BUREAU OF RECLAMATION

Project Management Guidebook

prepared by

Project Management Advisory Team

U.S. Department of the Interior

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Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Abbreviations and Acronyms

ANSI	American National Standards Institute
CMP	Comprehensive Program Series
COG	Coordination and Oversight Group
D&S	Reclamation Manual Directives and Standards
DCO	Deputy Commissioner, Operations
DOI	U.S. Department of the Interior
EVM	Earned Value Management
FAC-P/PM	Federal Acquisition Certification for Program and Project Managers
FAI	Federal Acquisition Institute
GAO	Government Accountability Office
IT	Information Technology
O&M	Operation and Maintenance
OMB	Office of Management and Budget
PM Guidebook	Project Management Guidebook
PMAT	Project Management Advisory Team
PMBOK®	A Guide to the Project Management Body of Knowledge, PMI
PMI	Project Management Institute
PMIT	Project Management Implementation Team
PMOT	Project Management Oversight Team
PMP	Project Management Plan
PMT	Project Management Team
PRB	Project Review Board
RAX	Replacements, Additions, and Extraordinary Maintenance
Reclamation	Bureau of Reclamation
SOP	Standing Operating Procedures
U.S.C.	United States Code
VRC	Virtual Resource Center
WBS	Work Breakdown Structure

I. Introduction

A. Goals

Applying project management knowledge, processes, skills, tools, and techniques can significantly improve effectiveness and efficiency in achieving project goals. Formal project management is increasingly accepted across all industries. In order to maximize the success of its projects, the Bureau of Reclamation (Reclamation) is committed to implementing effective project management principles at all levels and in all disciplines of the agency ranging from planning to construction, as well as human resources, acquisitions, and Information Technology (IT). It is Reclamation's goal to improve the way it accomplishes its work.

The competent project manager will progressively seek to mature in areas of Knowledge (credentials and certifications), Performance (as defined through project results), Quality Assurance (including quality control, peer review), and Personal Competencies (soft skills such as leadership or building high performance teams) through continuous training, updating, and experience.

In certain cases, project management processes are mandated by U.S. Department of the Interior (DOI) or governmental policy. This document does not supersede any of the mandated processes, but it provides guidance for those areas in which Reclamation has discretion.

This Project Management Guidebook (PM Guidebook) is intended to address project management for all types of projects. It specifically focuses on providing scalable requirements for projects where each office retains discretion.

B. Objective

The objective of the PM Guidebook is to guide the consistent administration (training, use, evaluation, and control, etc.) and practice of project management for all programs and projects within Reclamation. This supplemental guidebook focuses on projects within programs, providing supplemental guidance on project management best practices.

C. History

In October 2011, a charter formally established and authorized Reclamation's Project Management Implementation Team (PMIT). The PMIT developed the Project Management Framework, which this guidebook updates. In 2014, the PMIT was renamed the Project Management Oversight Team (PMOT), to reflect the team's role in overseeing Reclamation's execution of the provisions of the Project Management Framework. In 2016, the name was changed to Project Management Advisory Team (PMAT), to better reflect the team's mission to compile and share "best practices" for

performing Project Management in Reclamation. Also in 2016, the Executive Sponsor determined that the PMAT would report directly to Deputy Commissioner for Operations (DCO) and to the Director, Policy and Programs, rather than serve as a sub-team to the Coordination and Oversight Group (COG).

The Project Management Improvement Accountability Act of 2016 (PMIAA) prioritized project management across all Federal agencies to improve efficiency of programs and projects. The PMAT supports efforts to implement the PMIAA in Reclamation.

The PMAT consists of one representative from each directorate and has an elected Chair and Vice-Chair position that serve 2-year terms. The team also has an appointed advisor and emeritus. The PMAT supports program and project managers. The PMAT also leads Reclamation's Project Management Community of Practice.

II. Project Guidance

Each Reclamation Director is responsible for establishing internal business practices, procedures, best practices, and structures for implementing the guidance in this guidebook or communicating within their directorate that the Virtual Resource Center (VRC) will be used to accomplish this. This section explains what items should be covered in those directorate policies and procedures.

Section VII of the PM Guidebook includes a list of project management related laws, policies, and guidelines at the Government-wide, DOI, and Reclamation levels. Below are minimum requirements that must be met.

1. **Project Classification**: Projects must be classified and documented according to the below categories:
   - **Basic:** Recommended for low-risk, relatively simple projects that do not warrant special management attention.
   - **Standard:** Recommended for low or medium risk projects with some management or technical complexity that do not warrant special management attention.
   - **Complex:** Recommended for medium or high-risk projects with a great deal of management or technical complexity, or for projects that warrant special management attention.
   - **Complex with Capital Asset Plan and Business Case:** Required for major acquisitions where a Major Business Case is required to be submitted to OMB, as defined in OMB Circular A-11, Part 7, "Planning, Budgeting, and Acquisition of Capital Assets." Contact the Asset Management Division for the Capital Planning Guide and other supplemental guidance on OMB Circular A-11.

