



For Allegheny Power's Bob Slebodnik

The shockwave of deregulation that visited the utilities industry in recent years promised new lines of profit to utility suppliers, along with increased services and lower costs to consumers.

Left holding the plug to that connection, however, are the people whose job it is to bring those products and services to delivery. Today, they are faced with a whole new array of challenges in an industry that was already governed by change.

In addition to the ongoing maintenance and upkeep of existing generation and delivery systems, they have to design and deliver utility services to new communities and businesses while keeping pace with the evolving needs of existing customers and communities.

For power providers, such change has placed increasing emphasis on the management of manpower and materials. (Most major utility companies commonly maintain an ongoing database of several hundred projects annually.)

Just ask Robert (“Bob”) Slobodnik, PE. As project coordinator in Allegheny Power’s Engineering & Construction Projects Group (E&C), Greensburg, Pa., it is his job to oversee

the system that manages all of E&C’s scheduled construction projects for both new and existing sites.

“Traditionally, we address the continued maintenance and expansion of the power grid’s lines and substations,” he says. “Typical projects call for adding a transformer or a line terminal to a substation, or maintenance projects, such as replacing a transformer. A major project could entail installing a new high-voltage transmission line over a few miles, or perhaps, building a new substation.”

New opportunities, new challenges

With deregulation, Allegheny Power is able to offer prospective customers professional services once a available only to in-house projects – planning, estimating, design, project management, procurement, and construction services, to name a few. These projects differ especially in that their arrival is totally unpredictable and that they are open to competitive bidding. Because the company’s resources are already fully allocated, serious thought must go into both designing a winning bid and to adjusting existing workloads so as to not overload the staff.

A century of service

Established more than 100 years ago,

Allegheny Power today provides energy to 3.5 million people, most of whom live in the small- to medium-sized cities and towns scattered in a 31,000 square mile area that centers in Pennsylvania, and blankets parts of Maryland, Ohio, Virginia and West Virginia. In addition, thousands of commercial and industrial customers are connected to the network. To serve its customers, Allegheny Power operates and maintains more than 950 substations connected by over 4,500 miles of high-voltage (138 kV and above) transmission lines.

From the title of Slobodnik’s department, Engineering & Construction Projects, it is obvious that this group works in a highly project-oriented environment. Typical of the industry, about 50 of Allegheny Power’s 3,500 employees are in the E&C group, sharing the annual demands of approximately 300 ongoing projects. They might range in duration from three months to three years, and cost from \$10,000 to \$10,000,000 or more. Individual project plans can have as few as five or as many as 50 activities, each with from 15 to 175 steps.

