

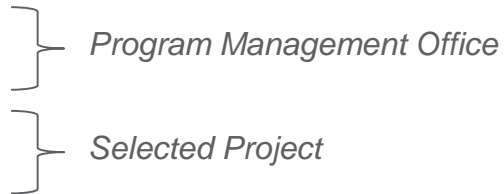
Smart. Focused. Done Right.

Capital Program Assessment Overview

October 2014

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Capital Projects – Increasingly Important

- Over the last ten years, the U.S. nuclear industry has seen large demands on its capital project/major modification organizations with the mandate to ensure compliance for a number of concerns, including:
 - Dry cask storage continuation
 - Fukushima modifications
 - Appendix R/NFPA 805 modifications
 - Security upgrade requirements
 - Extended power uprates
- As the nuclear fleet continues to age, projects like these will continue to surface, representing large capital exposure for nuclear power plants
- For that reason, successful execution of capital projects has never been more important. ScottMadden believes it is critical to ensure the capital projects organization and its projects are:
 - Structured and organized with clear roles and responsibilities
 - Disciplined in the execution of policies and procedures
 - Systematic about informing senior leadership of the likelihood and potential costs of project risks
- How is your organization performing?

Typical Capital Projects

Dry cask storage
Fukushima Modifications
Cooling Tower Repairs
Diesel Generator MODs
Appendix R/NFPA 805 Upgrades
Condenser Refurbishments
New site buildings

ScottMadden's Capital Program Assessment is a proven way to diagnose program issues and address overall project management health.

But My Capital Program Is Already Good... Right?

Success of your capital program depends on the ability to manage a portfolio of projects well and the ability to execute each project's required actions on time, on budget, and with quality. ScottMadden has run capital projects and established Program Management Offices (PMOs). Through that experience, ScottMadden has developed deep experience that enables us to assist your organization in diagnosing your specific challenges. Some common signs the capital program and a capital project are not working well are highlighted below.

Some signs the capital program is not working well:

- The PMO constantly gets in the way and requires things that distract from real project execution
- Ad hoc reporting/unpredictable report requirements
- Senior management randomly sweeps money and stops work midstream; the organization never knows what it will be able to finish
- The capital project priority list is changed constantly throughout the year
- Project risk mapping does not highlight problems in advance
- Regulatory projects require large infusions of capital to meet deadlines

Some signs a capital project is not working well:

- The project manager wears too many hats and cannot identify the big issues and fails to ask leadership for help for normal activities (e.g., P.O. approvals)
- Operations delay execution of the schedule, which inflates craft expense
- The project team has trouble conveying status to management, and reporting does not seem to be highlighting issues
- Materials must be expedited often to meet the schedule
- Engineering work is behind schedule requiring contractors for Post Modification Testing Instructions (PMTIs)
- Vendors miss deadlines with little to no advance warning to management

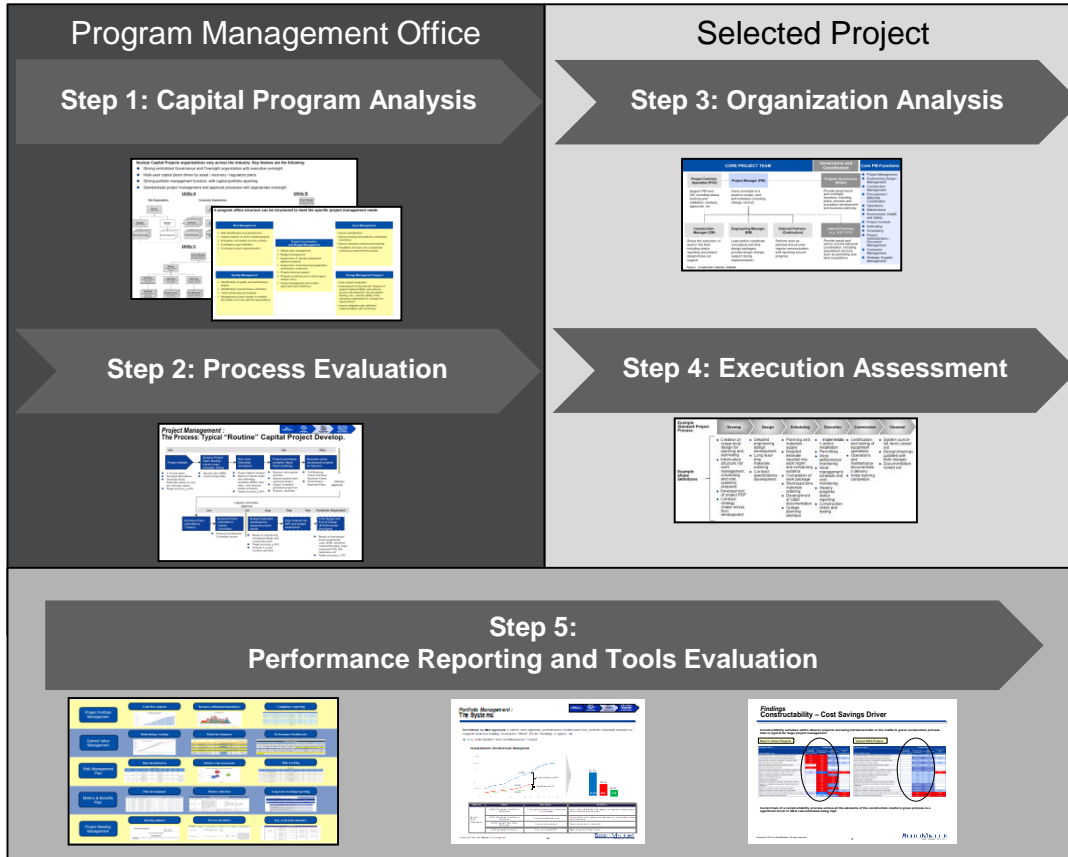
Capital program and project challenges are complicated and manifest in a variety of ways. ScottMadden's experience can guide you to the source of the problem.



