Crosswind Learning

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Project Management Professional (PMP)® Exam

Crosswind Success Series:
PMP® Exam Bootcamp Manual

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Version 6.1 aligned with the Project Management Institute, *A Guide to the Project Management Body of Knowledge, (PMBOK® Guide) - Sixth Edition*, Project Management Institute Inc., 2017

Monitor and Control Project Work (Continued)		
Key Outputs (Cont.)	Change Requests	Change requests are requests for modification that have not been formally approved through the change control process. Modifications can be requested from inside or outside the project and may include: corrective action, preventative action, defect repair, or updates to documentation or information.
	Any Component of the Project Management Plan	Changes to the project management plan are subject to the change control process. Authorized changes are used to update the plan so that it reflects the current approach to, and state of, the project.
	Issue Log	The issue log is used to record and track any project challenges that cannot be immediately resolved. As new issues are identified and existing issues addressed, the issue log is updated.
	Lessons Learned Register	The lessons learned register is a document the team can reference to discover the challenges, problems, and successes of the project. As new lessons learned are identified, or existing issues refined, the lessons learned register is updated.

Situational Question and Real World Application
Failure to effectively perform the Monitor and Control Project Work process can result in reactive, rather than proactive, project management.

9.11. Perform Integrated Change Control (Monitoring and Controlling Process Group)

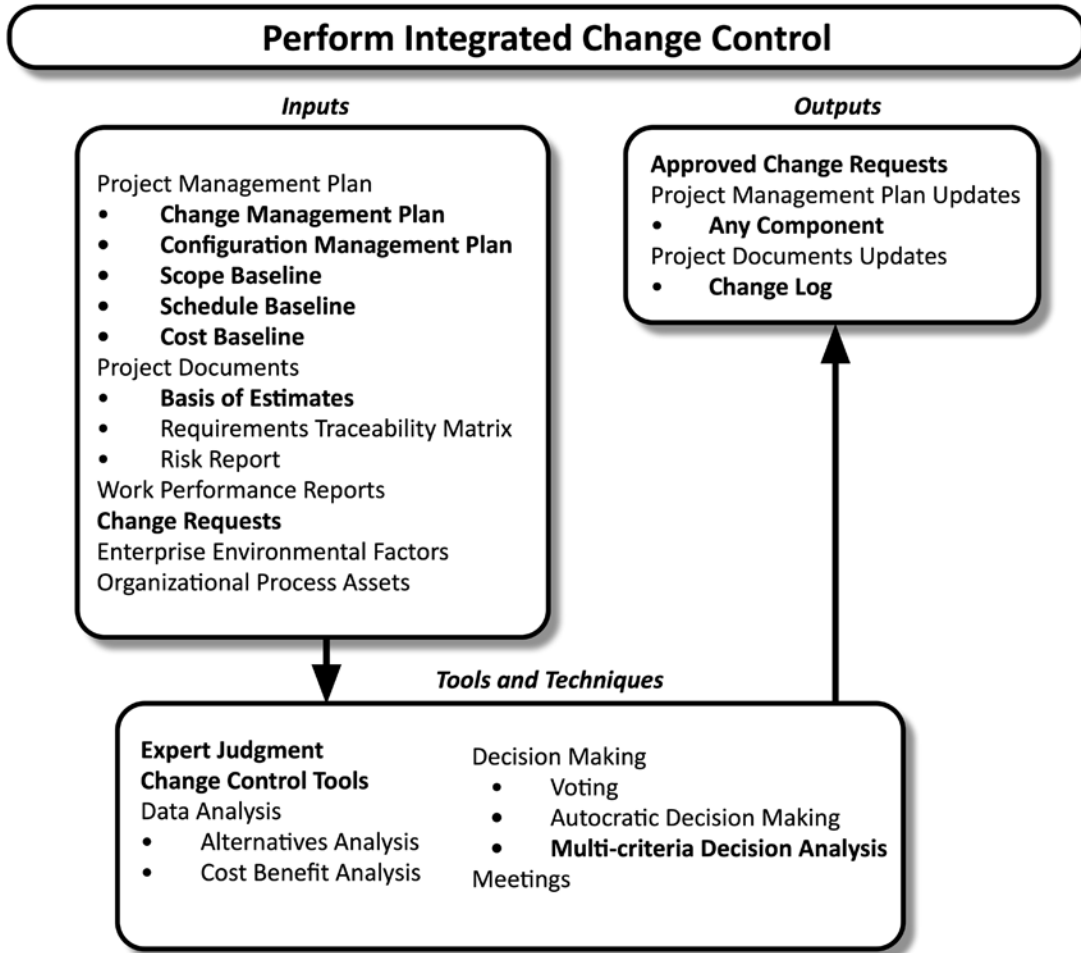Know the Key Inputs, Tools & Techniques, and Outputs for Perform Integrated Change Control.

