GLOSSARY OF PROJECT MANAGEMENT TERMS*

Abstract Resource: Imaginary resource introduced so that its availability and activity requirement gives an extra means of control (for example, not working two jobs at the same time in order to avoid an accident).

Acceptance: (1) Formal process of accepting delivery of a product or other deliverable. (2) Before an offer can become a binding promise and result in a contract, it must be accepted. Acceptance can be made in oral or written form or by commencing performance on the contract. The acceptance must be identical with the offer and unconditional. This means that the acceptance must be positive and unambiguous and cannot change, add to, or qualify the terms of the offer. Any alterations or conditions imposed on an offer create a counter-offer, which is basically a rejection of the original offer.

Acceptance Criteria: Specifications, performance requirements, and essential conditions that must be met before project deliverables are accepted.

Acceptance Test: Formal, predefined test conducted to determine the compliance of the deliverable item(s) with the acceptance criteria.

Accrued Costs: Costs that are earmarked for the project and for which payment is due, but has not been made.

Acquisition Strategy: Planning the most appropriate means of procuring and/or subcontracting for component parts or services of a project.

Activity: Task, job, operation, or process consuming time and possibly other resources. (The smallest self-contained unit of work used to define the logic of a project. In general, activities share the following characteristics: a definite duration; logical relationships to other activities in a project; use resources such as people, materials, or facilities; and have an associated cost. They should be defined in terms of start and end dates and the person or organization responsible for their completion.)

Activity Definition: Identifies the specific activities that must be performed in order to produce project deliverables.

Activity Distribution Report (ADR): Effort reporting and certification form required for compliance with federal regulations.

Activity Duration: Specifies the length of time (hours, days, weeks, months) that it takes to complete an activity.

Activity File: A file containing all data related to the definition of activities on a particular project.

Activity ID: A unique code identifying each activity in a project.

Activity-on-Arrow Network: Arrow diagram, a network in which the arrows symbolize the activities.

Activity-on-Node Network: Precedence diagram, a network in which the nodes symbolize the activities.

Activity Status: The state of an activity between not yet starting to being finished. A planned activity has not yet started. A started activity is in progress. A finished activity is complete.

Actual Cost: Incurred costs that are charged to the project budget and for which payment has been made or accrued.

Actual Cost of Work Performed (ACWP): Cumulative cost of work accrued on the project in a specific period or up to a specific stage. Note: For some purposes cost may be measured in labor hours rather than money.

Actual Dates: Entered as the project progresses. These are the dates that activities really started and finished as opposed to planned or projected dates.

* This glossary was compiled from the following sources: The Association for Project Management, Buckinghamshire, U.K.; Conright, T., So you're going to manage a project…, *Training*, **35(1)**, 62, 1998; Watts, J., Keep your projects on time, on budget, *PC Computing*, **4(6)**, 161, 1991; Crabb, D., Project management glossary, *MacWeek*, **4(27)**, 60, 1990; Arizona State University, Office for Research and Sponsored Projects Administration.

Actual Direct Costs: Those costs specifically identified with a contract or project. See also *direct costs*.

Actual Finish: Date on which an activity was completed.

Actual Start: Date on which an activity was started.

Actual to Date: The amount of resources that have been applied to a project from its inception to the most recent reporting date. Since people's time is usually the major resource, it is often tracked through time sheets.

Adjourning: The last stage of team building where the team disbands.

Advanced Material Release: A document used by organizations to initiate the purchase of long-lead-time or time-critical materials prior to the final release of a design.

Advantage: This centralized computer system processes on-line purchasing documents, provides instant financial status updates, and produces monthly accounting reports. Advantage is maintained by the comptroller's office, which reports to the office of the vice president for administrative services.

AND Relationship: Logical relationship between two or more activities that converge on or diverge from an event. Note: The AND relationship indicates that every one of the activities has to be undertaken.

Approval: The term used when an individual accepts a deliverable as fit for purpose so that the project can continue.

Approval to Proceed: Approval given to the project at initiation or prior to the beginning of the next stage.

Arrow: Directed connecting line between two nodes in a network. Note 1: It symbolizes an activity in "activity-on-arrow." Note 2: It symbolizes a dependency relationship in "activity-on-node."

Arrow Diagram: See *activity-on-arrow network*.

Arrow Diagram Method: One of two conventions used to represent an activity in a project. Also known as activity-on-arrow method.

Arrow Technique: Method of building the network model of a project. A task in the project (sometimes called operation or activity) is represented by an arrow. Junctions between activities are shown as rounded rectangles and are called nodes or events.

As-Late-As-Possible (ALAP): An activity for which the early start date is set as late as possible without delaying the early dates of any successor.

Associated Revenue: That part of a project cost that is of a revenue nature and therefore charged as incurred to the profit and loss account. Note: Differs from the capital element of the project in that the capital element is taken as an asset to the balance sheet and depreciated over future accounting periods.

As-Soon-As-Possible (ASAP): An activity for which the early start date is set to be as soon as possible. This is the default activity type in most project management systems.

Assumptions: Statements taken for granted or truth.

Audit: Systematic retrospective examination of the whole, or part, of a project or function to measure conformance with predetermined standards. Note: Usually qualified, e.g., financial audit, quality audit, design audit, project audit, health and safety audit.

Authorization: The decision that triggers the allocation of funding needed to carry on the project.

Authorized Unpriced Work: Any scope change for which authorization to proceed has been given, but for which the estimated costs are not yet settled.

Authorized Work: The effort that has been defined, plus that work for which authorization has been given, but for which defined contract costs have not been agreed upon.

Automatic Decision Event: Decision event where the decision depends only on the outcome of the preceding activities and that can be programmed or made automatic.

Backward Pass: Procedure whereby the latest event times or the latest finish and start times for the activities of a network are calculated.

Balanced Matrix: An organizational matrix where functions and projects have the same priority.

Bar Chart: Chart on which activities and their durations are represented by lines drawn to a common time scale. Note 1: A Gantt chart is a specific type of bar chart and should not be used as a synonym for bar chart. Note 2: See also *cascade chart*.

Baseline: The final version of a plan, similar to a financial budget. During the course of the project you record the dates on which tasks are actually started and finished. The software compares the baseline with the actual progress of the plan.

Baseline Cost: The amount of money an activity was intended to cost when the schedule was baselined.

Baseline Dates: Original planned start and finish dates for an activity. Used to compare with current planned dates to determine any delays. Also used to calculate budgeted cost of work scheduled for earned-valued analysis.

Baseline Review: A customer review conducted to determine that a contractor is continuing to use the previously accepted performance system and is properly implementing a baseline on the contract or option under review.

Baseline Schedule: A fixed project schedule. It is the standard by which project performance is measured. The current schedule is copied into the baseline schedule, which 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 baselines become invalid and should not be compared with the current schedule.

Benchmarks: Established productivity and quality standards based on historic performance on same or similar tasks.

Benefits: The enhanced efficiency, economy, and effectiveness of future business or other operations to be delivered by a project or program.

Benefits Framework: An outline of the expected benefits of the project or program, the business operations affected, and current and target performance measures.

Benefits Management: Combined with project or program management, the process for planning, managing, delivering, and measuring the project or program benefits.

Benefits Management Plan: Specifies who is responsible for achieving the benefits set out in the benefit profiles and how achievement of the benefits is to be measured, managed, and monitored.

Bid: A tender, quotation, or any offer to enter into a contract.

Bid Analysis: An analysis of bids or tenders.

Bottom-Up Cost Estimating: This is the method of making estimates for every activity in the work breakdown structure (WBS) and summarizing them to provide a total project cost estimate.

Brainstorming: The unstructured generation of ideas by a group of people.

Branching Logic: Conditional logic. Alternative paths in a probabilistic network.

Breakdown Structure: A hierarchical structure by which project elements are broken down, or decomposed. See also *product breakdown structure (PBS), organizational breakdown structure (OBS)*, and *work breakdown structure (WBS)*.

Budget: Quantification of resources needed to achieve a task by a set time, within which the task owners are required to work. Note: Consists of a financial and/or quantitative statement, prepared and approved prior to a defined period, for the purpose of attaining a given objective for that period. (The planned cost for an activity or project.)

Budgetary Control: System of creating budgets, monitoring progress, and taking appropriate action to achieve budgeted performance. Note: A budget should provide the information necessary to enable approval, authorization, and policy-making bodies to assess a project proposal and reach a rational decision.

Budget at Completion (BAC): The sum total of the time-phased budgets.

Budget Category: A portion of the budget designated for certain kinds of expenditures, e.g., salaries, operations, travel, equipment.

Budget Cost: The cost anticipated at the start of a project.

Budgeted Cost of Work Performed (BCWP): The planned cost of work completed to date. Also the earned value of work completed to date.

Budgeted Cost of Work Scheduled (BCWS): The planned cost of work that should have been achieved according to the project baseline dates.

Budget Element: The same as resources — the people, materials, or other entities needed to do the work. Can be validated against a resource breakdown structure (RBS). Typically assigned to a work package, but can also be defined at the cost account level.

Budget Estimate: An approximate estimate prepared in the early stages of a project to establish financial viability or secure resources.