2. **Project Complexity Tool**
   - To support determination of the Project Classification, a Project Complexity Tool must be used prior to the development of the project charter. A Project Complexity Tool is

available on Reclamation's VRC at:
https://teamssp.bor.doi.net/pmat/SitePages/Home.aspx

- The Project Complexity Tool computes the project importance to the agency mission, risk, visibility, or significant factors in the administration of agency programs, finances, property, or other resources.
- The above Project Classification thresholds can be superseded with management approval. Projects may require special attention because of their importance to the agency mission, high risk, high return, high visibility, or their significant role in the administration of agency programs, finances, property, or other resources. The Project Complexity Tool helps support changes to the Project Classification.

3. **Training Program.** The purpose of establishing a training program is to promote efficient and consistent project management practices throughout Reclamation. Through the efforts to develop, establish, and execute proven and consistent project management principles and best practices, Reclamation will realize increased productivity and increased stakeholder and public value and satisfaction.
   - Each directorate or region will develop necessary training requirements for staff managing the projects as classified above. Training requirements will also be defined for members of project teams and for managers, supervisors, and other staff not directly involved in project teams.
   - The types of training provided, and the level of training required should mirror the needs of the organization, customers, and project efforts. Each training program should include instructional templates, plans, and forms for consistency, repeatability, and standardization.
   - Training references can be found on the VRC website, including a training matrix identifying key topics to address. The link to the VRC is in the Tools and Templates section below.
   - The PMAT hosts a monthly project management session, where various project management topics are provided for program and project managers.
   - Continuing education requirements shall be in accordance with the certification requirements, e.g., Federal Acquisition Certification for Program and Project Managers (FAC-P/PM) or Project Management Institute (PMI) Project Management Professional.

4. **Certification Required for Project Classifications**
   - Certification is encouraged, but not required, to manage Basic, Standard or Complex projects.
   - Projects in the category of Complex with Capital Asset Plan and Business Case must be under the responsible charge of a project manager certified at the Senior FAC-P/PM level.
   - Program and project managers managing major IT investments shall hold senior level FAC-P/PM-IT Specialization.

5. **Additional Requirements for Complex with Capital Asset Plan and Business Case:** A Capital Asset Plan and Business Case are required for any major investment.

- In consultation with the Asset Management Division, the directors shall determine the need for Capital Asset Plan and Business Case requirements for non-IT projects based on OMB Circular A-11 guidance. For example, Safety of Dams modifications generally require a Capital Asset Plan and Business Case. Title XVI; Rural Water; Replacements, Additions, and Extraordinary Maintenance (RAX); and routine Operations and Maintenance (O&M) items do not require a Capital Asset Plan and Business Case.
- Major IT projects require special management attention because of their importance to Reclamation's mission or function. Major IT projects also have high executive visibility; high development, operating, or maintenance costs; are funded through other than direct appropriations; or are defined as major by Reclamation's capital planning and investment control process. OMB may work with Reclamation to declare other investments as major investments. Reclamation should consult with its OMB agency budget officer or analyst about which investments to consider as "major." Investments/projects not considered "major" are "nonmajor."

III. Tools and Templates

Reclamation's PMAT is chartered to compile and share "best practices" on the Reclamation project management VRC. The VRC tools and templates also incorporate Federal, DOI and Reclamation requirements. The VRC is located at: https://teamssp.bor.doi.net/pmat/SitePages/Home.aspx.

The VRC tools and templates integrate the concepts set forth by the PMI in its publication, A Guide to the Project Management Body of Knowledge (PMBOK®). The PMBOK® is a resource for the project management profession. It is widely accepted to include the core elements of successful project management practices, is updated every 4 years, is a nationally and internationally referenced standard (American National Standards Institute [ANSI]) and provides a basis for universal discourse on practices. Most modern academic and practical publications on the subject of project management reference the PMBOK®, adopt its methodology, and incorporate its terminology.

Additionally, the Federal Acquisition Institute (FAI) and DOI toolkits include a wealth of knowledge on program and project management best practices.

- DOI Program/Project Management Portal: https://doimspp.sharepoint.com/sites/doi-ppm-portal/.
- Federal Acquisition Institute Program/Project Management Toolkit: https://www.fai.gov/resources/toolkit
- FedPM Community of Practice: https://community.max.gov/pages/viewpage.action?spaceKey=Management&title=FedPM+CoP+Resource+Library

IV. Program Guidance

In Reclamation, a program is typically a group of projects administered by Reclamation. A program's schedule may continue past any individual project. Examples of Reclamation programs are the Safety of Dams Program; the Replacements, Additions, and Extraordinary Maintenance Program (RAX); Power Program Services; the Science and Technology Program; and the Title XVI Program. The overall management of an area or regional office is also a program.