The Perform Integrated Change Control process entails the review of all change requests; the approval, rejection, modification, or suspension of each request; the management of approved changes; and the communication of the decisions. Even if a change control board (CCB) evaluates changes as part of the configuration control and change control procedures, the process is the responsibility of the project manager. Change requests can be made by any stakeholder and can occur at anytime throughout the life of the project. Before baselines are established, changes are not required to be subject to the change control process.

Because proposed changes are reviewed from an integration perspective (considering all impacted knowledge areas), overall project risk is addressed.

Approved change requests can necessitate new or revised activity sequencing, cost estimates, resource requirements, schedule adjustments, and/or risk response alternatives analysis. In turn, changes to the project management and other project documents may be indicated.

Perform Integrated Change Control

Inputs

Project Management Plan
- **Change Management Plan**
- **Configuration Management Plan**
- **Scope Baseline**
- **Schedule Baseline**
- **Cost Baseline**

Project Documents
- **Basis of Estimates**
- Requirements Traceability Matrix
- Risk Report

Work Performance Reports

Change Requests

Enterprise Environmental Factors

Organizational Process Assets

Outputs

Approved Change Requests

Project Management Plan Updates
- **Any Component**

Project Documents Updates
- **Change Log**

Tools and Techniques

Expert Judgment
Change Control Tools
Data Analysis
- Alternatives Analysis
- Cost Benefit Analysis

Decision Making
- Voting
- Autocratic Decision Making
- **Multi-criteria Decision Analysis**

Meetings

Figure 9-8: Perform Integrated Change Control Data Flow Diagram

The source for the above figure is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Figure 4-12, Page 113

Perform Integrated Change Control (Monitoring and Controlling)		
Key Inputs	Change Management Plan	The change management plan provides direction for administering the change control process and formalizes the change control board.
	Configuration Management Plan	The configuration management plan provides direction for administering the configuration process by detailing the technical specifications of all applicable processes and deliverables.

Perform Integrated Change Control (Continued)		
Key Inputs (Cont.)	Scope Baseline	The scope baseline is the authorized version of project scope. It contains the project scope statement, the work breakdown structure (WBS), the work package, one or more planning packages, and the WBS dictionary. It describes the work the project is trying to complete. The scope baseline is subject to change management and is a component of the project management plan.
	Schedule Baseline	The schedule baseline is the authorized version of the schedule model. It lists connected activities with planned dates such as the planned start date and finish date for each activity, durations, milestones, and resources. Because it contains the start and finish dates of activities, it is referenced before approval of a change that is impacted by these dates. The schedule baseline is subject to change management and is a component of the project management plan.
	Cost Baseline	The cost baseline is the approved version of the time-phased budget, exclusive of management reserves. It contains a summation of the authorized budget for scheduled activities, which is used to compare the baseline to actual results, and cost estimates for activities and their contingency reserves collected into work package costs, which are further collected into control accounts. The cost baseline is subject to change management and is a component of the project management plan.
	Basis of Estimates	The basis of estimates supports how the duration estimate was established and describes how the basis of estimates was evolved, the project, assumptions and constraints considered, the level of confidence in the estimate, and the range of possible estimates (using the format plus or minus the appropriate percentage).
	Change Requests	Change requests are requests for modification that have not been formally approved through the change control process. Modifications can be requested from inside or outside the project and may include: corrective action, preventative action, defect repair, or updates to documentation or information.
Key Tools & Techniques	Expert Judgment	Expert judgment is judgment based on expertise acquired in a specific area. It is important to consider expertise related to regulatory and legislative directives, legal, procurement, management of risks, configuration management, and industry-related technical details.