Budgeting: Time-phased financial requirements.

Budget Unit: The base unit for the calculation. For example, the engineer budget element might have a budget unit of hours. Since budget units are user defined, they can be any appropriate unit of measure. For example, a budget unit might be hours or dollars.

Burden: Overhead expenses distributed over appropriate direct labor and/or material base.

Business Case: Information necessary to enable approval, authorization, and policy-making bodies to assess a project proposal and reach a reasoned decision.

Calendars: A project calendar lists time intervals in which activities or resources can or cannot be scheduled. A project usually has one default calendar for the normal workweek (e.g., Monday through Friday), but may have other calendars as well. Each calendar can be customized with its own holidays and extra workdays. Resources and activities can be attached to any of the calendars that are defined.

Capital Cost: The carrying cost in a balance sheet of acquiring an asset and bringing it to the condition where it is capable of performing its intended function over a future series of periods. See also *revenue cost*.

Capital Employed: Amount of investment in an organization or project, normally the sum of fixed and current assets, less current liabilities at a particular date.

Cascade Chart: Bar chart on which the vertical order of activities is such that each activity is dependent only on activities higher on the list.

Cash Flow: Cash receipts and payments in a specified period.

Cash Flow, Net: Difference between cash received and payments made during a specific period.

Champion: An end-user representative often seconded into a project team. Someone who acts as an advocate for a proposal or project.

Change Control: Process that ensures potential changes to the deliverables of a project or the sequence of work in a project are recorded, evaluated, authorized, and managed.

Change Control Board: A formally constituted group of stakeholders responsible for approving or rejecting changes to the project baselines.

Change Log: A record of all project changes, proposed, authorized, or rejected.

Change Management: The formal process through which changes to the project plan are approved and introduced.

Change of Scope: Any change in the amount of resources, definition of a deliverable, schedule, contract, or costs from those in the original contract. Needs to be agreed by all parties, preferably in writing.

Change Request: A request needed to obtain formal approval for changes to the scope, design, methods, costs, or planned aspects of a project. May arise through changes in the business or issues in the project. Should be logged, assessed, and agreed before a change to the project can be made.

Child Activity: Subordinate task belonging to a "parent" task existing at a higher level in the work breakdown structure (WBS).

Client: The party to a contract who commissions the work and pays for it on completion.

Close Out: The completion of work on a project.

Closure: The formal end point of a project, either because it has been completed or because it has been terminated early.

Code of Accounts: Any numbering system, usually based on corporate code of accounts of the primary performing organization, used to monitor project costs by category.

Commissioning: Advancement of an installation from the stage of static completion to full working order and achievement of the specified operational requirements.

Commitment: A binding financial obligation, typically in the form of a purchase order or contract.

Committed Costs: Costs that are legally committed even if delivery has not taken place with invoices neither raised nor paid.

Communication: The transmission of information so that the recipient understands clearly what the sender intends.

Communications Planning: Determining project stakeholders' communication and information needs.

Completion Date: The date calculated by which the project could finish following careful estimating.

Compound Risk: A risk made up of a number of inter-related risks.

Conception Phase: The phase that triggers and captures new ideas or opportunities and identifies potential candidates for further development in the feasibility phase.

Concurrent Engineering: The systematic approach to the simultaneous, integrated design of products and their related processes, such as manufacturing, testing, and supporting.

Configuration: Functional and physical characteristics of a product as defined in technical documents and achieved in the product. Note: In a project this should contain all items that can be identified as being relevant to the project and that should only be modified after authorization by the relevant manager (includes documentation).

Configuration Audit: A check to ensure that all deliverable items on a project conform with one another and to the current specification. It ensures that relevant quality assurance procedures have been implemented and that there is consistency throughout project documentation.

Configuration Control: A system through which changes may be made to configuration items.

Configuration Identification: Uniquely identifies all items within the configuration.

Configuration Item: A part of a configuration that has a set function and is designated for configuration management. It identifies uniquely all items within the configuration.

Configuration Management: Technical and administrative activities concerned with the creation, maintenance, and controlled change of configuration throughout the life of the product. Note: See BS EN ISO 10007 for guidance on configuration management, including specialist terminology.

Configuration Status Accounting: Records and reports the current status and history of all changes to the configuration. Provides a complete record of what happened to the configuration to date.

Conflict Management: The ability to manage conflict creatively and effectively.

Constraints: Applicable restrictions that will affect the scope of the project or the sequence of project activities.

Consumable Resource: A type of resource that only remains available until consumed (e.g., a material).

Contingency: The planned allotment of time and cost or other resources for unforeseeable elements with a project.

Contingency Plan: Mitigation plan. Alternative course(s) of action devised to cope with project risks.

Contingency Planning: The development of a management plan that uses alternative strategies to minimize or negate the adverse effects of a risk, should it occur.

Contract: A mutually binding agreement in which the contractor is obligated to provide services or products and the buyer is obligated to provide payment for them. Falls into three main categories: fixed price, cost reimbursable, or unit price but may contain elements from each.

Contract Budget Base: The negotiated contract cost value plus the estimated value of authorized but unpriced work.

Contract Close Out: Settlement of a contract.

Contractor: A person, company, or firm that holds a contract for carrying out the works and/or the supply of goods or services in connection with the project.

Contract Target Cost: The negotiated costs for the original defined contract and all contractual changes that have been agreed and approved, but excluding the estimated cost of any authorized, unpriced changes. Equals the value of the budget at completion plus management or contingency reserve.

Contract Target Price: The negotiated estimated costs plus profit or fee.

Control: The process of developing targets and plans; measuring actual performance, comparing it against planned performance, analyzing the differences, and taking effective action to correct the situation.

Control Charts: Display the results, over time, of a process. Used to determine if the process is in need of adjustment.

Coordinated Matrix: An organizational structure where the project leader reports to the functional manager and does not have authority over team members from other departments.

Coordination: The act of ensuring that work carried out by different organizations and in different places fits together effectively. Involves technical matters, time, content, and cost in order to achieve the project objectives effectively.

Corrective Action: Changes made to bring future project performance back into line with the plan.

Cost Account: Defines what work is to be performed, who will perform it, and who is to pay for it. The focal point for the integration of scope, cost, and schedule. Another term for cost account is control account.

Cost Account Manager: A member of a functional organization responsible for cost account performance and for the management of resources to accomplish such tasks.

Cost Benefit Analysis: An analysis of the relationship between the costs of undertaking a task or project, initial and recurrent, and the benefits likely to arise from the changed situation, initially and recurrently. Note: The hard, tangible, readily measurable benefits may sometimes be accompanied by soft benefits which may be real but difficult to isolate, measure, and value. (Allows comparison of the returns from alternative forms of investment.)

Cost Breakdown Structure: Hierarchical breakdown of a project into cost elements.

Cost Budgeting: Allocating cost estimates to individual project components.

Cost Center: Location, person, activity, or project in respect of which costs may be ascertained and related to cost units.

Cost Code: Unique identity for a specified element of work. (Code assigned to activities that allow costs to be consolidated according to the elements of a code structure.)

Cost Control Point: The point within a program at which costs are entered and controlled. Frequently, the cost control point for a project is either the cost account or the work package.

Cost Control System: Any system of keeping costs within the bounds of budgets or standards based on work actually performed.

Cost Curve: A graph plotted against a horizontal time scale and cumulative cost vertical scale.

Cost Element: A unit of costs to perform a task or to acquire an item. The cost estimated may be a single value or a range of values.

Cost Estimating: The process of predicting the costs of a project.

Cost Incurred: Costs identified through the use of the accrued method of accounting or costs actually paid. Costs include direct labor, direct materials, and all allowable indirect costs.

Cost Management: The effective financial control of the project through evaluating, estimating, budgeting, monitoring, analyzing, forecasting, and reporting the cost information.

Cost Overrun: The amount by which a contractor exceeds or expects to exceed the estimated costs and/or the final limitations (the ceiling) of a contract.

Cost Performance Index (CPI): A measure, expressed as a percentage or other ratio of actual cost to budget plan. (Ratio of work accomplished vs. work cost incurred for a specified time period. An efficiency rating for work accomplished for resources expended.)

Cost Performance Report: A regular cost report to reflect cost and schedule status information for management.

Cost Plan: A budget that shows the amounts and expected dates of incurring costs on the project or on a contract.

Cost Plus Fixed Fee Contract: A type of contract where the buyer reimburses the seller for the seller's allowable costs plus a fixed fee.

Cost Plus Incentive Fee Contract (CPIFC): A type of contract where the buyer reimburses the seller for the seller's allowable costs and the seller earns a profit if defined criteria are met.

Cost Reimbursement Type Contracts: A category of contracts based on payments to a contractor for allowable estimated costs, normally requiring only a "best efforts" performance standard from the contractor. Risk for all growth over the estimated value rests with the project owner.

Cost/Schedule Control System Criteria (C/SCSC): A planning and control reporting system devised by the Department of Defense for its contractors to use, intended to foster greater uniformity as well as provide early insight into impending schedule or budget overruns.