Capital Program Assessment

Overview

ScottMadden's Capital Program Assessment examines how the capital program is implemented—from top to bottom—with a look at the PMO, a specific project selected by our client, and a review of the performance reporting and tools in place.



Step 6: Deliverable: Final Report Issuance

Current State Assessment: Comparison Of Project Management Approaches

Below is a comparison of the standard project process to some examples of industry best practices:

Standard Project Process: Phase I Project Initiation, Phase II Detailed Engineering, Phase III Implementation, Phase IV Close-out

PMO's Standard Project Process: Initiating, Planning, Execution, Monitoring and Controlling, Closing

Construction Industry Website: Pre-Project Planning, Design, Materials Management, Construction, Startup

ScottMadden Standard Project Process: Develop, Design, Substantiate

Current State Assessment: Overview

Project management maturity and advancement is driven by establishing the appropriate balance of governance, processes, people, tools, and communications

The organization has made significant strides in establishing an organized and coordinated approach to project management (PMO) as an organizational function.

Business Operations and Oversight (BO&O) serves as the primary governance and oversight role, ensuring alignment with corporate strategy.

Increasing Project Management Maturity

Significant Progress

Managed Operations and Oversight (BO&O) serves as the primary governance and oversight role, ensuring alignment with corporate strategy.

Organized processes, people, tools, and communications

Improved, driving strategy through the project of and external leader in target capital projects

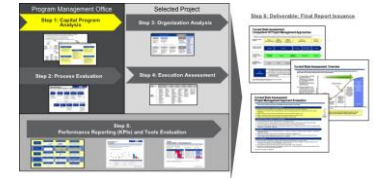
Current State Assessment: Project Management Approach Evaluation

There are several broad project management approaches in use today:

- Project Management Body of Knowledge (PMBOK)**
 - Core project management methodology with systematic, step-by-step PMO-driven project management
 - Production driven activity through schedule adherence, tight work package preparation and strong "buy" drives for process efficiency
 - Scope of execution through efficient functional execution in the primary project throughout drive
 - PMO role: methodology aimed to optimize performance using each element of the activity in phase
 - PMO role: in the most prevalent project management methodology in industry today
- Lean Construction**
 - US first decade has the most significant impact on downstream activities
 - All current events (e.g., design, engineering, etc.) must be executed through construction and commissioning requirements
 - 10% overall project cost and schedule improvements common with constructability implementation
 - Examples of constructability implementation are diverse but projects such as all pipelines, power plant construction, nuclear refueling, industrial, Texas Mountain, Phoenix, etc.
- Stage-Gate**
 - Stage-gate based to control financial project investments - with approval to proceed to subsequent stages contingent on meeting cost, time, and quality objectives
 - Stage-gate technique is being pursued in some regions as a regulatory management tool
 - Early project approval stages (e.g., "go/no-go" decisions) - with several fully construction efforts in progress
- Lean Construction**
 - "Lean construction" is the adoption of the lean manufacturing techniques pioneered by Toyota and Honda
 - The key to "lean construction" is the deconstruction of planning and decision making, managing for process not speed, and the elimination of process waste through streamlining and "just in time"
 - Constructability concepts of "lead-forward process input" are also included in "lean construction"
 - Examples of project sponsors using the methodology has seen 10% cost and schedule improvements in large projects such as South Bay and San Joaquin Hills (California)

ScottMadden's approach analyzes these critical areas to provide a detailed assessment of your capital program with actionable recommendations.

