause. See also: ACCEPT/ACCEPTANCE; MITIGATION. [8] (June 2007)
BACKCHARGE – Cost of corrective action taken by the purchaser, chargeable to supplier by contract terms. (June 2007)

BACKUP – Supporting documents for an estimate or schedule including detailed calculations, descriptions of data sources, and comments on the quality of the data. (November 1990)

BACKWARD PASS – Network schedule calculation that determines the latest each activity in the network may start (LS) and finish (LF) and still maintain the minimum overall duration of the project as calculated by the forward pass. It counts backward toward the beginning of the schedule to determine the last possible start and finish dates for each activity that will not delay project completion. See also: FORWARD PASS. (June 2007)

BAR CHART – Graphic representation of a project that includes the activities that makes up the project and placed on a time scale. Bar charts are time scaled, show activity number, description, duration, start and finish dates, and an overall sequencing of the flow of work. Bar charts do not generally include the logic ties between activities. See also: GANTT CHART. (June 2007)

BASE – Syn.: BASE ESTIMATE; BASE SCHEDULE. (December 2011)

BASE DATE – Syn.: BASE TIME. (November 1990)

BASE ESTIMATE – Estimate excluding escalation, foreign currency exchange, contingency and management reserves. Syn.: POINT ESTIMATE; SINGLE POINT ESTIMATE. See also: DETERMINISTIC ESTIMATE. (December 2011)

BASE PERIOD (OF A GIVEN PRICE INDEX) – Period for which prices serve as a reference for current period prices; in other words, the period for which an index is defined as 100 (if expressed in percentage form) or as 1 (if expressed in ratio form). (November 1990)

BASE POINT FOR ESCALATION – Cost index value for a specific month or an average of several months that is used as a basis for calculating escalation. (November 1990)

BASE SCHEDULE – Schedule excluding risks (i.e., excluding contingency). (December 2011)

BASE TIME – The date to which all future and past benefits and costs are converted when a present value method is used (usually the beginning of the study period). Syn.: BASE DATE. [1] (November 1990)

BASELINE –
(1) In project control, the reference plans in which cost, schedule, scope and other project performance criteria are documented and against which performance measures are assessed and changes noted.
(2) The budget and schedule that represent approved scope of work and work plan. Identifiable plans, defined by databases approved by project management and client management, to achieve selected project objectives. It becomes basis for measuring progress and performance and is baseline for identifying cost and schedule deviations. Syn.: CONTROL BASELINE.
(3) In earned value management systems, the general term to refer to the contractual baseline. See contract budget baseline and performance measurement baseline for the typical earned value management (EVM) definitions of the different baseline levels within the EVM baseline plan. See: CONTRACT BUDGET BASELINE (CBB); PERFORMANCE MEASUREMENT BASELINE (PMB). (October 2013)

BASELINE SCHEDULE –
(1) A fixed project schedule that is the standard by which project performance is measured. The current schedule is copied into the baseline schedule that remains frozen until it is reset. Resetting the baseline is done when the scope...
of the project has been changed significantly, for example after a negotiated change. At that point, the original or current baseline becomes invalid and should not be compared with the current schedule.

(2) Version of schedule that reflects all formally authorized scope and schedule changes. [9] (June 2007)

BASIS – Written documentation that describes how an estimate, schedule, or other plan component was developed and defines the information used in support of development. A basis document commonly includes, but is not limited to, a description of the scope included, methodologies used, references and defining deliverables used, assumptions and exclusions made, clarifications, adjustments, and some indication of the level of uncertainty. (June 2007)

BATTERY LIMIT – Comprises one or more geographic boundaries, imaginary or real, enclosing a plant or unit being engineered and/or erected, established for the purpose of providing a means of specifically identifying certain portions of the plant, related groups of equipment, or associated facilities. It generally refers to the processing area and includes all the process equipment, and excludes such other facilities as storage, utilities, administration buildings, or auxiliary facilities. The scope included within a battery limit must be well-defined so that all personnel will clearly understand it. On drawings, this is often referred to in the phrase: inside/outside battery limits or ISBL/OSBL. See also: OFFSITES. (June 2007)