Cost/Schedule Planning and Control Specification (C/SPCS): The U.S. Air Force initiative in the mid-1960s that later resulted in the C/SCSC.

Cost Share: The portion of project or program costs not borne by the sponsor. Should not be confused with other applications of internal university resources in support of nonproject- or program-specific activities. Acceptable cost sharing contributions must meet the following criteria: (1) are not paid by the federal government directly or indirectly under any other award, except where authorized by federal statute to be used for cost sharing or matching; (2) are not included as contributions for any other project or program; (3) are necessary and reasonable for proper and efficient accomplishment of specific project or program objectives.

Cost-Time Resource Sheet (CTR): A document that describes each major element in the work breakdown structure (WBS), including a Statement of Work (SOW) describing the work content, resources required, the time frame of the work element, and a cost estimate.

Cost Variance: The difference (positive or negative) between the actual expenditure and the planned/budgeted expenditure.

Credited Resource: Resource that is created by an activity or event and can then be used by the project.

Critical Activity: An activity is termed critical when it has zero or negative float.

Criticality Index: Used in risk analysis, the criticality index represents the percentage of simulation trials that resulted in the activity being placed on the critical path.

Critical Path: Sequence of activities through a project network from start to finish, the sum of whose durations determines the overall project duration. Note: There may be more than one such path. (The path through a series of activities, taking into account interdependencies, in which the late completion of activities will have an impact on the project end date or delay a key milestone.)

Critical Path Analysis: Procedure for calculating the critical path and floats in a network.

Critical Path Method (CPM): A technique used to predict project duration by analyzing which sequence of activities has the least amount of scheduling flexibility. A modeling process that defines all the project's critical activities that must be completed on time. The start and finish dates of activities in the project are calculated in two passes. The first pass calculates early start and finish dates from the earliest start date forward. The second pass calculates the late start and finish activities from the latest finish date backward. The difference between the pairs of start and finish dates for each task is the float or slack time for the task (see *float*). Slack is the amount of time a task can be delayed without delaying the project completion date. By experimenting with different logical sequences and/or durations, the optimal project schedule can be determined.

Critical Performance Indicator: A critical factor against which aspects of project performance may be assessed.

Critical Success Factor: A factor considered to be most conducive to the achievement of a successful project.

Customer: Any person who defines needs or wants, justifies or pays for part or the entire project, or evaluates or uses the results. Could be the project promoter, client, owner, or employer.

Cutoff Date: The ending date of a reporting period.

Dangle: An activity or network that has either no predecessors or no successors. If neither, it is referred to as an isolated activity.

Decision Event: State in the progress of a project when a decision is required before the start of any succeeding activity. Note: The decision determines which of a number of alternative paths is to be followed.

Delaying Resource: In resource scheduling, inadequate availability of one or more resources may require that the completion of an activity be delayed beyond the date on which it could otherwise be completed. The first resource of an activity that causes the activity to be delayed.

Delegation: The practice of getting others to perform work effectively that one chooses not to do oneself. The process by which authority and responsibility are distributed from project manager to subordinates.

Deliberate Decision Event: Where the decision is made as a result of the outcomes of the preceding activities and possibly other information, but it cannot be made automatically.

Deliverables: End products of a project or the measurable results of intermediate activities within the project organization. Note: May be in the form of hardware, software, services, processes, documents, or any combination thereof.

Delphi Technique: A process where a consensus view is reached by consultation with experts. Often used as an estimating technique.

Dependency: Precedence relationship. Restriction that one activity has to precede, either in part or in total, another activity. (Relationships between products or tasks. For example, one product may be made up of several other "dependent" products or a task may not begin until a "dependent" task is complete. See also *logical relationship*.)

Dependency Arrow: A link arrow used in an activity-on-node network to represent the inter-relationships of activities in a project.

Design and Development Phase: The time period in which production processes are developed and designed.

Design Authority: The person or organization with overall design responsibility for the products of the project.

Deterministic Network: Network containing paths, all of which have to be followed and whose durations are fixed. Note: A term used to distinguish traditional networking from probabilistic networking.

Direct Costs: Costs that are specifically attributable to an activity or group of activities without apportionment. (Best contrasted with indirect costs that cannot be identified to a specific project.)

Discounted Cash Flow (DCF): Concept of relating future cash inflows and outflows over the life of a project or operation to a common base value, thereby allowing more validity to comparison of projects with different durations and rates of cash flow.

Discrete Milestone: A milestone that has a definite scheduled occurrence in time. Logical link that may require time but no other resource.

Dummy Activity in Activity-on-Arrow Network: An activity representing no actual work to be done but required for reasons of logic or nomenclature. Note: There are three uses for a dummy activity in an activity-on-arrow network: logic, time delay, and uniqueness.

Duration: The length of time needed to complete an activity.

Duration Compression: Often resulting in an increase in cost, the shortening of a project schedule without reducing the project scope.

Earliest Feasible Date: The earliest date on which the activity could be scheduled to start based on the scheduled dates of all its predecessors, but in the absence of any resource constraints on the activity itself. This date is calculated by resource scheduling.

Earliest Finish Time: Earliest possible time by which an activity can finish within the logical and imposed constraints of the network. (Defined as the earliest calculated date on which an activity can end. It is based on the activity's early start, which depends on the finish of predecessor activities and the activity's duration.)

Early Dates: Calculated in the forward pass of time analysis, early dates are the earliest dates on which an activity can start and finish.

Early Start Time: Earliest possible time by which an activity can start within the logical and imposed constraints of the network.

Earned Hours: The time in standard hours credited as a result of the completion of a given task or a group of tasks.

Earned Value: The value of the useful work done at any given point in a project. Note: The budget may be expressed in cost or labor hours.

Earned Value Analysis: Analysis of project progress where the actual money, hours, or other measure budgeted and spent is compared to the value of the work achieved. This analysis determines if a project is ahead, on, or behind schedule.

Earned Value Cost Control: The quantification of the overall progress of a project in financial terms so as to provide a realistic yardstick against which to compare the actual cost to date.

Effort: The number of labor units necessary to complete the work. Usually expressed in staff-hours, staff-days, or staff-weeks and should not be confused with duration.

Effort-Driven Activity: An activity whose duration is governed by resource usage and availability. The resource requiring the greatest time to complete the specified amount of work on the activity will determine its duration.

Effort Remaining: The estimate of effort remaining to complete an activity.

Elapsed Time: The total number of calendar days (excluding nonwork days such as weekends or holidays) needed to complete an activity. It gives a realistic view of how long an activity is scheduled to take for completion.

End Activity: An activity with no logical successors.

End Event (of a Project): Event with preceding, but no succeeding, activities. Note: There may be more than one end event.

Environmental Factoring: Use of data relating to an external factor (such as the weather) to modify or bias the value of parameters concerned.

Equivalent Activity: Activity that is equivalent, in the probabilistic sense, to any combination of series and parallel activities.

Estimate: A quantified assessment of the resources required to complete part or all of a project. The prediction of the quantitative result. It is usually applied to project costs, resources, and durations.

Estimate at Completion (EAC): A value expressed in either money and/or hours, to represent the projected final costs of work when completed. The EAC is calculated as ETC + ACWP (actual cost of work performed).

Estimate to Complete (ETC): The value expressed in either money or hours developed to represent the cost of the work required to complete a task.

Estimating: The act of combining the results of postproject reviews, metrics, consultation, and informed assessment to arrive at time and resource requirements for an activity.

Event: State in the progress of a project after the completion of all preceding activities, but before the start of any succeeding activity. (A defined point that is the beginning or end of an activity.)

Exception Report: Focused report drawing attention to instances where planned and actual results are expected to be, or are already, significantly different. Note: Usually triggered when actual values are expected to cross a predetermined threshold that is set with reference to the project plan. The actual values may be trending better or worse than plan.

Exceptions: Occurrences that cause deviation from a plan, such as issues, change requests, and risks. Exceptions can also refer to items where the cost variance and schedule variance exceed predefined thresholds.

Exclusive OR Relationship: Logical relationship indicating that only one of the possible activities can be undertaken.

Execution Phase: The phase of a project in which work toward direct achievement of the project's objectives and the production of the project's deliverables occurs. Sometimes called the implementation phase.

Expenditure: A charge against available funds, evidenced by a voucher, claim, or other documents. Represents the actual payment of funds.

External Constraint: A constraint from outside the project network.

Fallback Plan: A plan for an alternative course of action that can be adopted to overcome the consequences of a risk, should it occur (including carrying out any advance activities that may be required to render the plan practical).

Fast-Tracking: Reducing the duration of a project usually by overlapping phases or activities that were originally planned be to done sequentially. (The process of reducing the number of sequential relationships and replacing them typically with parallel relationships [usually to achieve shorter overall durations but often with increased risk].)

Feasibility Phase: The project phase that demonstrates that the client's requirement can be achieved, and identifies and evaluates the options to determine the one preferred solution.

Feasibility Study: Analysis to determine if a course of action is possible within the terms of reference of the project.

Feasible Schedule: Any schedule capable of implementation within the externally determined constraints of time and/or resource limits.