A. Budget Process

Reclamation employs a Programmatic Budget Structure (PBS) which provides Reclamation the means to implement an outcome-oriented, program-activity based, budgeting and reporting process. The program activities represent Reclamation's major functions and operations.

Program managers develop high level budget estimates for programs and projects (over the entire project life cycle), to be broken down by fiscal year and provided to budget offices who help further prioritize and elevate the budget requests. The budget office conducts a dynamic process that considers other budget and planning requirements such as those for RAX, irrigation, and capital projects.

Project managers often assist with developing the projected costs which are included in the budget request. At other times, project managers are assigned to projects after the program and project budgets are approved.

Additional information on Reclamation's and the federal budget process can be found at the following links:

- https://www.usbr.gov/budget/documents/Programmatic%20Budget%20Structure%202006.pdf
- OMB Circular No. A-11 Preparation, Submission and Execution of the Budget: https://www.whitehouse.gov/wp-content/uploads/2018/06/a11.pdf

Project managers should coordinate with the program manager for projects funded externally, such as advanced customer funding, to determine if there are specific procedural requirements.

B. Assets Under Construction

During the budget approval process, program managers over construction projects have the responsibility to work with their finance office to confirm if a project is an asset under construction (AUC), as defined in Reclamation Directives and Standards (D&S) FIN 07-24. During the project life cycle, it will be the responsibility of the program manager, manager, or delegated Project Manager to work with the budget specialist to confirm if any changes in scope result in a project

becoming AUC. The VRC also provides an AUC flow chart of all project responsibilities per various Reclamation D&S.

V. Reclamation Project Management Process

A. Overview

The purpose of this section of the PM Guidebook is to describe key project management processes and concepts to provide a common language for use in Reclamation.

A project is a temporary endeavor undertaken to produce a unique product, service, or result. Project management is multifaceted and comprehensive process that produces a solution for a specific objective(s). For the endeavor to be successful, the project must be accomplished on time, within budget, and to the appropriate scope required to satisfy the objective(s). For success to be achieved, the project manager must be skilled and operate in an organizational structure that enables a project team to achieve success.

A project is completed by using processes from each of the five process groups (Initiating, Planning, Executing, Monitoring and Control, Closing), described in more detail below.

The project life cycle for a Reclamation project may include multiple phases or subprojects within the context of a single overall project. The end of each phase is marked by a milestone, which may vary by the type and size of project. Project management process groups are not the same as project phases in a complete project life cycle. In fact, the process groups may need to be repeated for each phase. Subphases may be used to provide greater segregation and control of the project.

In system, product, or service development, the "one size fits all" methodology does not apply to every project. Projects tailor the life cycle based on the scope of the project to deliver project deliverables on time and within budget. Mature methodologies recognize these differences, and adept project managers tailor and customize life-cycle processes to the scope of the project or program, or to key stakeholder expectations and requirements. Tactically, the life cycle is often customized by identifying the inventory of tasks and process deliverables that will be removed or customized to fit the scope of the project

B. Project Process Groups Guidance

For each established project, Reclamation recommends following PMBOK® project process groups as follows:

1. Initiating
2. Planning
3. Executing

4. Monitoring and controlling
5. Closing

The five groups of PMBOK® processes include a very broad range of individual processes. It is important that practitioners within Reclamation understand the individual processes that must be adapted and applied to suit each individual project. Smaller, simpler projects may require the use of less rigid processes, whereas larger and more complicated projects will typically require more processes. In short, although project management follows standard practices and guidelines, project management needs to be scalable and adaptable to each particular project.

The level of interaction of the five process groups indicates a strong, non-exclusive relational dependence. One process group does not simply end when the next one begins. To manage the breadth or range of a project, active and proactive project management is required throughout the duration of the project. A project cannot simply be initiated or planned, and then left alone. It must be continually planned, monitored, and controlled. If planning or monitoring and controlling are incomplete or absent, project management will be reactive and, hence, less effective.

1. Initiating

Initiating defines and authorizes the project and defines how the overall project will be managed from start to finish.

After a budget is approved and a funding account is established to start work on the project, the project charter is developed and approved by the project sponsor and a project manager is assigned.

a. Project Charter

The project charter is an important document that provides the initial official authorization for the project. The project charter uses a high-level definition of the scope and schedule, and it usually includes a ballpark estimate of the budget (or simply the approved budget), a project category (Basic, Standard, Complex, or Complex with Capital Asset Plan and Business Case) and identifies the sponsors and stakeholders. The project charter becomes the primary input to the development of the PMP. A charter template is located on Reclamation's VRC.

2. Planning

Planning defines and refines objectives and develops the Project Management Plan (PMP), which is the course of action required to attain the project's objectives and scope.