BEGINNING EVENT – An event that signifies the beginning of an activity. Syn.: PRECEDING EVENT; PREDECESSOR EVENT; STARTING EVENT. (November 1990)

BEGINNING NETWORK EVENT – The event that signifies the beginning of a network (or subnet). (November 1990)

BEGINNING (START) NODE OF NETWORK (ADM) – A node at which no activities end, but one or more activities begin. (November 1990)

BENCHMARKING – A measurement and analysis process that compares practices, processes, and/or relevant measures to those of a selected basis of comparison (i.e., the benchmark) with the goal of improving performance. The comparison basis includes internal or external competitive or best practices, processes or measures. Examples of measures include estimated costs, actual costs, schedule durations, resource quantities, etc. See also: COMPETITIVENESS. (November 2020)

BENEFICIAL OCCUPANCY – Use of a building, structure, or facility by the owner for its intended purpose (functionally complete), although other contract work, nonessential to the function of the occupied section, remains to be completed. See also: SUBSTANTIAL COMPLETION. (November 1990)

BENEFIT COST ANALYSIS – A method of evaluating projects or investments by comparing the present value or annual value of expected benefits to the present value or annual value of expected costs. [1] (November 1990)

BENEFIT-TO-COST RATIO (BCR) – Benefits divided by costs, where both are discounted to a present value or equivalent uniform annual value. [1] (November 1990)

BEST PRACTICES – Practical techniques gained from experience that have been shown to produce best results. (June 2007)

BIASES – Lack of objectivity based on the enterprise’s or individual’s position or perspective. Systematic and predictable relationships between a person’s opinion or statement and his/her underlying knowledge or circumstances. Note: There may be "system biases" as well as "individual biases". (June 2007)

BID – To submit a price for services; a proposition either verbal or written, for doing work and for supplying materials and/or equipment. (November 1990)
BID BOND – Syn.: BOND, BID. (June 2007)

BIDDER – The individual, partnership, or corporation, or combination thereof, acting directly or through an authorized representative, formally submitting a bid directly to the owner, as distinct from a sub-bidder, who submits a bid to a bidder. (November 1990)

BID SECURITY – Security is provided in connection with the submittal of a bid to guarantee that the bidder, if awarded or offered the contract, will execute the contract and perform the work. The requirements for the bid security are usually designated in a specific section of the bidding documents. The bid security is payable to the owner (usually around 5% of the total bid price) in the form of either a certified or bank check or a bid bond issued by a surety satisfactory to the owner. The bid security of the successful bidder is usually retained until the bidder has executed the agreement and furnished the required contract security, whereupon the bid security is returned. Bid security of the other bidders is returned after the bid opening. (November 1990)

BID SHOPPING – An effort by a prime contractor to reduce the prices quoted by subcontractors and/or suppliers, by providing the bid price to other subcontractors or suppliers in an attempt to get the other subcontractors or suppliers to underbid the original price quoted. The reverse of this situation is when subcontractors try to get a better price out of a prime contractor. This is known as bid peddling. (November 1990)

BIDDING DOCUMENTS – The advertisement for bids, instructions to bidders, information available to bidders, bid form with all attachments, and proposed contract documents (including all addenda issued prior to receipt of bids). (November 1990)

BIDDING REQUIREMENTS – The advertisement for bids, instructions to bidders, supplementary instructions and all attachments therein, information to bidders and all attachments therein, and bid form and all attachments therein. (November 1990)

BILL OF MATERIALS (BOM) –
(1) Set of physical elements required to build a project.
(2) Hierarchical view of the physical assemblies, subassemblies, and components needed to fabricate a manufacturing product.
(3) Descriptive and quantitative list of materials, supplies, parts, and components required to produce a designated complete end item of material, assembly, or subassembly.
See also: BILL OF QUANTITIES (BOQ). (June 2007)