Federal Acquisition Regulations (FAR): The FAR system is established for the codification and publication of uniform policies and procedures for acquisition by all executive agencies. It consists of rules and regulations governing business with the federal government. These regulations govern all aspects of federal procurement.

Final Report: Postimplementation report. Normally a retrospective report that formally closes the project having handed over the project deliverables for operational use. Note: The report should draw attention to experiences that may be of benefit to future projects and may form part of the accountability of the project team.

Financially Focused Project Management (FFPM): The approach to project management that improves profitability by creating a "financially focused mindset" throughout the project team and other supporting organizations by (1) providing project-pertinent financial training and (2) offering specific tools to assist project team members in making financially sound decisions.

Financially Focused Quality: The approach to quality management and process improvement activities that improves profitability by creating a "financially focused mindset" throughout the project team and other supporting organizations by (1) providing project-pertinent financial training and (2) offering specific tools to assist project team members in making financially sound decisions.

Finish Date: The actual or estimated time associated with an activity's completion.

Finishing Activity: The last activity that must be completed before a project can be considered finished. This activity is not a predecessor to any other activity — it has no successors.

Finish-to-Finish Lag: The minimum amount of time that must pass between the finish of one activity and the finish of its successor(s).

Finish-to-Start Lag: The minimum amount of time that must pass between the finish of one activity and the start of its successor(s). The default finish-to-start lag is zero.

Firm Fixed Price Contract: A contract where the buyer pays a set amount to the seller regardless of that seller's cost to complete the contract.

Fixed Date: A calendar date (associated with a plan) that cannot be moved or changed during the schedule.

Fixed-Duration Scheduling: A scheduling method in which, regardless of the number of resources assigned to the task, the duration remains the same.

Fixed Finish: See *imposed finish*.

Fixed Price Contracts: A generic category of contracts based on the establishment of firm legal commitments to complete the required work. A performing contractor is legally obligated to finish the job, no matter how much it costs to complete. Risks of all cost growth rest on the performing contractor.

Fixed Start: See *imposed start*.

Float: Time available for an activity or path in addition to its planned duration. (The amount of time that an activity can slip past its earliest completion date without delaying the rest of the project.)

Forecast at Completion: Scheduled cost for a task.

Forecast Final Cost: See *estimate at completion*.

Forward Pass: A procedure whereby the earliest event times or the earliest start and finish times for the activities of a network are calculated.

Free Float: Time by which an activity may be delayed or extended without affecting the start of any succeeding activity. Note: Free float can never be negative.

Full-Cycle Corrective Action (FCCA): Introduced to the quality world in the early 1980s. FCCA took quality cost one step further by introducing tools to examine the total quality cost trade-off in correcting manufacturing defects. Much of the framework for financially focused quality was established in the pioneering works on FCCA.

Functional Manager: The person responsible for the business and technical management of a functional group.

Functional Matrix: An organization type where the project has a team leader in each functional department and the products are passed from one team to the next.

Functional Organization: Management structure where specific functions of an organization are grouped into specialist departments providing dedicated services. Note: Examples of functional organization are finance, marketing, and design departments.

Functional Specification: A document specifying in some detail the functions that are required of a system and the constraints that will apply.

Funding Profile: An estimate of funding requirements over time.

Gantt Chart: A graphical representation of a project. Each task is represented by a bar stretched across a calendar indicating how long the activity will take. If the chart includes lines showing which activity precedes and follows each task, it is called a network or "spaghetti."

Goal: A one-sentence definition of specifically what will be accomplished, while incorporating an event signifying completion.

Government-Furnished Equipment: Equipment provided to the university by the federal government or government contractor; title may or may not remain with the government.

Hammock: Activity, joining two specified points, that spans two or more activities. Note 1: Its duration is initially unspecified and is only determined by the durations of the specified activities. Note 2: Usually used to collect time-dependent information, e.g., overheads. (A group of activities, milestones, or other hammocks aggregated together for analysis or reporting purposes. Sometimes used to describe an activity such as management support that has no duration of its own but derives one from the time difference between the two points to which it is connected.)

Hand-Over: The formal process of transferring responsibility for and ownership of the products of a project to the operator or owner.

Hierarchical Coding Structure: A coding system that can be represented as a multilevel tree structure in which every code except those at the top of the tree has a parent code.

Hierarchy of Networks: Range of networks at different levels of detail, from summary down to working levels, showing the relationships between those networks.

Histogram: A graphic display of planned and/or actual resource usage over a period of time. It is in the form of a vertical bar chart, the height of each bar representing the quantity of resource usage in a given time unit. Bars may be single, multiple, or show stacked resources.

Holiday: An otherwise valid working day that has been designated as exempt from work.

Host Organization: Organization that provides the administrative and logistical support for the project.

Hypercritical Activities: Activities on the critical path with negative float.

Impact: The assessment of the adverse effects of an occurring risk.

Impact Analysis: Assessing the merits of pursuing a particular course of action.

Implementation Phase: The project phase that develops the chosen solution into a completed deliverable. (Note: Realization is the internationally accepted and preferred term for implementation.)

Imposed Date: Point in time determined by circumstances outside the network. Note: A symbol is inserted immediately above the event concerned on activity-on-arrow networks or adjacent and connected to the appropriate corner of the node on activity-on-node networks.

Imposed Finish: A finish date imposed on an activity by external constraints.

Imposed Start: A start date imposed on an activity by external constraints.

Inclusive OR Relationship: Logical relationship indicating that at least one but not necessarily all of the activities have to be undertaken.

INCOTERMS: A set of international terms defining conditions for delivery and shipping of equipment and materials.

Incurred Costs: Sum of actual and committed costs, whether invoiced/paid or not, at a specified time.

Indirect Cost: Cost associated with a project that cannot be directly attributed to an activity or group of activities. (Resources expended that are not directly identified to any specific contract, project, product, or service, such as overhead and general administration.)

In-House Project: A project commissioned and carried out entirely within a single organization.

Initiation: Committing the organization to begin a project.

In Progress: An activity that has been started, but not yet completed.

Integrated Logistics Support: Disciplined approach to activities necessary to (1) cause support considerations to be integrated into product design, (2) develop support arrangements that are consistently related to design and to each other, and (3) provide the necessary support at the beginning of and during customer use at optimum cost.

Integration: The process of bringing people, activities, and other things together to perform effectively.

Interim Deliverables: The work in progress during a project.

Internal Rate of Return (IRR): Discount rate at which the net present value of a future cash flow is zero. Note: IRR is a special case of the discounted cash flow procedures.

Inverted Matrix: A project-oriented organization structure that employs permanent specialists to support projects.

Issue: An immediate problem requiring resolution.

Key Events: Major events whose achievements are deemed to be critical to the execution of the project.

Key Performance Indicators: Measurable indicators that will be used to report progress that is chosen to reflect the critical success factors of the project.

Labor Rate Variances: Difference between planned labor rates and actual labor rates.

Ladder: Device for representing a set of overlapping activities in a network diagram. Note: The start and finish of each succeeding activity are linked only to the start and finish of the preceding activity by lead and lag activities, which consume only time.

Lag: (1) In a network diagram, the minimum necessary lapse of time between the finish of one activity and the finish of an overlapping activity. (2) Delay incurred between two specified activities.

Late Dates: Calculated in the backward pass of time analysis, the latest dates by which an activity can be allowed to start or finish.

Late Event Date: Calculated from backward pass, the latest date an event can occur.

Latest Event Time: Latest time by which an event has to occur within the logical and imposed constraints of the network, without affecting the total project duration.

Latest Finish Time: The latest possible time by which an activity has to finish within the logical activity and imposed constraints of the network, without affecting the total project duration.

Latest Start Time: Latest possible time by which an activity has to start within the logical and imposed constraints of the network, without affecting the total project duration.

Lead: In a network diagram, the minimum necessary lapse of time between the start of one activity and the start of an overlapping activity.

Lead Contractor: The contractor that has responsibility for overall project management and quality assurance.

Leadership: Getting others to follow.

Letter of Intent: A letter indicating an intent to sign a contract, usually so that work can commence prior to signing that contract.

Leveling: See *resource leveling*.

Life Cycle: A sequence of defined stages over the full duration of a project.

Life Cycle Costing: When evaluating alternatives, the concept of including acquisition, operating, and disposal costs.

Likelihood: Assessment of the probability that a risk will occur.

Line Manager: The manager of any group that makes a product or performs a service.

Link: Connection between tasks indicating that one is dependent on the other for completion. The most common links are Finish to Start (FS), one task must finish before another can start; Start to Start (SS), one activity cannot start until another has started; and Finish to Finish (FF), two activities must finish at the same time.

Linked Bar Chart: A bar chart that shows the dependency links between activities.

Logic: See *network logic*.

Logical Relationship: Based on the dependency between two project activities or between a project activity and a milestone.

Logic Diagram: A diagram that displays the logical relationships between project activities.

Loop: An error in a network that results in a later activity imposing a logical restraint on an earlier activity.

Management by Project: A term used to describe normal management processes that are being project managed.

Management Development: All aspects of staff planning, recruitment, development, training, and assessment.