After the charter is signed, the project manager is responsible for working with the project team to develop a PMP (per Reclamation Manual CMP 07-01). Since many projects in Reclamation can last multiple years, Reclamation recommends that projects are broken down by phase or into smaller projects (if possible) to prevent extensive long-term unnecessary planning and to allow for agility to make changes based on changing project needs. Therefore, many PMPs can be created during a project life cycle and can be scaled to cover a smaller portion of the total project. This approach cuts down on the frequency of costly change orders, saving each project a large amount of money in the long term.

A PMP is a fundamental tool for the project manager to think about and plan how to manage the project successfully. Essentially, a PMP is a guide for executing the project and a method by which to gain support from stakeholders and sponsors prior to commencement. The PMP is a strategic and formalized roadmap to accomplish the project's objectives by describing how the project is to be executed, monitored, controlled, and closed out.

Developing the PMP includes creating the project scope, schedule, and budget; identifying, quantifying, and planning for how to mitigate risk; identifying and planning for how to manage quality, including anticipating implementation of peer review requirements on scientific information; identifying how to effectively communicate with project team members and other stakeholders; planning for acquisitions; and developing a plan to manage changes. The PMP also describes roles and responsibilities.

The schedule and cost identified in each PMP serves as the project baseline. The baseline needs to be established in order to measure project performance (cost, schedule, and progress).

The PMP is signed by the project manager, the project sponsor, and responsible client management, as defined by the PMP. The PMP is amended as change occurs through the change management process defined in the PMP. At major milestones/project phases, supplemental PMPs may be written and signed by the approver. The PMP will vary based on size, complexity, risk, and/or sensitivity of the project. PMP templates include guidance on preparing the PMP and are located on Reclamation's VRC.

3. Executing

Project execution integrates people and other resources to carry out the PMP activities for the project. The project team will implement the project in accordance with the PMP.

4. Monitoring and Controlling

Monitoring and controlling regularly measures and monitors progress to identify variances from the baseline so that corrective action can be taken, when necessary, to meet project objectives. Corrective action should be taken in accordance with the Change Management Plan within the PMP.

a. Performance Metrics

Effective project management requires an effective feedback loop that sustains the overall health of a project (measurements of past, current, and future project performance). These metrics enable teams to make timely, informed decisions. Developing performance metrics usually follows a process of:

1. Establishing critical processes/customer requirements
2. Developing measures
3. Establishing targets, which the results can be scored against

Using project metrics establishes a historical record that aids in planning and forecasting future projects; serves to identify and prevent potential problems, such as schedule slippage and overexpenditures; and indicates model stability, which signals the time to proceed into the next

project life-cycle phase. The metrics used to measure progress assess the health of a project and provides warning about factors needing attention. Project metrics are used to measure project status at periodic briefing time intervals (i.e., weekly, monthly, quarterly, or at milestones, depending on project).

The metrics used to measure progress, assess the health of a project, and warn about factors needing attention, consists of measuring the following seven factors:

- Cost (How is the project progressing against budget?)
- Time/Schedule (How is the project progressing against schedule?)
- Scope (Is the scope in line with expectations?)
- Resources (How much effort is being spent on the project by the resources assigned (e.g., Reclamation staff, contractors, etc.?)
- Quality (Is project quality being reviewed and are quality problems being fixed?)
- Progress on Activities (Are any action items outstanding?)
- Risk (Have events or conditions that could impact the project's objectives been identified and have plans been made to address them?)

b. Reporting

Project managers are responsible for reporting on the status of their projects via the process established by each office. PMAT members can share status report templates and the PMAT can provide a demonstration of tools, templates, and options for interested offices.

c. Earned Value Management

Earned Value Management (EVM) is a method used for tracking project costs and ensuring a project is within budget and on schedule. More information on EVM is provided by the PMAT in periodic training. OMB also requires agencies to use EVM for major acquisitions with development effort. See GAO-20-195G. Additional information on calculating EVM can be found in the FAI Project Managers Guidebook. The PMAT is also developing tools for calculating EVM.

d. Quality Assurance and Peer Review

Project managers are responsible for ensuring the quality of scientific information developed and used in the project, that peer review requirements for any influential scientific information disseminated through the project are properly implemented, and that such reviews are properly disclosed on Reclamation's Peer Review Agenda. The peer review council member should be consulted with on quality assurance planning and implementation of peer review requirements, when applicable. Reclamation's policy on peer review of scientific information is described in Reclamation Policy CMP P14.

5. Closing

Closing formalizes acceptance of the product, service, or result; brings the project, or a project phase to an orderly end; and transitions to operations or to the next project phase.

- At project completion, project managers are required to promptly finalize the project record, document lessons learned, close the timesheet charging ability, and if advised by the project

financial specialist, close the funding account. A project completion checklist is available on the VRC.