BILL OF QUANTITIES (BOQ) – Descriptive and quantitative list of materials, supplies, parts, and components required to produce a designated complete end item of materials, assembly, or subassembly. Typically includes a description of the associated “method of measurement”. See also: BILL OF MATERIALS (BOM); METHOD OF MEASUREMENT. (June 2007)

BLANKET BOND – A bond covering a group of persons, articles, or properties. (November 1990)

BOND, BID – A bond that guarantees the bidder will enter into a contract on the basis of the bid. (June 2007)

BOND, PAYMENT – A bond that is executed in connection with a contract and which secures the payment of all persons supplying labor and material in the prosecution of the work provided for in the contract. (November 1990)

BOND, PERFORMANCE – A bond that is executed in connection with a contract and which secures or guarantees the completion, performance and fulfillment of all the work, undertakings, covenants, terms, conditions, and agreements contained in the contract. (June 2007)
BONDS – Instruments of security furnished by the contractor and/or surety in accordance with the contract documents. The term contract security refers to the payment bond, performance bond and those other instruments of security required in the contract documents. (November 1990)

BOOK VALUE (NET) –
(1) Current investment value on the books calculated as original value less depreciated accruals.
(2) New asset value for accounting use.
(3) The value of an outstanding share of stock of a corporation at any one time, determined by the number of shares of that class outstanding. (November 1990)

BOTTOM-LINE – Ambiguous term that in TCM cost estimating or risk management typically refers to the total overall cost or profit of a project or program. In TCM decision analysis, may refer to a stakeholder’s threshold or decision-making criterion beyond which a decision not-to-proceed, approve, or accept will be made. (December 2011)

BRAINSTORMING – Process in which a group of people, selected for their creativity and knowledge, are brought together to seek solutions to particular problems or simply to find better ways of meeting objectives. Suggestions, however outlandish, are encouraged and pursued during a creativity session. From this, many ideas, some entirely new, are brought forward for analysis and ranking. (June 2007)

BREACH OF CONTRACT – Failure, by either the owner or the contractor, without legal excuse, to perform any work or duty owed to the other person. (November 1990)

BREAKDOWN STRUCTURE – A hierarchical structure by which project elements are broken down or decomposed. See also: COST BREAKDOWN STRUCTURE (CBS); ORGANIZATIONAL BREAKDOWN STRUCTURE (OBS); WORK BREAKDOWN STRUCTURE (WBS). (June 2007)

BREAK EVEN CHART – A graphic representation of the relation between total income and total costs for various levels of production and sales indicating areas of profit and loss. (November 1990)

BREAK EVEN POINT –
(1) In business operations, the rate of operations output, or sales at which income is sufficient to equal operating costs or operating cost plus additional obligations that may be specified.
(2) The operating condition, such as output, at which two alternatives are equal in economy.
(3) The percentage of capacity operation of a manufacturing plant at which income will just cover expenses. (November 1990)

BREAKOUT SCHEDULE – Jobsite schedule, generally in bar chart form, used to communicate day-to-day activities to all working levels on the project as directed by construction manager. Detail information with regard to equipment use, bulk material requirements, and craft skills distribution, as well as the work to be accomplished, forms content of schedule. Issued on a weekly basis with a two to three-week look ahead from the issue date. (June 2007)

BROWNFIELD –
(1) A project that has known constraints imposed by prior work.
(2) In construction, work on a site that has been previously developed or may be contaminated.
See also: GREENFIELD. (October 2018)

BUDGET – A planned allocation of resources. The planned cost of needed materials is usually subdivided into quantity required and unit cost. The planned cost of labor is usually subdivided into the workhours required and the wage rate (plus fringe benefits and taxes). (November 1990)