Management Reserve: A central contingency pool. Sum of money held as an overall contingency to cover the cost impact of some unexpected event occurring. Note: This is self-insurance.

Master Network: Network showing the complete project, from which more detailed networks are derived.

Master Schedule: A high-level summary project schedule that identifies major activities and milestones.

Material: Property that may be incorporated into or attached to an end item to be delivered under a contract or that may be consumed or expended in the performance of a contract. It includes, but is not limited to, raw and processed material, parts, components, assemblies, fuels and lubricants, and small tools and supplies that may be consumed in normal use in the performance of a contract.

Matrix Organization: An organizational structure where the project manager and the functional managers share the responsibility of assigning priorities and for directing the work.

Methodology: A documented process for management of projects that contains procedures, definitions, and roles and responsibilities.

Mid-Stage Assessment: An assessment in the middle of a project that can be held for several reasons: (1) at the request of the project board, (2) to authorize work on the next stage before current one is completed, (3) to allow for a formal review in the middle of a long project, or (4) to review exception plans.

Milestone: A key event. An event selected for its importance in the project. Note: Commonly used in relation to progress. (Often chosen to represent the start of a new phase or completion of a major deliverable. Used to monitor progress at summary level. Activities of zero duration.)

Milestone Plan: A plan containing only milestones that highlight key points of the project.

Milestone Schedule: A schedule that identifies the major milestones. See also *master schedule*.

Mission Statement: Brief summary, approximately one or two sentences, that sums up the background, purposes, and benefits of the project.

Mitigation: Working to reduce risk by lowering its chances of occurring or by reducing its effect if it occurs.

Mobilization: The bringing together of project personnel and securing equipment and facilities. Carried out during project start-up phases.

Modification: Any change made to an existing agreement.

Monitoring: The recording, analyzing, and reporting of project performance as compared to the plan.

Monte Carlo Simulation: A technique used to estimate the likely range of outcomes from a complex process by simulating the process under randomly selected conditions a large number of times.

Multiproject: A project consisting of multiple subprojects.

Multiproject Analysis: Used to analyze the impact and interaction of activities and resources whose progress affects the progress of a group of projects or for projects with shared resources or both. Can also be used for composite reporting on projects having no dependencies or resources in common.

Multiproject Management: Managing multiple projects that are interconnected either logically or by shared resources.

Multiproject Scheduling: Use of the techniques of resource allocation to schedule more than one project concurrently.

Near-Critical Activity: A low total float activity.

Negative Total Float: Time by which the duration of an activity or path has to be reduced in order to permit a limiting imposed date to be achieved.

Negotiated Contract Cost: The estimated cost negotiated in a cost plus fixed fee contract or the negotiated contract target cost in either a fixed price incentive contract or a cost plus incentive fee contract. See also *contract target cost*.

Negotiation: The art of satisfying needs by reaching agreement or compromise with other parties.

Net Present Value: Aggregate of future net cash flows discounted back to a common base date, usually the present.

Network: A pictorial presentation of project data in which the project logic is the main determinant of the placement of the activities in the drawing. Frequently called a flowchart, PERT chart, logic drawing, or logic diagram.

Network Analysis: Method used for calculating a project's critical path and activity times and floats. See also *critical path analysis, project network techniques*.

Network Interface: Activity or event common to two or more network diagrams.

Network Logic: The collection of activity dependencies that make up a project network.

Network Path: A series of connected activities in a project network.

Nodes: Points in a network at which arrows start and finish.

Nonrecurring Costs: Expenditures against specific tasks that are expected to occur only once on a given project.

Nonsplittable Activity: An activity that, once started, has to be completed to plan without interruption. Note: Resources should not be diverted from a nonsplittable activity to another activity.

Not Earlier Than: A restriction on an activity that indicates that it may not start or end earlier than a specified date.

Not Later Than: A restriction on an activity that indicates that it may not start or end later than a specified date.

Objectives: Predetermined results toward which effort is directed.

Offer: A proposal, by one party to another, of intent to enter into a contract on the terms specified in the offer. In government procurements, an invitation for bids (IFB) or request for proposals (RFP) constitutes a request by the government for offers of a certain nature. The bid or proposal submitted in the response to the solicitation is in fact an offer.

Operation Phase: Period when the completed deliverable is used and maintained in service for its intended purpose.

Opportunity: The opposite of a risk. The chance to enhance the project benefits.

Order of Magnitude Estimate: An estimate carried out to give very approximate indication of likely out-turn costs.

Organizational Breakdown Structure (OBS): Hierarchical way in which the organization may be divided into management levels and groups, for planning and control purposes.

Organizational Planning: The process of identifying, assigning, and documenting project responsibilities and relationships.

Organization Design: The design of the most appropriate organizational design for a project.

Original Budget: The initial budget established at or near the time a contract was signed or a project authorized, based on the negotiated contract cost or management's authorization.

Original Duration: The duration of activities or groups of activities as recorded in the baseline schedule.

Other Direct Costs (ODC): A group of accounting elements that can be isolated to specific tasks, other than labor and material. Included are such items as travel, computer time, and services.

Out-of-Sequence Progress: Progress that has been reported even though activities that have been deemed predecessors in project logic have not been completed.

Output Format: Information that governs the final appearance of a report or drawing. (Usually refers to computer-generated documents.)

Outsourcing: Contracting out, buying in facilities or work (as opposed to using in-house resources).

Overall Change Control: Coordinating and controlling changes across an entire project.

Overhead: Costs incurred in the operation of a business that cannot be directly related to the individual products or services being produced. See also *indirect cost*.

Overrun: Costs incurred in excess of the contract target costs on an incentive-type contract or the estimated costs on a fixed fee contract. That value of costs needed to complete a project, over the value originally authorized by management.

Parallel Activities: Two or more activities than can be done at the same time. This allows a project to be completed faster than if the activities were arranged serially.

Parent Activity: Task within the work breakdown structure (WBS) that embodies several subordinate "child" tasks.

Parties (to a Contract): The persons or companies that sign a contract with one another.

Path: Activity or an unbroken sequence of activities in a project network. (Refer to critical path method for information on critical and noncritical paths.)

Percent Complete: A measure of the completion status of a partially completed activity. May be aggregated to sections of a project or the whole project.

Performance Measurement Techniques: The methods used to estimate earned value. Different methods are appropriate to different work packages, due either to the nature of the work or to the planned duration of the work package.

Performance Specification: Statement of the totality of needs expressed by the benefits, features, characteristics, process conditions, boundaries, and constraints that together define the expected performance of a deliverable. Note: Should provide for innovation and alternative solutions, by not defining or unduly constraining the technical attributes of the intended deliverable.

Performing: A team-building stage where the emphasis is on the work currently being performed.

Phase (of a Project): That part of a project during which a set of related and interlinked activities are performed. Note: A project consists of a series of phases that together constitute the whole project life cycle.

Physical Percent Complete: The percentage of the work content of an activity that has been achieved.

Pilot: A form of testing a new development and its implementation prior to committing to its full release.

Plan: An intended future course of action. It is owned by the project manager, it is the basis of the project controls, and includes the "what," the "how," the "when," and the "who."

Planned Activity: An activity not yet started.

Planned Cost: Estimated cost of achieving a specified objective.

Planner: A member of a project team or project support office with the responsibility for planning, scheduling, and tracking of projects. Often primarily concerned with schedule, progress, and manpower resources.

Planning: The process of identifying the means, resources, and actions necessary to accomplish an objective.

Planning Stage: The stage prior to the implementation stage when product activity, resource, and quality plans are produced.

Portfolio: A grouping or bundle of projects, collected together for management convenience. They may or may not have a common objective; they are often related only by the use of common resources.

Portfolio Management: The management of a number of projects that do not share a common objective.

Positive Float: Defined as the amount of time that an activity's start can be delayed without affecting the project completion date. An activity with positive float is not on the critical path and is called a noncritical activity. The difference between early and late dates (start or finish) determines the amount of float.

Postimplementation Review: A review between 6 and 12 months after a system in a project has met its objectives to verify that it continues to meet user requirements.

Postproject Appraisal: An evaluation that provides feedback in order to learn for the future.

Precedence Diagram Method: One of the two methods of representing a project as networks, in which the activities are represented by nodes and the relationships between them by arrows.

Precedence Network: A multiple dependency network. An activity-on-node network in which a sequence arrow represents one of four forms of precedence relationship, depending on the positioning of the head and the tail of the sequence arrow. The relationships are: (1) start of activity depends on finish of preceding activity, either immediately or after a lapse of time; (2) finish of activity depends on finish of preceding activity, either immediately or after a lapse of time; (3) start of activity depends on start of preceding activity, either immediately or after a lapse of time; (4) finish of activity depends on start of preceding activity, either immediately or after a lapse of time.

Precedence Technique: Precedence diagrams are represented as the reverse of arrow diagrams and are also called network or PERT charts. In a precedence diagram, lines are used to represent the links between tasks, which are enclosed in rectangles.

Preceding Event: In an activity-on-arrow network, an event at the beginning of an activity.

Precommissioning: That work that is carried out prior to commissioning in order to demonstrate that commissioning may be safely undertaken.