- Project Record: Directorates are also recommended to store project records in a centralized location to assist with access to project files and future internal audits of project records. File naming for project documents could be organized in a master project folder: Directorate.YYYY-####, where YYYY represents the date and #### represents the project name. Files in the project folder could be named Directorate.YYYY-####.Doc Type, where YYYY represents the date and #### represents the project and product name.
- Lessons Learned Guidance: At the end of each major milestone or phase of a project, the project team is required to discuss and capture lessons learned to improve future project performance. Additionally, lessons learned must be shared with similar teams and elevated as soon as possible by a manager or project manager. Each subsequent manager in the hierarchy is responsible for elevating lessons learned until they meet a level of resolution or are updated in processes to improve future performance.

Reclamation project managers are required to document lessons learned and the resolution in a directorate specific lessons learned log located on the VRC. Lessons learned must be available for review by future project managers so that they can be considered when developing the risk register on a new and similar project.

C. Roles and Responsibilities

It is the responsibility of the leadership of each directorate to determine the best organizational structure within each organization to advance best project management practices. It is imperative to recognize the need for strong teamwork, clear definition of authority, and clearly identified roles and responsibilities in carrying out each project.

Every project has specific components and requirements; therefore, it is essential to identify the specific roles and responsibilities for each project at the various organizational levels to ensure project success. The following information provides guidance for describing the responsibilities at the general organizational levels and identifying the associated types of positions.

1. Project Manager

The directorate's project management business practices and the project charter assign the project manager and define the project manager's responsibilities and authority. The key responsibility of the project manager is to successfully accomplish the project objectives by balancing the competing demands for quality, scope, time, risks, resources, and cost. Ideally, the project manager will direct the project from initiation through all phases.

The project manager leads teams to operate cross-functionally toward a common objective, ensures cohesiveness and continuity as a project progresses through process groups and project phases, and elicits effective communication and coordination of all project activities. The project manager acts as the key catalyst to stimulate effective communication and coordination between life-cycle phases and activities.

In order to effectively manage these responsibilities and assume these roles, a project manager must be effective in the following project management knowledge areas: scope, time, cost, quality, risk, communications, project integration, human resources, and procurement management. The project manager is responsible for development, coordination, and distribution of the PMP and other related project documents.

The project manager must also ensure that adequate technical management is provided to ensure quality deliverables and accomplishment of project objectives. Sometimes the project manager may fulfill both the technical manager and the project manager roles, or a portion of the technical roles, while at other times, the project requires separate technical management. Regardless, it is important that the project manager ensures that the bases are covered.

2. Reclamation Leadership, Management, and Supervisors

Reclamation leaders, managers, and supervisors play a large role in implementing Project Management in Reclamation. They are:

- Responsible for making key decisions with the overall authority and responsibility for the Reclamation project and project management. Example positions: deputy commissioner, director, area office manager.
- Responsible for implementing project management through the organization and supervising those within it; leading efforts to develop long-and short-term plans; and coordinating the plans with priorities, budgets, and capabilities to develop fiscal year work plans. Example positions: deputy directors, deputy managers.
- Responsible for promoting facility participation in scope development and review of projects that affect their facilities, the customer and key stakeholders for the projects; working with project managers to develop work needs, priorities, schedules, and budgets; and creating work orders for the proposed projects. Example position: facility superintendent.
- Responsible for providing technical resources needed to execute the projects, performing supervision and technical review, and providing critical input for developing long-range and fiscal year plans. Example positions: section manager, group manager, program manager, division chief.

3. Project Team

The project manager establishes and leads a project team (sometimes referred to as the project management group) that includes individuals from various offices that are responsible for different aspects of the project such as data collection, technical disciplines, design, environmental and cultural resources compliance, real estate, acquisition, finance, peer review lead, and construction. Each office represented should assign a team lead. The team lead reports to the project manager and may participate in team meetings with the project manager and other team leads. The project manager is responsible for managing the work of the project team in accordance with the project plans to ensure that the project is on track.

4. Project Management Team

For safety of dams and other critical, complex, or controversial projects, the manager or director of the Reclamation office with program responsibility will initiate the formation of the project

management team (PMT). The PMT will be responsible for executing an efficient and cost-effective project process, coordinating the project through design and construction, ensuring that construction issues are communicated to the appropriate organizational structure and the design team, and coordinating high profile projects that do not involve construction. The team members at this level have management authority over resources and have the authority to set work priorities, establish project priorities, and resolve problems that could not be resolved at the working level.

5. Executive Management Team

At times, depending on the complexity of the project, an additional oversight and review team may be established at an organizational level higher than the PMT. This type of oversight team is sometimes called an Executive Management Team. The team members at this level are generally executive level management such as area office managers, assistant or deputy regional directors, or, in some cases, regional directors. Executive level representatives of the sponsor and outside stakeholders are typically included. This team functions as an executive oversight or steering committee to provide executive level decision making, guidance, and policy direction.