All in a day’s work

But rarely do things go exactly as
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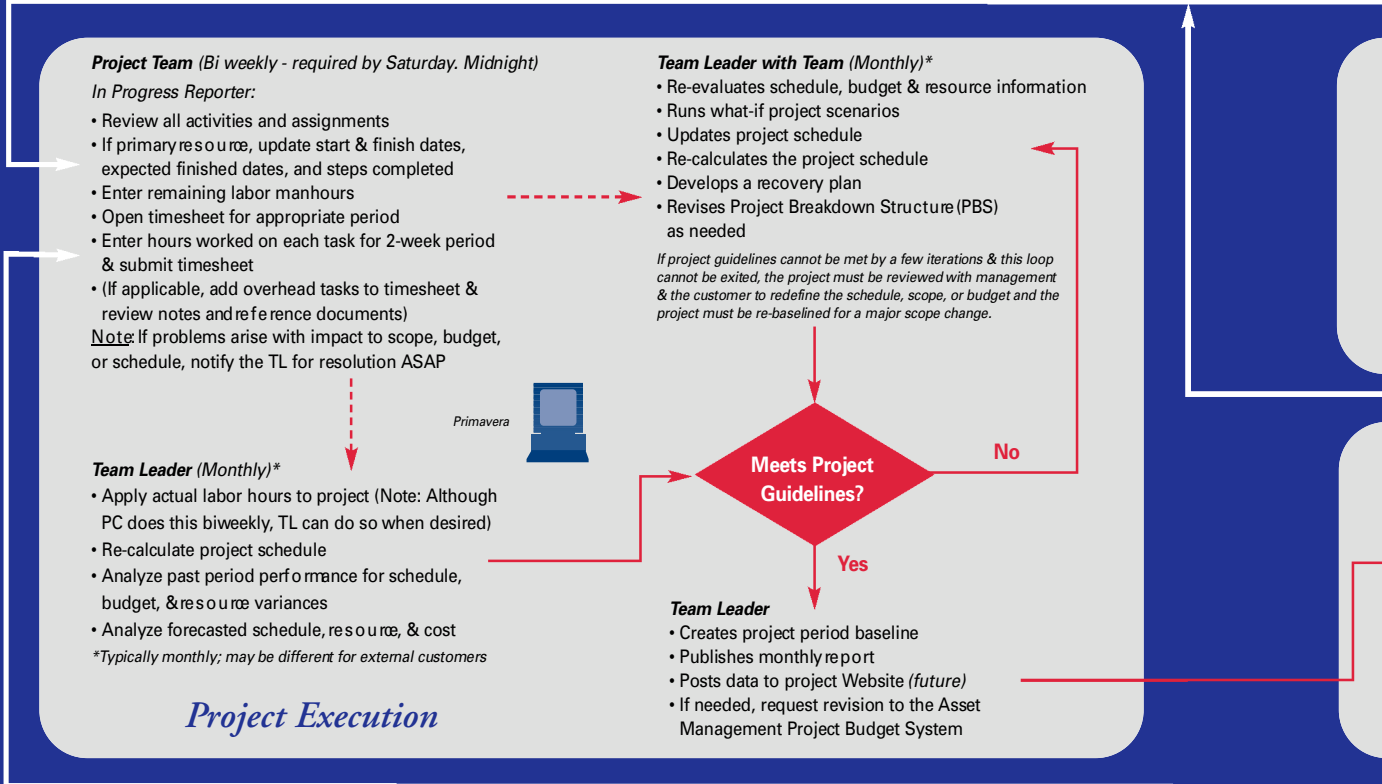
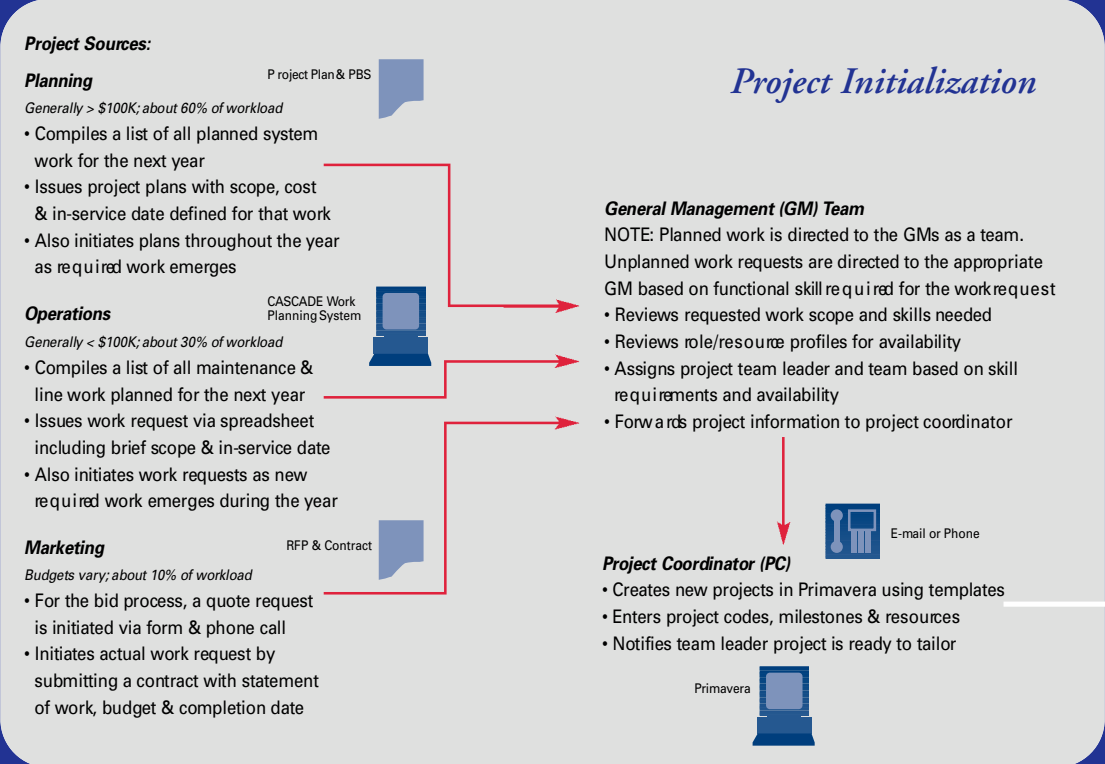
Change is the constant

Shifting populations, unpredictable weather conditions, zoning changes and vendor delays are all in a day’s work for this busy project coordinator.