Predecessor: An activity that must be completed (or be partially completed) before a specified activity can begin.

Predecessor Activity: In the precedence diagramming method, this is an activity that logically precedes the current activity.

Prime or Lead Contractor: A main supplier that has a contract for much or all of the work on a contract.

Probabilistic Network: Network containing alternative paths with which probabilities are associated.

Probability: Likelihood of a risk occurring.

Process: Set of inter-related resources and activities that transform inputs into outputs.

Procurement: The securing of goods or services.

Procurement Planning: Determining what to procure and when.

Product Breakdown Structure (PBS): A hierarchy of deliverable products that are required to be produced on the project. It forms the base document from which the execution strategy and product-based work breakdown structure (WBS) may be derived. It provides a guide for configuration control documentation.

Product Description: The description of the purpose, form, and components of a product. It should always be used as a basis for acceptance of the product by the customer.

Product Flow Diagram: Represents how the products are produced by identifying their derivation and the dependencies between them.

Program: A broad effort encompassing a number of projects and/or functional activities with a common purpose.

Program Benefits Review: A review to assess if targets have been reached and to measure the performance levels in the resulting business operations.

Program Director: The senior manager with the responsibility for the overall success of the program.

Program Directorate: A committee that directs the program when circumstances arise where there is no individual to direct the program.

Program Evaluation and Review Technique (PERT): A project management technique for determining how much time a project needs before it is completed. Each activity is assigned a best, worst, and most probable completion time estimate. These estimates are used to determine the average completion time. The average times are used to calculate the critical path and the standard deviation of completion times for the entire project. Developed in 1958 by the Special Office of the Navy and the Booze, Allen, and Hamilton consulting firm to schedule the more than 3,300 contractors of the Polaris submarine project and to cover uncertainty of activity time estimates.

Program Management: The effective management of several individual but related projects or functional activities in order to produce an overall system that works effectively.

Program Management Office: The office responsible for the business and technical management of a specific contract or program.

Program Manager: Individual or body with responsibility for managing a group of projects.

Program Support Office: A group that gives administrative support to the program manager and the program executive.

Progress: The partial completion of a project, or a measure of the same.

Progress Payments: Payments made to a contractor during the life of a fixed-price-type contract, on the basis of some agreed-to formula, e.g., budget cost of work performed or simply costs incurred.

Progress Report: A regular report to senior personnel, sponsors, or stakeholders summarizing the progress of a project including key events, milestones, costs, and other issues.

Project: A temporary effort to achieve a set of objectives within time and cost constraints. The project ends when the objective(s) are met or when the powers-that-be decide to end it. Unique set of coordinated activities, with definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined time, cost, and performance parameters (see also BS ISO 10006). (Alternative definition: An endeavor in which human, material, and financial resources are organized in a novel way to deliver a unique scope of work of given specification, often within constraints of cost and time, and to achieve beneficial change defined by quantitative and qualitative objectives.)

Project Appraisal: The discipline of calculating the viability of a project.

Project Base Date: Reference date used as a basis for the start of a project calendar.

Project Board: The body to which the project manager is accountable for achieving the project objectives.

Project Brief: Statement that describes the purpose, cost, time, and performance requirements/constraints for a project. (A statement of reference terms for a project. A written statement of the client's goals and requirements in relation to the project.)

Project Calendar: A calendar that defines global project working and nonworking periods.

Project Champion: Person within the parent organization who promotes and defends a project.

Project Closure: Formal termination of a project at any point during its life.

Project Coordination: Communication linking various areas of a project to ensure the transfer of information or hardware at interface points at the appropriate times and identification of any further necessary resources.

Project Coordination Procedure: Defines the parties relevant to the project and the approved means of communicating between them.

Project Cost Management: A subset of project management that includes resource planning, cost estimating, cost control, and cost budgeting in an effort to complete the project within its approved budget.

Project Culture: The general attitude toward projects within the business.

Project Definition: A report that defines a project, i.e., why it is required; what will be done; how, when, and where it will be delivered; the organization and resources required; the standards and procedures to be followed.

Project Director: The manager of a very large project that demands senior-level responsibility or the person at the board level in an organization who has the overall responsibility for projects management.

Project Environment: The context within which the project is formulated, assessed, and realized. This includes all external factors that have an impact on the project.

Project Evaluation: A documented review of the project's performance, produced at project closure. It ensures that the experience of the project is recorded for the benefit of others.

Project File: A file containing the overall plans of a project and any other important documents.

Project Initiation: The beginning of a project at which point certain management activities are required to ensure that the project is established with clear reference terms and adequate management structure.

Project Initiation Document: A document approved by the project board at project initiation that defines the terms of reference for the project.

Project Issue Report: A report that raises either technical or managerial issues in a project.

Project Life Cycle: All phases or stages between a project's conception and its termination. Note: May include the operation and disposal of project deliverables. This is usually known as an "extended life cycle."

Project Life Cycle Cost: Cumulative cost of a project over its whole life cycle.

Project Log: A project diary. A chronological record of significant occurrences throughout the project.

Project Logic: The relationships between the various activities in a project.

Project Logic Drawing: A representation of the logical relationships of a project.

Project Management: The application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations from a project. Planning, monitoring, and control of all aspects of a project and the motivation of all those involved in it to achieve the project objectives on time and to the specified cost, quality, and performance. (Alternative definition: The controlled implementation of defined change.)

Project Management Body of Knowledge: An inclusive term that describes the sum of knowledge within the profession of project management. As with other professions, such as law and medicine, the body of knowledge rests with the practitioners and academics who apply and advance it.

Project Management Plan: A plan for carrying out a project, to meet specific objectives, that is prepared by or for the project manager.

Project Management Software: Computer application software designed to help with planning and controlling resources, costs, and schedules of a project. It may also provide facilities for documentation management, risk analysis, etc.

Project Management Team: Members of the project team who are directly involved in its management.

Project Manager: Individual or body with authority, accountability, and responsibility for managing a project to achieve specific objectives.

Project Matrix: A project-based organization matrix in which the functional structures are duplicated in each project.

Project Monitoring: Comparison of current project status with what was planned to be done to identify and report any deviations.

Project Network: Representation of activities and/or events with their inter-relationships and dependencies.

Project Network Techniques: Group of techniques that, for the description, analysis, planning, and control of projects, considers the logical inter-relationships of all project activities. The group includes techniques concerned with time, resources, costs, and other influencing factors, e.g., uncertainty. Note: The terms program evaluation and review technique (PERT), critical path analysis (CPA), critical path method (CPM), and precedence technique refer to particular techniques and should not be used as synonyms for project network.

Project Organization: Structure that is created or evolves to serve the project and its participants. (A term that refers to the structure, roles, and responsibilities of the project team and its interfaces to the outside world.)

Project Phase: A group of related project activities that come together with the completion of a deliverable.

Project Plan: A document for management purposes that gives the basics of a project in terms of its objectives, justification, and how the objectives are to be achieved. This document is used as a record of decisions and a means of communication among stakeholders. It gives the supporting detail to the project definition that details the schedule, resources, and costs for the project.

Project Planning: Developing and maintaining a project plan.

Project Portfolio: The constituent projects within a program.

Project Procedures Manual: A collected set of the management and administrative procedures needed for the project.

Project Procurement Management: A subset of project management that includes procurement planning, source selection, enquiry, tender assessment, placement of purchase orders and contracts for goods and services, contract and purchase order administration, and close out in an effort to obtain goods and services from outside organizations.

Project Progress Report: Formal statement that compares the project progress, achievements, and expectations with the project plan.

Project Quality Management: A subset of project management that includes quality planning, quality assurance, and quality control to satisfy the needs and purpose of the project.

Project Review Calendar: Calendar of project review dates, meetings, and issues of reports set against project week numbers or dates.

Project Risk Management: A subset of project management that includes risk identification, risk quantification, risk response development, and risk response control in an effort to identify, analyze, and respond to project risks.

Project Schedule: Project program. (Planned dates for starting and completing activities and milestones.)

Project Scope Management: A subset of project management that includes initiation, scope planning, scope definition, scope verification, and scope change control in an effort to ensure that the project has all of the necessary work required to complete it.

Project Sponsor: (1) The individual or body for whom the project is undertaken, the primary risktaker; (2) the individual representing the sponsoring body and to whom the project manager reports; (3) a person or organization providing funds for the project.

Project Start-Up: The creation of the project team.

Project Status Report: A report on the status of accomplishments and any variances to spending and schedule plans.

Project Strategy: A comprehensive definition of how a project will be developed and managed.

Project Success/Failure Criteria: The criteria by which the success or failure of a project may be judged.

Project Support Office: The central location of planning and project support functions. Often provides personnel and facilities for centralized planning, cost management, estimating, documentation control, and sometimes procurement to a number of projects.

Project Team: Set of individuals, groups, and/or organizations that are responsible to the project manager for undertaking project tasks. (Includes all contractors and consultants.)

Project Technical Plan: A plan produced at the beginning of a project that addresses technical issues and strategic issues related to quality control and configuration management.