6. Project Review Board

Projects may also be monitored through a Project Review Board (PRB). PRBs are generally more program management oriented than project oriented, and they provide additional oversight review. PRBs usually review a suite of projects and provide management an opportunity to assess each project in the context of a larger program. PRBs offer opportunities for management to prioritize a group of projects. The makeup of the PRB should include key management personnel from the office to which the project is assigned. This may include the area manager, deputy or special assistant, budget, facility managers, engineering, etc. The makeup can be adjusted as needed for the specific project(s) and include subject matter experts, management, and other key stakeholders as deemed beneficial. The PRB members represent both their respective organizations and the greater organization, with the goals of providing the support, collaboration, insight, or clarification needed to promote success of the projects and adherence to standards, laws, and other requirements. The PRB may also act as a control board, reviewing specific modifications to project deliverables based on scope or requirement changes. The general status of each recognized project may be presented at the PRB meetings, with project managers giving more detailed presentations for their project(s) when requested by management.

VI. Glossary

Authority. The right to apply project resources, expend funds, make decisions, or give approvals.

Authorized Project. A statutorily defined assembly of features and supporting assets required to provide the benefit(s) authorized by Congress.

Baseline. An approved plan for a project, plus or minus approved changes. It is compared to actual performance to determine if performance is within acceptable variance thresholds. Generally, it refers to the current baseline, but it may refer to the original or some other baseline. Usually used

with a modifier (e.g., cost performance baseline, schedule baseline, performance measurement baseline, technical baseline). The initial baseline will be retained as a project artifact to allow comparison to the final baseline.

Budget. The approved estimate for the project or any Work Breakdown Structure (WBS) component or any schedule activity. See also *estimate.*

Business Case. The business case is essential as input to a project charter, in that it is designed to coordinate OMB's collection of agency information for its reports to the Congress required by the Federal Acquisition Streamlining Act and Clinger Cohen Act to ensure that the business case for investments are made and tied to the mission statements, long-term goals and objectives, and annual performance plans developed pursuant to the Government Performance and Results Act. For example, Exhibit 300 captures the business case for IT organizations.

Change Control or Change Management System. A collection of formal documented procedures that define how project deliverables and documentation will be controlled, changed, and approved. In most application areas, the change control system is a subset of the configuration management system.

Change Request (Change Order). Requests to expand or reduce the project scope; modify policies, processes, plans, or procedures; modify costs or budgets; or revise schedules.

Control. Comparing actual performance with planned performance, analyzing variances, assessing trends to result in process improvements, evaluating possible alternatives, and recommending appropriate corrective action as needed.

Duration. The total number of work periods (not including holidays or other nonworking periods) required to complete a schedule activity or WBS component. Usually expressed as workdays or workweeks. Sometimes incorrectly equated with elapsed time. Contrast with *effort.*

Earned Value (EV). The value of work performed expressed in terms of the approved budget assigned to that work for a schedule activity or WBS component. Also referred to as the budgeted cost of work performed.

Earned Value Management (EVM). A management methodology for integrating scope, schedule, and resources, and for objectively measuring project performance and progress. Performance is measured by determining the budgeted cost of work performed (i.e., EV) and comparing it to the actual cost of work performed (i.e., AC).

> **Actual Cost (AC).** Actual cost of work performed. The accumulated AC of the task, group of tasks, or total project. Acquired from the financial system by the project manager or support office at each reporting interval. The accumulated AC for the project is plotted by reporting interval.
>
> **Cost Performance Index (CPI).** A measure of cost efficiency on a project. It is the ratio of earned value to actual costs (AC). CPI=EV/AC.

Cost Variance (CV). Comparison of work accomplished with AC. Reported in dollars and indicates budget performance. A positive (under budget) or negative (over budget). CV=EV-AC

Earned Value (EV). The value of the work completed thus far in the project schedule and budget.

Planned Value (PV). The authorized budget assigned to the scheduled work to be accomplished for a scheduled activity or WBS component. Also referred to as the budgeted cost of work scheduled.

Schedule Performance Index (SPI). A measure of schedule efficiency on a project. It is the ratio of EV to PV. The SPI = EV/PV.

Schedule Variance (SV) (SV=EV-PV). Comparison of work accomplished with work planned. Reported in dollars and indicates schedule performance A positive (ahead of schedule) or negative (behind schedule).

Effort. The number of labor units required to complete a schedule activity or WBS component. Usually expressed as staff hours, staff days, or staff weeks. Contrast with *duration*.

Estimate. A quantitative assessment of the likely amount or outcome. Usually applied to project costs, resources, effort, and durations and is usually preceded by a modifier (i.e., preliminary, conceptual, feasibility, order-of-magnitude, definitive). It should always include some indication of accuracy (e.g., ± x percent). See also *budget*.

