

PROJECT MANAGEMENT: KEYS TO SUCCESS

DAVID BENTLEY
GARY RAFFERTY

Unsuccessful construction projects can be traced to lack of one or more control parameters. Here are the key factors that lead to success for the owner, the A/E and the contractor.

Construction projects differ in scope, size, complexity and degrees of success or failure. Successful projects, however, are alike in ways that count. They are built by people who follow certain key principles—the common denominators of successfully completed construction projects.

1. Goals and commitment. The owner, A/E and contractor, via commitment of the managing partners, must agree on a philosophy at the onset of a project. Although each might have different specific goals in mind for the project, they must spell out their common goals.

One example involves a school project in California. The owner was adamant about his goals: quality, cost and schedule, in that order. Problems began immediately when the contractor peppered the A/E with requests for clarification on design details that were slightly unusual due to the owner's desire for quality. The contractor continued to search for the least expensive method of construction, affecting the schedule even though the primary focus was on quality, not cost.

A better example is a newspaper-plant project where the goals were clearly displayed at the job site and all offices involved in the project. Framed, they read:

- Pressroom to be fully enclosed and weathertight nine months after start of foundations.
- Temporary certificate of occupancy and sale of first newspaper 18 months after start of foundations.
- Building construction must not impede press erection and operations.
- Construction costs to be less than \$75 million.
- Owner, A/E and contractor commit to a successful project.

2. Contracts. Well-written contracts are

direct benefits of establishing project goals, because they merely restate the commitments that the owner, A/E and contractor have made. They will be equitable and state the scope of work and performance, including the owner's responsibility for performance required to support the goals.

3. Project team and staffing. A successful project team consists of a knowledgeable owner (or representative), a well-managed design team and an experienced, motivated construction team. Upper-management support of each team member and continued monitoring of the team's progress are essential, but adequate staffing from the outset is most important. Furthermore, the chemistry of the various team members must be tailored for each specific project.

Relationships among team members and the division of responsibilities must be defined clearly. For example, the contractor and A/E must understand expectations about on-site A/E representation and problem resolution. The owner and A/E must understand their limits of authority when it comes to decision making.

Once the team members have defined their responsibilities, it is absolutely necessary that each be accountable for his or her actions or lack of action. Generally, it works best when the owner takes the initiative to hold his or her own people accountable, and holds the A/E and the contractor accountable for their responsibilities. Without accountability, the project will flounder and critical decisions will be put off.

One owner is using a time-tested method to ensure accountability: monetary incentives. Every month, a committee evaluates performance of the A/E and contractor against the agreed-upon specific project goals, establishing fees that vary each

month within a predetermined range. The committee also gives feedback about how the A/E and contractor can improve their performance and maximize their fees.

4. Communication. Whatever relationships and divisions of responsibility are established, communication is the cornerstone to effective management. The worst thing that can happen to a project manager (owner, A/E or contractor) is to be ill informed on a contract, cost or schedule issue. All team members need to keep their project managers informed about anything that might affect project goals. The project managers need to create a "control environment," so their members feel comfortable that problems they were unable to solve can be solved efficiently at a higher level. It is equally important that project managers keep each other informed. We all know what it's like to be blindsided by an unknown problem.

The big payoff for effective communications is joint addressing and solution of problems in a timely manner. This does not mean that there will be no disagreements. Good communication involves a give-and-take attitude, and keeping the relationships professional will prevent emotions from getting in the way of progress.

It is one thing to talk about project goals, divisions of responsibility and communications. The acid test is implementation. Once the project is designed and permitted, it is extremely important to develop the project budget and schedule in sufficient detail to allow for monitoring of construction and to raise flags warning of potential problems. The monitoring methods will dictate the procedures for tracking the projected final costs and schedule status. More importantly, the methods provide management with a tool for taking corrective action.

5. Preconstruction planning sessions. In recent years, some construction companies have adopted a planning procedure that has worked extremely well. The project manager and superintendent are responsible for developing the construction plan. In the past, this was usually a formal procedure, but today informal brainstorming sessions ensure that every viable alternative is considered.