Project Time Management: A subset of project management that includes activity definition, activity sequencing, activity duration estimating, schedule development, and schedule control in order to complete the project on time.

Public Relations: An activity meant to improve the project organization's environment in order to improve project performance and reception.

Qualitative Risk Analysis: A generic term for subjective methods of assessing risks.

Quality: A trait or characteristic used to measure the degree of excellence of a product or service. Meeting customers' needs.

Quality Assurance (QA): The process of evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.

Quality Assurance Plan: A plan that guarantees a quality approach and conformance to all customer requirements for all activities in a project.

Quality Audit: An official examination to determine whether practices conform to specified standards or a critical analysis of whether a deliverable meets quality criteria.

Quality Control (QC): The process of monitoring specific project results to determine if they comply with relevant standards and identifying ways to eliminate causes of unsatisfactory performance.

Quality Criteria: The characteristics of a product that determine whether it meets certain requirements.

Quality Guide: Describes quality and configuration management procedures and is aimed at people directly involved with quality reviews, configuration management, and technical exceptions.

Quality Plan (for a Project): That part of the project plan that concerns quality management and quality assurance strategies (see also ISO 10006).

Quality Planning: Determining which quality standards are necessary and how to apply them.

Quality Review: A review of a product against an established set of quality criteria.

Rebudgeting: Process by which funds available for spending are reallocated between budget categories to allow best use of funds to accomplish project goals.

Recurring Costs: Expenditures against specific tasks that would occur on a repetitive basis. Examples are hire of computer equipment, tool maintenance, etc.

Relationship: A logical connection between two activities.

Remaining Duration: Time needed to complete the remainder of an activity or project.

Replanning: Actions performed for any remaining effort within project scope. Often the cost and/or schedule variances are zeroed out at this time for history items.

Request for Change: A proposal by the project manager for a change to the project as a result of a project issue report.

Request for Proposal (RFP): A bid document used to request proposals from prospective sellers of products or services.

Request for Quotation: Equivalent to a request for proposal but with more specific application areas.

Requirements: A negotiated set of measurable customer wants and needs.

Requirements Definition: Statement of the needs that a project has to satisfy.

Resource: Any variable capable of definition that is required for the completion of an activity and may constrain the project. Note 1: May be nonstorable so that its availability has to be renewed for each time period (even if it was not utilized in previous time periods). Note 2: May be storable so that it remains available unless depleted by usage. Such a resource may also be replenished by activities producing credited and storable resource. (Can be people, equipment, facilities, funding, or anything else needed to perform the work of a project.)

Resource Aggregation: Summation of the requirements for each resource and for each time period. Note: Where the earliest start time of an activity is used alone, it is often termed an "early start" aggregation. Similarly a "late start" aggregation uses the latest start times.

Resource Allocation: Scheduling of activities and the resources required by those activities, so that predetermined constraints of resource availability and/or project time are not exceeded.

Resource Analysis: The process of analyzing and optimizing the use of resources on a project. Often uses resource leveling and resource smoothing techniques.

Resource Assignment: The work on an activity related to a specific resource.

Resource Availability: The level of availability of a resource, which may vary over time.

Resource Breakdown Structure (RBS): A hierarchical structure of resources that enables scheduling at the detailed requirements level and roll up of both requirements and availabilities to a higher level.

Resource Calendar: A calendar that defines the working and nonworking patterns for specific resources.

Resource Constraint: Limitation due to the availability of a resource.

Resource Cumulation: Process of accumulating the requirements for each resource to give the total required to date at all times throughout the project.

Resource-Driven Task Durations: Task durations that are driven by the need for scarce resources.

Resource Histogram: A view of project data in which resource requirements, usage, and availability are shown using vertical bars against a horizontal time scale.

Resource Level: A specified level of resource units required by an activity per time unit.

Resource Leveling: Projects must have specific resources available at precise points in the schedule, or delays could occur. Resource leveling and tracking refer to methods that keep an accurate record of project resource use, help predict future resource availability, and smooth out resource constraints among various parts of a project or across simultaneous projects. See also *resource-limited scheduling*.

Resource-Limited Scheduling: Scheduling of activities, so that predetermined resource levels are never exceeded. Note: This may cause the minimum overall or specified project duration to be exceeded.

Resource Loading: Establishing an optimum schedule for the use of resources so that there is a minimum variation in the number over an extended period.

Resource Optimization: A term for resource leveling and resource smoothing.

Resource Plan: Part of the definition statement stating how the program will be resource loaded and what supporting services, infrastructure, and third-party services are required.

Resource Planning: Evaluating what resources are needed to complete a project and determining the quantity needed.

Resource Requirement: The requirement for a particular resource by a particular activity.

Resource Scheduling: The process of determining dates on which activities should be performed in order to smooth the demand for resources or to avoid exceeding stated constraints on these restraints.

Resource Smoothing: Scheduling of activities, within the limits of their float, so that fluctuations in individual resource requirements are minimized. (As opposed to resource leveling, the project completion date may not be delayed.)

Responsibility Matrix: A document correlating the work required by a work breakdown structure (WBS) element to the functional organizations responsible for accomplishing the assigned tasks.

Responsible Organization: A defined unit within the organization structure that is assigned responsibility for accomplishing specific tasks or cost accounts.

Retention: A part of payment withheld until the project is completed in order to ensure satisfactory performance or completion of contract terms.

Revenue Cost: Expenditure charged to the profit and loss account as incurred or accrued due.

Risk: Combination of the probability or frequency of occurrence of a defined threat or opportunity and the magnitude of the consequences of the occurrence. Note: Combination of the likelihood of occurrence of a specified event and its consequences. (Potential occurrences or threats that would jeopardize the success of a project. The probability of an undesirable outcome.)

Risk Analysis: Systematic use of available information to determine how often specified events may occur and the magnitude of their likely consequences. (A technique designed to quantify the impact of uncertainty.)

Risk Assessment: The process of identifying potential risks, quantifying their likelihood of occurrence, and assessing their likely impact on the project.

Risk Avoidance: Planning activities to avoid risks that have been identified.

Risk Evaluation: Process used to determine risk management priorities.

Risk Event: A discrete occurrence that affects a project.

Risk Identification: Process of determining what could pose a risk.

Risk Management: Systematic application of policies, procedures, methods, and practices to the tasks of identifying, analyzing, evaluating, treating, and monitoring risk. (The process whereby decisions are made to accept known or assessed risks and/or the implementation of actions to reduce the consequences or probability of occurrence.)

Risk Management Plan: A document defining how project risk analysis and management is to be implemented in the context of a particular project.

Risk Matrix: A matrix with risks located in rows and with impact and likelihood in columns.

Risk Prioritizing: Ordering of risks according to their risk value, and then by which risks need to be considered for risk reduction, risk avoidance, and risk transfer.

Risk Quantification: Process of applying values to the various aspects of a risk. (Evaluating the probability of risk event effect and occurrence.)

Risk Ranking: Allocating a classification to the impact and likelihood of a risk.

Risk Reduction: Action taken to reduce the likelihood and impact of a risk.

Risk Register: Formal record of identified risks. (A body of information listing all the risks identified for the project, explaining the nature of each risk, and recording information relevant to its assessment and management.)

Risk Response: Contingency plans to manage a risk should it materialize. (Action to reduce the probability of the risk arising or to reduce the significance of its detrimental impact if it does arise.)

Risk, Secondary: Risk that can occur as a result of treating a risk.

Risk Sharing: Diminution of a risk by sharing it with others, usually for some consideration.

Risk Transfer: A contractual arrangement between two parties for delivery and acceptance of a product where the liability for the costs of a risk is transferred from one party to the other.

Risk Treatment: Selection and implementation of appropriate options for dealing with risk.

Safety Plan: The standards and methods that minimize, to an acceptable level, the likelihood of accident or damage to people or equipment.

Schedule: The timetable for a project. It shows how project tasks and milestones are planned out over a period of time.

Schedule Control: Controlling schedule changes.

Schedule Dates: Start and finish dates calculated with regard to resource or external constraints as well as project logic.

Scheduled Finish: The earliest date on which an activity can finish, having regard to resource or external constraints as well as project logic.

Scheduled Start: The earliest date on which an activity can start, having regard to resource or external constraints as well as project logic.

Schedule Performance Index (SPI): Ratio of work accomplished vs. work planned, for a specified time period. An efficiency rating for work accomplishment, comparing work accomplished to what should have been accomplished.

Schedule Variance (Cost): The difference between the budgeted cost of work performed and the budgeted cost of work scheduled at any point in time.

Scheduling: The process of determining when project activities will take place depending on defined durations and precedent activities. Schedule constraints specify when an activity should start or end based on duration, predecessors, external predecessor relationships, resource availability, or target dates.

Scope: The sum of work content of a project.

Scope Change: Any change in a project scope that requires a change in the project's cost or schedule.

Scope Change Control: Controlling changes to the scope.

Scope Creep: The gradual addition of extra effort or size of deliverables. Each addition may be so small that it could be overlooked in terms of its impact on the completion of the project, but the cumulative effect could be considerable.

Scope of Work: A description of the work to be accomplished or resources to be supplied.