FAC P/PM. Federal Acquisition Certification for Program and Project Managers. Certification requirement for responsible charge project manager oversight on those projects determined by the Director to require compliance with OMB Circular A-11, Part 7, Section 300.

Functional Manager. Someone with management authority over an organizational unit within a functional organization. The manager of any group that actually makes a product or performs a service. Sometimes called a line manager.

Functional Organization. A hierarchical organization where each employee has one clear superior, and staff are grouped by areas of specialization and managed by a person with expertise in that area.

Major Investment. A major investment means a system or acquisition requiring special management attention because of its importance to the mission or function of the agency, a component of the agency, or another organization.

Major Milestone. A scheduled event signifying the completion of a major deliverable or key schedule milestone.

Objective. Something toward which work is to be directed, a strategic position to be obtained, or a purpose to be achieved, a result to be obtained, a product to be produced, or a service to be performed.

Operation. The operations of an organization are continuing and repetitive activities that are executed to achieve its mission and sustain the business, but without a definable end to their performance and without a unique output. An organization's day-to-day operations are not considered a project because they are not unique and have no beginning or end. Operations and maintenance (O&M) at Reclamation water and power facilities are programs containing the ongoing activities to sustain the facilities. The activities in an O&M program can be ongoing maintenance items and can be groups of projects, such as the replacement of equipment or the installation of new features of the facility. Contrast with *project*.

Peer Review. A process in which the scientific merit of scientific information, the appropriateness of methods used, and strength of the author's inferences are critically evaluated and documented by independent peers. Peer review does not constitute a recommendation or advice as to what uncertainty or precaution is appropriate to inform a decision.

Program. A program is a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually. Programs may include elements or related work outside the scope of discrete projects in the program. Programs often involve a series of repetitive or cyclical undertakings. Contrast with *project*.

Progressive Elaboration. Progressive elaboration allows a project team to manage a project to a greater level of detail as the project evolves. Progressive elaboration involves continuously improving and detailing a detailed project management plan for each phase of a project so that detailed planning can only occur when specific information and more accurate estimates become available.

Project. A temporary endeavor undertaken to create a unique product, service, or result. A project has a discrete and definable beginning and end. Not to be mistaken with an authorized project. The definitions for Temporary Endeavor and Unique Deliverable further clarify the definition of a Project. Contrast with *program and operation*.

Project Charter. The document that provides the initial official authorization for the project. The project charter uses a high-level definition of the scope and schedule, and it usually includes a ballpark estimate of the budget (or simply the approved budget), a project category (Basic, Standard, Complex, or Complex with Capital Asset Plan and Business Case) and identifies the sponsors and stakeholders.

Project Life Cycle. The project life cycle may include multiple phases or subprojects within the context of a single overall project; however, all phases will follow the project management process groups. The end of each phase is marked by a milestone, which may vary by the type and size of project.

Project Management. The application of knowledge, skills, tools, and techniques to project activities to meet project requirements.

Project Management Plan. A formal, approved document that defines how the project is executed, monitored, and controlled. It should include the appropriate level of detail may be a

summary or detailed and may be composed of one or more subsidiary project management plans and other planning documents.

Project Management Processes. A set of interrelated actions and activities performed to achieve a prespecified product, result, or service. Each process is characterized by its inputs, the tools, and techniques that can be applied, and the resulting outputs.

Project Management Team. A team comprised of the project sponsor, project manager, and managers who are one supervisory level above the primary personnel actively performing the work, as well as representatives from the program office, area office, regional office, and other offices or stakeholders as appropriate.

Project Manager. The person assigned by a director or manager with delegated authority, in consultation with the project sponsor, to achieve project objectives and deliver a project on schedule, within budget, and to the appropriate scope.

Project Phases. Collection of logically related activities, usually resulting in a major deliverable or reaching a milestone. Project phases are usually completed sequentially, but they can overlap in some project situations. A project phase is a component of a project life cycle.

Project Records. Final project documents and draft documents, as appropriate, to include project files, project management plans, technical documents, reports, environmental documents, plans and specifications, financial documents, etc.

Project Scope. The work that must be performed to deliver a product, service, or result with the specified features and functions.

Project Sponsor. The person who provides senior-level leadership for the project, establishes expectations, assures accordance with Reclamation's strategic goals, approves defined deliverables, coordinates resources and funding, monitors progress, including factors related to scope, schedule, and budget, champions the project, and validates completion of the project.

Project Team. A set of individuals performing the work of the project to achieve its objectives.

Resource. Skilled human resources (specific disciplines either individually or in crews or teams), equipment, services, supplies, commodities, material, budgets, or funds.

Responsible Charge. Responsible Charge is assigned to the person with overall control, guidance, and oversight of project initiation, planning, executing, monitoring and controlling, and closing project management process groups.