Step 1: Capital Program Analysis



What We Do

- ScottMadden conducts confidential interviews with the personnel in the PMO and concurrently reviews the documented organizational structure to determine how the organization is functioning

What We Look For

- Individual roles, responsibilities, and accountabilities are documented and consistent with leading practices
- Personnel skills and knowledge are aligned with job descriptions and requirements
- Governance reporting/tracking mechanisms are in use (and used) and provide key information dictated by leading practices
- Organizational alignment is clear – e.g., key touch points between the PMO and the rest of the organization (Engineering, Procurement/Supply Chain, Finance, etc.) are defined and occur regularly

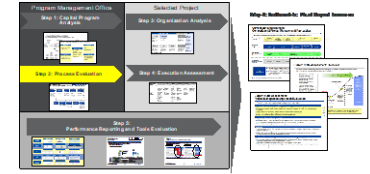
Why We Do It

- PMOs run the gamut from strong centralized organizations to decentralized and site-led organizations. Through interviews with PMO personnel and key stakeholders, we are able to assess:
 - Strengths and weaknesses of the organization and supporting organizations
 - Personnel knowledge and skills gaps
 - Opportunities for improvement
- Confidential interviews also allow personnel to reveal what they are hesitant to bring up internally

“Our fleet contracts do not allow for close scrutiny of craft performance on site, which takes unusually long to get the simplest tasks completed...”

PMOs set the tone for the organization and can be a great help or hindrance to the execution of capital projects.

Step 2: Process Evaluation



What We Do

- ScottMadden assesses program management execution through a review of policies, procedures, and processes and interviews personnel to determine how well processes are being implemented

What We Look For

- A standard stage-gated project planning process (initial scope and budget estimate through design, construction, and closeout) is documented and followed
- Project prioritization and selection (regulatory, above the line/below the line) are standardized and rigorous
- Project coordination and budget management are in place with appropriate controls
- Project portfolio oversight and management routines are documented and effective
- Contract and vendor management oversight and contracting strategies are proceduralized and followed

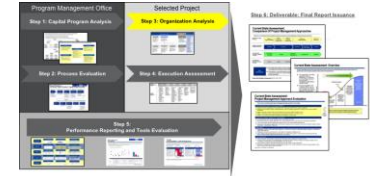
Why We Do It

- PMOs can have a very competent staff, but if they are not supported by efficient processes, then they can get stuck in a loop of constantly changing priorities, which leads to project churn and ineffective capital spend
- Real world execution can sometimes significantly differ from documented processes. Understanding those differences allows ScottMadden to provide real insights into the challenges the PMO is facing

“The project prioritization process isn’t consistently executed. We are changing priorities all throughout the year leaving a lot of AE (Architect/Engineering) funds on the table...”

Well-defined processes coupled with strong execution leads to high-performing PMOs.

Step 3: Project Organization Analysis



What We Do

- ScottMadden looks into the inner workings and management of a specific capital project selected by our client

What We Look For

- Key project documentation (charters, roles and responsibilities, scope, schedule, budget, and associated reports) exists and reflects leading practices
- Interviews with manager and key project controls personnel indicate roles and responsibilities are in place, understood, followed, and effective
- Review and assessment of the project organizational structure, including roles and responsibilities (PM, scheduler, cost PCS, task manager(s), engineers, etc.), show that appropriate positions exist within the organization

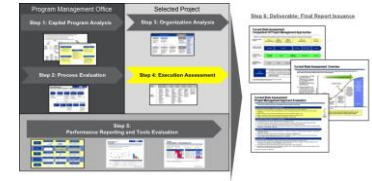
Why We Do It

- Capital project management and execution can be flawed in a number of ways. Identifying key issues is a critical step in our evaluation with questions like:
 - Is the project manager effectively leading the team toward successful project completion?
 - Does everyone on the team understand their roles, responsibilities, and daily priorities?
- ScottMadden's experience in working with large projects enables us to assess project performance through an unbiased lens providing valuable coaching that assists in:
 - Identifying corrective actions for project execution
 - Triangulating the truth for senior management to take action
 - Providing recommendations for improvements to correct course (if needed) on a capital project

“Our project doesn’t have project controls personnel; it’s one PM trying to maintain scope, budget, and schedule and they’re all inaccurate. We need more help on the ground to run this effectively.”