Scope Verification: Ensuring all identified project deliverables have been completed satisfactorily.

S-Curve: A display of cumulative costs, labor hours, or other quantities plotted against time.

Secondary Risk: The risk that may occur as a result of invoking a risk response or fallback plan.

Secondment Matrix: An organizational structure whereby team members are seconded from their respective departments to the project and are responsible to the project manager.

Sequence: The order in which activities will occur with respect to one another.

Site Visit: An agency-initiated review of a proposed project conducted at the applicant's institution.

Slack Time: The amount of time beyond schedule that a project task (or tasks) can take without affecting the overall project completion date.

Slip Chart: A pictorial representation of the predicted completion dates of milestones (also referred to as trend chart).

Slippage: The amount of slack or float time used up by the current activity due to a delayed start or increased duration.

Soft Project: A project that is intended to bring about change and does not have a physical end product.

Soft Skills: Soft skills include team building, conflict management, and negotiation.

Sole Source Acquisition: A procurement that does not provide full and open competition, but is effected because only one source is available.

Source Selection: Choosing from potential contractors.

Splittable Activity: Activity that can be interrupted in order to allow its resources to be transferred temporarily to another activity.

Sponsor: Individual or body for whom the project is undertaken and who is the primary risktaker.

Stage: A natural high-level subsection of a project that has its own organizational structure, life span, and manager.

Stage Payment: Payment partway through a project at some predetermined milestone.

Stakeholder: A person or group of people who have a vested interest in the success of an organization and the environment in which the organization operates. (Project stakeholders are people or organizations that have a vested interest in the environment, performance, and/or outcome of the project.)

Start Event of a Project: Event with succeeding but no preceding activities. Note: There may be more than one start event.

Starting Activity: Has no predecessors. It does not have to wait for any other activity to start.

Start-to-Start Lag: The minimum amount of time that must pass between the start of one activity and the start of its successor(s). This may be expressed in terms of duration or percentage.

Statement of Work: A document stating the requirements for a given project task.

Status Reports: Written reports given to both the project team and to a responsible person on a regular basis stating the status of an activity, work package, or whole project. Should be used to control the project and to keep management informed of project status.

Steering Group: A body established to monitor the project and give guidance to the project sponsor or project manager.

Subcontract: A contractual document which legally transfers the responsibility and effort of providing goods, services, data, or other hardware from one firm to another.

Subcontractor: An organization that supplies goods or services to a supplier.

Subnet or Subnetwork: A division of a project network diagram representing a subproject.

Subproject: A group of activities represented as a single activity in a higher level of the same.

Subrecipient: The legal entity to which a subaward is made and that is accountable to the recipient for the use of the funds provided. The term may include foreign or international organizations (such as agencies of the United Nations) at the discretion of the federal awarding agency.

Success Criteria: Criteria to be used for judging if the project is successful.

Success Factors: Critical factors that will ensure achievement of success criteria.

Successor: An activity whose start or finish depends on the start or finish of a predecessor activity.

Sunk Costs: Unavoidable costs (even if the project were to be terminated).

Supercritical Activity: An activity that is behind schedule is considered to be supercritical if it has been delayed to a point where its float is calculated to be a negative value.

Supplemental Pay: Compensation for work performed for a different department or different duties performed above normal work assignments.

Supplemental Proposal: Additional support requested to assure adequate completion of the original scope of work.

Supplier: Includes contractors, consultants, and any organization that supplies services or goods to the customer.

System: The complete technical output of the project including technical products.

Systems and Procedures: Detail the standard methods, practices, and procedures of handling frequently occurring events within the project.

Systems Management: Management that includes the prime activities of systems analysis, systems design and engineering, and systems development.

Target Completion Date: A date that contractors strive toward for completion of the activity.

Target Date: Date imposed on an activity or project by the user. There are two types of dates: target start dates and target finish dates.

Target Finish — Activity: The user's imposed finish date for an activity. Used if there are predefined commitment dates.

Target Finish Date: The date planned to finish work on an activity.

Target Finish — Project: Can be imposed on a project as a whole. Used if there is a predefined completion date.

Target Start — Activity: An imposed starting date on an activity.

Target Start Date: The date planned to start work on an activity.

Task: The smallest indivisible part of an activity when it is broken down to a level best understood and performed by a specific person or organization.

Team: Made up of two or more people working interdependently toward a common goal and a shared reward.

Team Building: The ability to gather the right people to join a project team and get them working together for the benefit of a project.

Team Development: Developing skills, as a group and individually, that enhance project performance.

Team Leader: Person responsible for leading a team.

Technical Assurance: The monitoring of the technical integrity of products.

Technical Guide: A document that guides managers, team leaders, and technical assurance coordinators on planning the production of products.

Technical Products: Products produced by a project for an end user.

Tender: A document proposing to meet a specification in a certain way and at a stated price (or on a particular financial basis); an offer of price and conditions under which the tenderer is willing to undertake work for the client.

Termination: Completion of the project, either on formal acceptance of its deliverables by the client and/or the disposal of such deliverables at the end of their life.

Terms of Reference: A specification of a team member's responsibilities and authorities within the project.

Tied Activities: Activities that have to be performed sequentially or within a predetermined time of each other.

Time Analysis: The process of calculating the early and late dates for each activity on a project, based on the duration of the activities and the logical relations between them.

Time-Based Network: A linked bar chart; a bar chart that shows the logical and time relationships between activities.

Time-Limited Resource Scheduling: The production of scheduled dates in which resource constraints may be relaxed in order to avoid any delay in project completion.

Time-Limited Scheduling: Scheduling of activities, so that the specified project duration or any imposed dates are not exceeded. Note: This may cause the envisaged resource levels to be exceeded.

Time Now: Specified date from which the forward analysis is deemed to commence. (The date to which current progress is reported. Sometimes referred to as the status date because all progress information entered for a project should be correct as of this date.)

Time Recording: The recording of effort expended on each activity in order to update a project plan.

Time-Scaled Logic Drawing: Displays the logical connection between activities in the context of a time scale in which each horizontal position represents a point in time.

Time-Scaled Network Diagram: A project network diagram drawn so that the positioning of the activity represents schedule.

Time Sheet: A means of recording the actual effort expended against project and nonproject activities.

Top-Down Cost Estimating: The total project cost is estimated based on historical costs and other project variables and then subdivided down to individual activities.

Total Float: Time by which an activity may be delayed or extended without affecting the total project duration (or violating a target finish date).

Total Quality Management (TQM): A strategic, integrated management system for customer satisfaction that guides all employees in every aspect of their work.

Transit Time: Dependency link that requires time and no other resources. It may be a negative time.

Turnaround Report: A report created especially for the various responsible managers to enter their progress status against a list of activities that are scheduled to be in progress during a particular time window.

Uniform Commercial Code (UCC): Adopted by most states to ensure that companies performing commercial contracting are all playing by the same set of rules.

Unlimited Schedule: Infinite schedule; schedule produced without resource constraint.

Users: The group of people who are intended to benefit from the project.

Value: A standard, principle, or quality considered worthwhile or desirable.

Value Engineering: A technique for analyzing qualitative and quantitative costs and benefits of component parts of a proposed system.

Value Management: A structured means of improving business effectiveness that includes the use of management techniques such as value engineering and value analysis.

Value Planning: A technique for assessing, before significant investment is made, the desirability of a proposal based on the value that will accrue to the organization from that proposal.

Variance: A discrepancy between the actual and planned performance on a project, either in terms of schedule or cost.

Variance at Completion: The difference between budget at completion and estimate at completion.

Variation: A change in scope or timing of work that a supplier is obliged to do under a contract.

Variation Order: The document authorizing an approved technical change or variation.

What-If Analysis: The process of evaluating alternative strategies.

What-If Simulation: Changing the value of the parameters of the project network to study its behavior under various conditions of its operation.

Work: The total number of hours, people, or effort required to complete a task.

Work Breakdown Code: A code that represents the "family tree" of an element in a work breakdown structure (WBS).

Work Breakdown Structure (WBS): Way in which a project may be divided by level into discrete groups for programming, cost planning, and control purposes. See also *work package*. (The WBS is a tool for defining the hierarchical breakdown of work required to deliver the products of a project. Major categories are broken down into smaller components. These are subdivided until the lowest required level of detail is established. The lowest units of the WBS become the activities in a project. The WBS defines the total work to be undertaken on the project and provides a structure for all project control systems.)

Workload: The amount of work units assigned to a resource over a period of time.

Work Package: A group of related tasks that are defined at the same level within a work breakdown structure (WBS). In traditional cost/schedule systems, the criteria for defining work packages is as follows: (1) each work package is clearly distinguishable from all other work packages in the program; (2) each work package has a scheduled start and finish date; (3) each work package has an assigned budget that is time phased over the duration of the work package; (4) each work package either has a relatively short duration or can be divided into a series of milestones whose status can be objectively measured; (5) each work package has a schedule that is integrated with higher level schedules.

Work Units: Provide the measurement units for resources. For example, people as a resource can be measured by the number of hours they work.

Zero Float: A condition where there is no excess time between activities. An activity with zero float is considered a critical activity.