By Robert J. Bannar

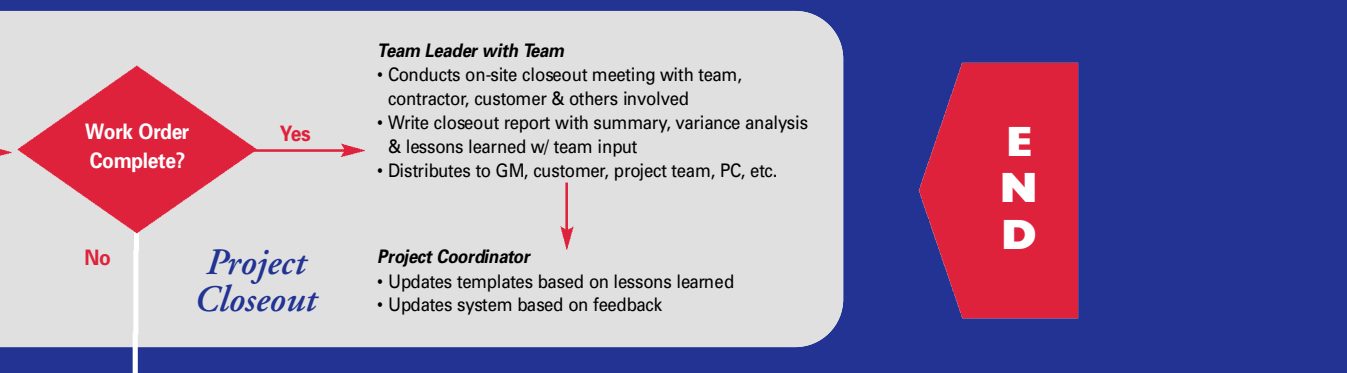
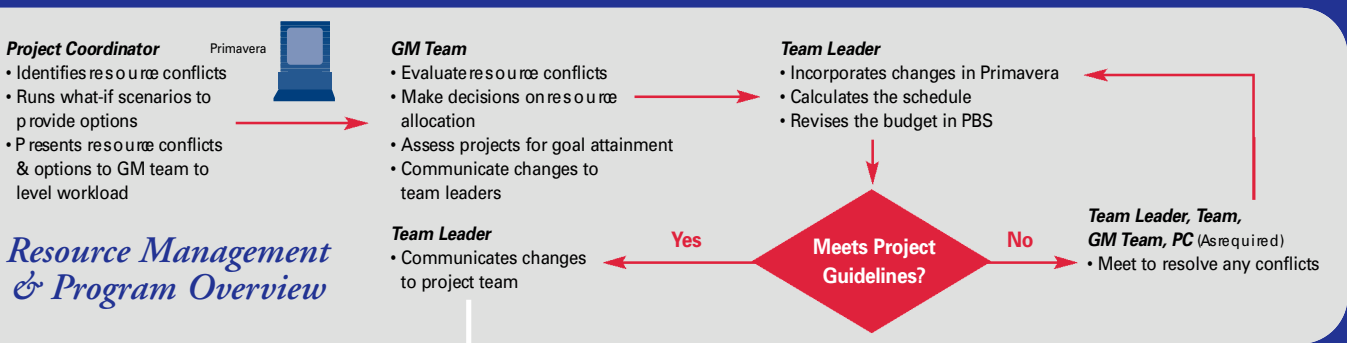