A capital project’s organizational structure and the people in it directly influence the success or failure of a project.

Step 4: Project Execution Assessment



What We Do

- ScottMadden's study of the project organization is leveraged to conduct an assessment of how well a project is being executed

What We Look For

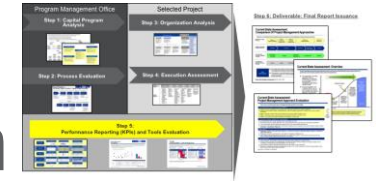
- Original project budget/actual/forecast versus current budget/actuals and forecast variation is within reasonable expectations
- Original project scope versus current scope variation is within reasonable expectations (signs of scope control/scope creep)
- Project schedule (baseline vs. current) has not slipped extensively
- Current action tracking/reporting tools (including recovery plans) are being maintained, are accurate, and add value
- Deviations from plan have mitigation plans in place or in progress, including status reporting
- Process to escalate issues is in place and used, so executive sponsors can assist the project team when needed

Why We Do It

- The key is to understand how to manage a project to successful completion and ensure an organization is executing it well. This includes:
 - Maintaining rigor around project routines
 - Adhering to commitments outlined in the understood schedule
 - Critically thinking about the project's finances and the ability to influence them through the identification and timing of activities
- Experience tells us that simple direct questions combined with an informed interviewer can bring to light many issues that can cause projects to falter

"The project baseline has been moved three times. I don't know what CPI and SPI even mean anymore."

ScottMadden's ability to diagnose project execution issues and identify solutions can greatly assist a capital project to move from inertia to results.



Step 5: Performance Reporting and Tools Evaluation

What We Do

- ScottMadden reviews PMO reports, holds discussions with Project Controls personnel, and reviews individual project reporting

What We Look For

- The following reports and tools exist, are current, are used, and provide information and value:
 - Capital Project Portfolio Prioritization reports
 - Executive project portfolio review reports
 - Project budget reports (forecast, budget, actuals)
 - Project schedules (maintenance, adherence to and identification of critical path)
 - Project scope (additions, subtractions, and scope adherence)
 - Project risk registers and mitigation plans
 - Project vendor performance and status tracking

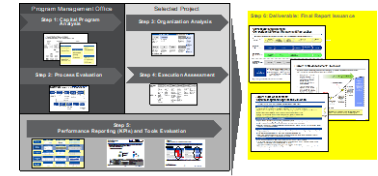
Why We Do It

- Determining project performance requires accurate project reporting which has to be based on understanding concepts like:
 - When to use Earned Value Management reporting versus unit/unit rate reporting
 - Risk management and mitigation for critical project concerns
 - Effects of manipulating project baselines (cost, schedule, and scope) on status reporting and tracking
- Well-designed project reporting assists management in identifying those activities where their time is best spent

“Our project reports are based on summary reports from P6 that contain far more information than a general manager of projects needs to know.”

ScottMadden’s experience in leading capital projects uniquely positions us to assess the value of project reporting to convey actual project status and risk.

Step 6: Final Report Issuance



All previous component steps are inputs into ScottMadden's final report, in which we:

- Provide a detailed narrative of our findings based on observations of the PMO, a selected project, and the reporting and tools used
- Summarize broader observations about how well the organization is prioritizing capital project work and whether that aligns with management expectations
- Prioritize the recommendations based on our client's unique needs

Report deliverables for Capital Program Assessment include:

- Executive Summary/Key Findings
- Current State Analysis Summary
- Recommendations
- Level 1 Implementation Plan (near-term, mid-term, and long-term activities)

ScottMadden's assessment provides clear, actionable recommendations for the capital program and for a selected project.

Typical Project Timeline

The analysis and final report issuance typically take four to six weeks to complete, depending on the level of client involvement and input needed. We tailor the schedule to meet our client's requirements. An illustrative timeline is below.

	Week 0	Week 1	Week 2	Week 3	Week 4
Initial Data Request	◆ Make Request ◆	Receive Data			
Data Review and Evaluation					
Site Visits and Interviews					
Analysis, Assessments, and Evaluation					
Preparation of Results					
Final Report Issuance					◆

Typical professional fees for this effort are approximately \$50,000.