Temporary Endeavor. To be temporary signifies that there is a discrete and definable commencement and conclusion. The management of a project requires tailored activities to support this characteristic. As such, a key indicator of project success is how it performs against its schedule (i.e., does it start and end on time?).

Unique Deliverable. The uniqueness of the deliverable, whether it is a product, service, or result, requires a special approach because there may not be a preexisting blueprint for the project's execution, and there may not be a need to repeat the project once it is completed. Uniqueness does not mean that there are not similarities to other projects. It means that the scope for a particular project has deliverables that must be produced within constraints, through risks, with specific resources, at a specific place, and within a certain period. Therefore, the process to produce the deliverable, as well as the deliverable itself, is unique.

Validate. Validation is a quality assurance process to ensure that a product, service, or system meets the needs of the customer and other identified stakeholders. It often involves acceptance and suitability with external customers. Validation can be expressed as "Are you building/implementing the right thing?"

Variance. A quantifiable deviation, departure, or divergence away from a known baseline or expected value.

Verify. A quality control process that is used to evaluate whether a system complies with specifications imposed at the start of a development or implementation phase. Verification is ensuring the product is built correctly, ensuring it meets all stated quality requirements and is as described. Verification can be expressed as "Are you building/implementing it right?"

VII. Authorities and Guidance for Project Management

A. Government-wide

Program Management Improvement Accountability Act (PMIAA), Public Law 114-264, December 2016. https://www.congress.gov/114/plaws/publ264/PLAW-114publ264.pdf

Improving the Management of Federal Programs and Projects through Implementation of the Program Management Improvement Accountability Act, Office of Management and Budget, June 25, 2018. https://www.whitehouse.gov/wp-content/uploads/2018/06/M-18-19.pdf

OMB Circular No. A-11 Preparation, Submission and Execution of the Budget, August 2021. https://www.whitehouse.gov/wp-content/uploads/2018/06/a11.pdf

- Part 6, Section 270, Program and Project Management
- Capital Programming Guide, V 3.1

OMB Circular No. A-123, Management's Responsibility for Enterprise Risk Management and Internal Control, July 15, 2016.
https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2016/m-16-17.pdf

OMB Circular No. A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, October 29, 1992 and subsequent updates. https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A94/a094.pdf

FedPM Community of Practice Resource Library. https://community.max.gov/pages/viewpage.action?spaceKey=Management&title=FedPM+CoP+Resource+Library

Federal Acquisition Institute Program and Project Management Toolkit. https://www.fai.gov/resources/toolkit

Federal Acquisitions Federal Acquisition Certification for Program and Project Managers (FAC-P/PM). https://www.fai.gov/certification/program-and-project-managers-fac-ppm

U.S. Office of Personnel Management, Interpretive Guidance for Project Manager Positions, May 2019. https://www.opm.gov/policy-data-oversight/classification-qualifications/reference-materials/interpretive-guidance-for-project-manager-positions.pdf

B. U.S. Department of the Interior

Department of the Interior Program/Project Management Portal. https://doimspp.sharepoint.com/sites/doi-ppm-portal/

Department of the Interior Departmental Manual. https://www.doi.gov/elips/browse

C. Bureau of Reclamation

Reclamation Manual. https://www.usbr.gov/recman/

Reclamation Manual Policy, Comprehensive (CMP), Project Management (CMP 07). https://www.usbr.gov/recman/cmp/cmp-p07.pdf

Reclamation Manual Directives and Standards, Comprehensive, Project Management (CMP 07-01). https://www.usbr.gov/recman/cmp/cmp07-01.pdf

Managing for Excellence: The Status of Project Management in Reclamation, January 2007: (http://www.usbr.gov/excellence/Finals/FinalReportProjectMgmt.pdf). A project management team was assembled to address the three project management issues identified in the 2006 NRC report. The Managing for Excellence report summarizes the team's findings and presents the team's recommendations.

Reclamation Decision and Documentation Paper – Project Management Implementation, December 5, 2006: In December 2006, Reclamation's Commissioner signed a Decision and Documentation Paper accepting the recommendations of its Reclamation Leadership Team and

directing the implementation of the recommendations outlined in the Decision and Documentation Paper.

Memorandum from the Commissioner, Project Management Implementation – Action Items 20 through 23 – Managing for Excellence, December 22, 2006: This memorandum directed the Director, Office of Program and Policy Services, to proceed with implementation of project management by developing and issuing appropriate Policy and Directives and Standards. Other Directors were to begin implementation of these recommendations immediately.

D. Other

Project Management Institute (PMI), A Guide to the Project Management Body of Knowledge (PMBOK®), Seventh Edition. The 6th and 7th editions of the PMBOK are free for members of the Federal Program and Project Management Community of Practice (FedPM CoP) to download from the FedPM CoP resource library (https://login.max.gov).