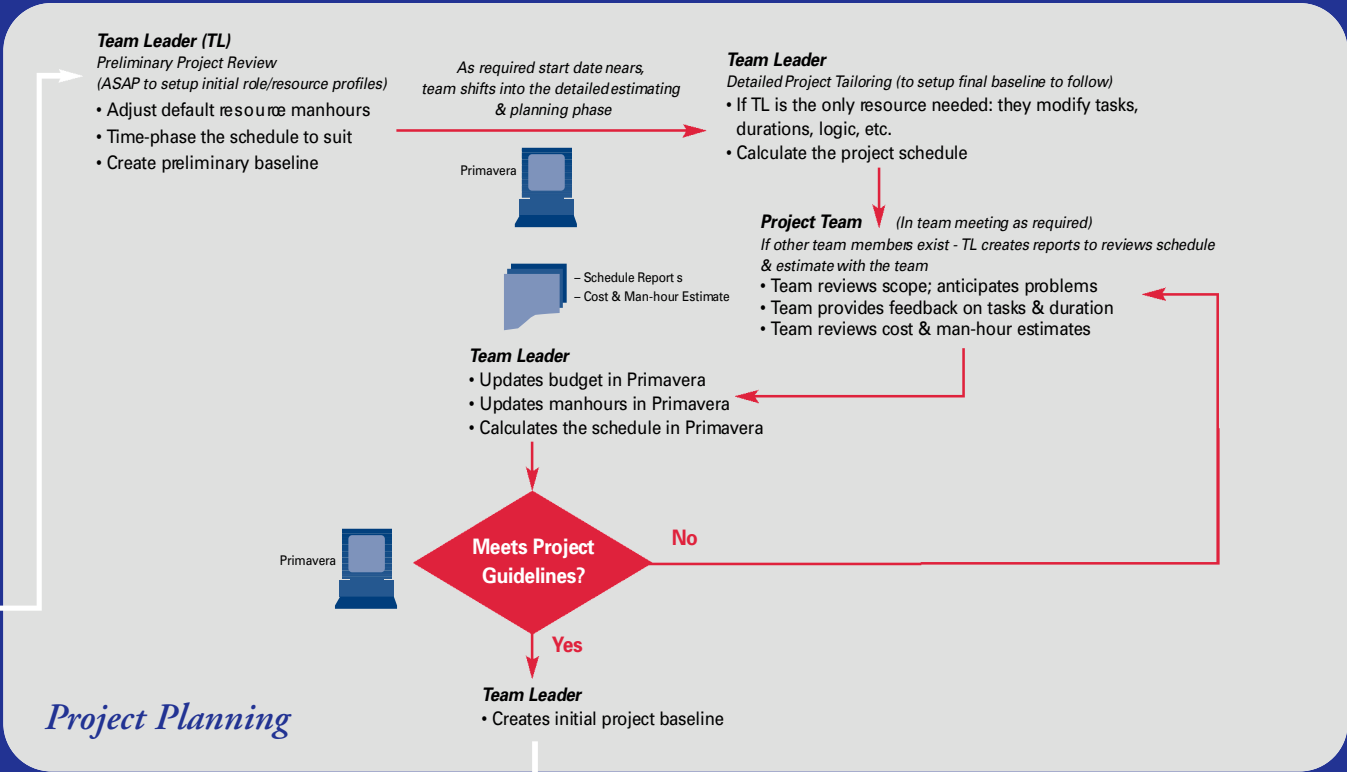
Allegheny Power's E&C Projects Group