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Perform Integrated Change Control (Continued)		
Key Tools & Techniques (Cont.)	Change Control Tools	Change control tools are tools that facilitate the determination, documentation, and acceptance, denial, deferment or modification of change requests. They should support configuration management activities, specifically configuration item identification, configuration item status accounting, configuration item verification and audit, modification identification, documentation of modifications, analysis and approval of modifications, and implementation of modifications.
	Cost-benefit Analysis	The change control board may perform a cost-benefit analysis for a change request. The analysis involves comparing the cost of the proposed change to its benefit.
	Multi-criteria Decision Analysis	Decision analysis techniques are utilized to determine whether to accept, defer, deny, or modify a change request. Techniques include voting or multi-criteria decision making. Voting by **unanimity**, **majority**, **plurality,** or **autocracy** are acceptable voting types. Multi-criteria decision analysis involves the use of a decision matrix. There can be a number of factors that go into the overall decision including, but not limited to, schedule, budget, quality, and team capacity.
Key Outputs	Approved Change Requests	Approved change requests are requests for modification that have been approved by authorized personnel during the formal change control process. The changes can expand or contract the scope of the project and modify policies, procedures, the project management plan, budgets, and schedules. Any change to the status of a change request must be updated in the change request log.
	Any Component of the Project Management Plan	The project management plan is a living, breathing document. Changes to the plan are subject to the change control process. Authorized changes are used to update the plan so that it reflects the current approach to, and state of, the project. All updates to the plan should be executed accordingly.
	Change Log	The change log allows the team to ensure it has the most current information on the state of project change requests.

9.11.1.   Change Requests vs. Approved Changes

A change request is simply a request for change made by a project stakeholder. In situational exam questions, a requested change isn't considered approved unless so stated.

An approved change is a request for change that has been approved through the formal change control process.

Know the difference between change requests and approved changes.

9.11.2.   Change Control System

A change control system is used to assess the impact and consequences of requested changes on the project. An overall change control system considers the impact the requested change will have on all knowledge areas. For example, if a scope change is requested, it is likely to impact both schedule (schedule management plan) and cost (cost management plan), in addition to scope.

Know the characteristics of a change control system.

9.11.3.   Change Control Board (CCB)

A change control board is typically used on larger projects, which often involve multiple departments or divisions of the organization. If multiple departments or divisions of the organization are involved, board members should include representatives of those departments or divisions.

The function of the board is to review (and approve, suspend, modify, or reject) changes on the project as they relate to the various areas of the represented business. Each change control board should establish rules and guidelines that are aligned with the needs of the organization and the project.

9.11.4.   Configuration Management

Configuration management is the process used to control product features and details through change control. It standardizes the change process associated with the project baseline. To ensure that the project conforms to requirements and creates only what it's intended to create, it defines and locks down details associated with the project scope.

**Chapter 9
Integration**

The goals of a configuration management system are:

- To develop a consistent process for the evaluation of changes
- To create an environment in which the decision to approve, suspend, modify, or reject a change request is based on it's overall project impact
- To establish standards so the decision to approve, suspend, modify, or reject a change request can be clearly communicated in a timely manner to the appropriate stakeholders

Know the characteristics of a configuration management system.
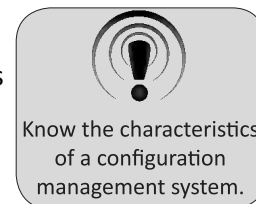
Configuration management activities include, but are not limited to:

- Configuration identification to establish the baseline and validate (verify) status
  Configuration identification is the basis for defining and verifying product configuration, labeling products, managing change, and maintaining accountability
- Configuration status accounting to provide documentation, storage, and access to project product data
  Configuration status accounting is the recording and reporting of data about the configuration item including item identification, proposed change status, and implementation status of approved changes
- Configuration verification and audits to provide verification of the project's results
  Performance of configuration verification and audits ensures that the functional requirements defined in the configuration documentation have been met, that the composition of a project's configuration items is correct, and that corresponding changes have been registered, assessed, approved, tracked, and correctly implemented.

9.12. Close Project or Phase (Closing Process Group)

The Close Project or Phase process involves the completion of activities across all process groups for the project, phase, or contract.

Once completed, the related project, phase, or contract information must be archived and all organizational resources released. The process is performed once or at predefined points in the project.

Activities necessary for administrative closure include, but are not limited to:

Know the Key Inputs, Tools & Techniques, and Outputs for Close Project or Phase.

- Activities required to meet completion criteria
  Ensuring that all documents have been updated, any outstanding issues have been resolved, and all costs have been charged to the project; confirming the delivery and formal acceptance of deliverables by the customer/sponsor; closing project accounts; releasing and/or reassigning human resources; reallocate physical resources
- Activities required to complete any outstanding contractual agreements
  Confirming that the work has been formally accepted; finalizing open claims; updating records; archiving appropriate information