The sessions are most effective if held away from the distractions of the office, with not only the construction staff but key personnel with special expertise. The sessions begin with the project manager reviewing site plans, architectural plans, major systems, project control systems and other parts of the project. Participants review, analyze and critique the plans with an anything-goes attitude. They suggest alternative materials and methods of construction that could lower the budget or shorten the schedule. The ultimate goal is a construction plan that incorporates the vast and diverse experience of the contractor's personnel by focusing their attention on the most important objectives—to construct the facility with the intended aesthetics for the lowest possible cost in the shortest time frame.

6. Procedures manual. A project procedures manual is the outcome of a successful preconstruction planning session. It outlines the specific methods, systems and flow of information required to attain the stated goals. For example, the manual clearly states that when a bulletin is issued by the architect, there is a specific way that the owner and architect learn about cost and schedule implications of the design change.

The successful project team has a system into which each piece of correspondence goes. Drawings, changes, subcontractor submittals, requests for information, A/E field reports, schedule delay notifications—all should be logged in some sort of tracking system. Otherwise, an important piece of information may be lost in the heat of the construction battle. The procedures manual, assembled from standard boilerplate information tailored for the project, is a decision-making guide for each team member.

7. Schedule control. Schedule control is derived from the project goals and contract provisions. The construction project manager and superintendent jointly agree on intermediate milestones and build the detail schedule around them. Successful project

teams celebrate these milestones with parties, T-shirts, hats or other symbols, breaking the monotony of a long schedule into manageable portions.

The construction schedule yields a detailed procurement schedule listing all items, the need dates, review and fabrication times. This is critical because the procurement schedule becomes the means for monitoring the availability of materials required to support construction. In a successful project, the owner, A/E and contractor are committed to timeliness in submittals and their review, and in making all decisions. Generally speaking, if the material is on the site and open design issues are resolved promptly, the field forces can meet the schedule.

8. Cost control. Cost control is more than tracking dollars expended. It is a matter of

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adequately projecting the remaining estimated hours of design and construction. During the entire process, all the project managers must have a firm grasp on the efforts being expended vs. their projected plan. This requires detailed actual costs, and one of the best monitoring aids is a plot of the plan vs. actual costs on a cash-flow curve.

9. Subcontracts. Subcontractors do much of the work on most construction projects, and it is imperative that their contracts be negotiated promptly, fairly and accurately. Subs work best with general contractors who: (1) pay on time; (2) support them in the change-order process; (3) plan and coordinate the work components efficiently; and (4) give them credit when credit is due and constructive criticism when it is called for.

The key to success is a clear scope of work. This can be attained by breaking the bid packages down logically, answering all questions during the bid process and painstakingly reviewing the bids. Once the scope of work has been determined for each subcontractor, individual contracts are negotiated. While many companies use

purchasing specialists, the general contractor's project manager must also be involved, since it is the project manager who is ultimately responsible for attaining the project goals.

10. Monthly progress reports. Regular progress reports are essential but need not be complicated or burdensome. Project team members should think of them as an opportunity to solicit valuable assistance from upper management. At a minimum, the reports should contain planned vs. actual costs, schedule, subcontract negotiation (buy-out) status, long lead item procurement, cash flow, major accomplishments, problems and planned solutions.

11. Meetings. No matter what controls have been established for the project, it is absolutely essential that the A/E and contractor project managers meet regularly with the owner's project manager to review costs and the health of the schedule. By communicating the truth, team members can identify problems and develop recovery plans. Frequency of these meetings will vary from project to project, but weekly project-management meetings are the norm.

Special meetings with other parties such as subcontractors, in-house upper management, various inspectors, fire marshals and lenders are also essential. They should be held at the job site if possible, since that is where most of the data are located and where conditions can be seen. Each meeting should have a stated purpose and an agenda, with complete notes or minutes distributed afterwards.

12. Job closeout. Procedures for closing out the job should be delineated in the project procedures manual. They may be modified during construction to accommodate a partial or temporary certificate of occupancy, but it is imperative that they receive a great deal of attention. Too many otherwise smooth construction projects are marred by a long, drawn out, unprofitable closeout.

13. Quality control. Quality control is an essential ingredient of any successful project. It must be designed and built to the level of quality agreed to in the project goals, and it must be closely scrutinized during the entire process. U

David Bentley, M.ASCE, is director of business development for SAE Continental Heller, Sacramento, Calif. Gary Rafferty, M.ASCE, is project executive with Swinerton & Walberg Co., general contractors, San Francisco.