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Project Execution

Project Management Flowchart



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planned, and during the execution of a project, something may come up that changes its scope, schedule or cost. A construction crew might hit rock or poor soil, for example, or an outside supplier may fail to deliver materials on time. Sometimes there may be unforeseeable obstacles, such as the unseasonably frozen ground of an early winter or late spring. Then there are those unexpected zoning approval challenges.

“External influences, such as rights-of-way or property purchased in fee, can interrupt your progress at any time,” Slebodnik says. “Often, you have to relocate, negotiate tougher or shift things around. Another source of delay is simple politics. Public hearings required for approval could seriously affect schedules. And you don’t really know what you’re up against until you get there.”

When such delays occur, the project plan and schedule has to be redrawn, and it has to be done in a manner that will allow the pieces of that project to continue to fit into the company’s overall project puzzle. And this is where project management power is most valuable.

Welcoming change

Slebodnik is no stranger to challenge or change. With Allegheny Power for more than a quarter of its existence, he joined the company in 1975 after graduating from the University of Pittsburgh. Since then, he has piloted roughly 235 projects to completion – everything from site selections, to equipment additions and replacements, to installing new stations. “My biggest project as a team leader,” he recalls “was the construction of Baker Substation in West Virginia. It involved installing a 138 kV line about 14 miles long to a substation

that dropped to 12 kV distribution for local customers. These projects typically take about two to three years to complete, but we successfully completed it in less than one.”

This was made possible through a

the company and his department outgrew each new tool.

Then the E&C Group was introduced to a new product from Primavera Systems which offers several significant improvements over

...small improvements throughout individual projects are adding up to big improvements at the overall enterprise level.

number of creative efforts. The project was put on a “fast track” to reduce power outages to the very rural area. Additional resources were added, such as deploying four real estate representatives – there is usually just one – to buy the line right of way. Innovative techniques to shorten the construction time were also employed. For example, a helicopter was used to set wood line poles on the rugged mountainous terrain, cutting installation time from weeks to days. And the project was managed with Primavera planning and scheduling software, the industry standard for complex construction, maintenance and turnaround projects.

The results? “The line and substation were energized a day before the project’s absolute late due date, and at 1.2 percent under budget,” says Slebodnik, smiling.

Enter Primavera

Working through the ranks of engineer and team leader, to his present responsibilities as project coordinator, Slebodnik has seen the company migrate through several project management tools, beginning with a schedule-only Project Management Information System (PMIS) installed in the mid-70s. And he watched as

the existing project management software. Primavera has a database-type structure for coding, sorting, searching and rolling up information across all projects.

Primavera is a comprehensive, multi-project planning and control solution that unites project managers, team members and other stakeholders within the project communication and feedback loop. It is designed to help companies improve project execution and predictability, and enable them to respond quickly to change. It also helps neutralize the risk of taking on new projects by evaluating projects individually, in relationship to other projects, and in accordance with overall strategic initiatives.

“This is just what we were looking for,” Slebodnik says, “a true enterprise application that we can use not only from the project management or team leader perspective, but where management can get in there and see things the way it wants to. It’s all the same data, but the team wants to look at one project, and management wants to look at all the projects.”

So, in the spring of 2001, E&C put Primavera to the test, and with rather remarkable results. By September, 2001, after only a few of



the 50 active “pilot projects” had gone through the full cycle of Initializing, Planning, Executing, Controlling, and Closeout, the remaining 250 active and planned projects were already being entered into the system.

As is to be expected, project activities are not shorter or less costly, nor do they require fewer resources. After all, it still takes the same amount of time to turn a screw. However, Allegheny Power is gaining valuable savings in project setup, execution and reporting time – and, most importantly, in dealing with change. The net effect is that small improvements throughout individual projects are adding up to big improvements at the overall enterprise

level. Remarkably, the E&C group’s projected savings, estimated across the full complement of annual projects, are projected to reach \$270,000 and 3,000 manhours.

Templates do the trick

One of the keys to this success, Slobodnik points out, is the use of templates. Using the Primavera software, the E&C group was able to design twenty basic project templates – as opposed to just four with the previous software. This created a starting point from which teams can quickly build and modify a schedule that is already about 80 percent on target at the outset, rather than create a new project plan from scratch. And the Activity Wizard,

a tool built into Primavera, simplifies tailoring that last 20 percent, he says.

“The templates give you a good starting point because you can cut, copy and paste from other templates to build a project. The main activities, the logic, the relationships, the leads and lags, and the duration of the activities are already there, as are the generally required resources and manhours – just about everything but the dollars in the budget,” which Slobodnik says can swing widely based on the scope, who’s supplying the material and so on.

Another enhancement available with Primavera is the ability to create an effective closeout strategy. Previously, the lack of formal closeout reports broke the feedback loop through which lessons learned – successes and failures – could be incorporated into the system so that mistakes could be resolved rather than repeated.

“We’ve instituted a closeout report on major projects,” Slobodnik explains. “When all the project work is done, we step back and take one big look and evaluate the entire project. We look at the variances and determine what may have caused them. Then we document the lessons learned and integrate them into the templates so mistakes are not repeated.”

Project management power

But perhaps the biggest advantage of implementing Primavera is that people throughout Allegheny Power – from the project management team to corporate management – have quick access to the information they need to plan and execute future projects and budgets in an ever-changing world.

Now that’s project management power. •

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