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# OUTLOOK '08

SUMMER

## Collaborative Construction Scheduling

### »» Eight Steps to Success

By Charles E. Bolyard, Jr., PSP, CFCC

In today's ever-changing and increasingly complex construction environment, delay costs and claims are more than ever a significant threat to overall project success. MBP believes that a collaborative approach to construction scheduling goes a long way to reducing and effectively managing the risks associated with delays. We recommend eight essential steps for achieving successful scheduling collaboration.

#### 1 Specify in the contract a thorough methodology for scheduling and delay analysis.

The first step is to adequately address scheduling for the project in the contract. This sets the ground rules for everyone involved. Obviously, scheduling mechanics such as cost and resource loading requirements or CPM software preferences need to be known at the outset, but this is also a great opportunity to resolve potentially sensitive issues like float ownership and early finish schedules. We also recommend specifying the development of the as-built schedule within the schedule reporting requirements. Often overlooked, the as-built schedule is a critical delay analysis tool that can be developed far more cost effectively during the course of a project rather than having a claims consultant reconstruct it when the project is completed and when those with fresh knowledge have moved on.

Finally and most importantly, the scheduling specification should include the specific method by which delays will be reviewed and provide support for extensions of time to the contract duration.

#### 2 Include in the contract the methodology for cost analysis.

In addition to the time, the contract must speak to the cost elements associated with that time. Excusable and inexcusable delays should be defined especially in terms of the application of liquidated damages. Compensability of delays should be addressed to include what types of home office overhead and field overhead costs will be allowed. Similarly, the contract needs to detail allowable costs associated with the recovery of delay such as premium time for labor and expediting material deliveries. Concurrent delays and the resultant impact upon compensability should be clearly defined as well.

#### 3 Mandatory scheduling resources from start-to-finish.

To make the schedule truly work to the benefit of the project, there needs to be a commitment from the top down through each of the parties' organizations. This means adhering to one schedule for the project.

It also includes providing the necessary people, dollars and software to ensure a successful scheduling effort by all project participants. Project managers must stay involved with the scheduling and take ownership of the schedule. Dedicated scheduling staff should have experience in similar project work, schedule preparation and updating, and delay analysis.

#### 4 Comprehensive scheduling effort.

Once there is the commitment of resources, everyone must then follow through with the application of those resources. Crucial to the scheduling success of the project is the development of a valid baseline schedule. The baseline should be complete to include all of the contract work as well as all interim and final completion dates/milestones. The detail of the schedule should match the complexity of the project, yet be manageable to meet the needs of the project staff. The schedule should be realistic reflecting access, logistics, seasons, multiple work areas and long lead items while providing sufficient time for contractor, owner and designer actions. Finally, specialty work items need to be accurately represented to include start-up, testing, commissioning and training in systems operations and the necessary technology interfacing between computer systems, climate controls and security systems.

# Viewpoint: Getting PM/CM Right

BY BLAKE PECK, PE, CCM



**President and  
Chief Operating Officer**

Engineering News-Record (ENR) recently published its annual survey of the nation's top construction and program management firms. One thing that was projected loud and clear was that construction and program management are at an all-time high. Not surprising when you consider that construction projects have never been larger or more complex nor the demand for skilled management from a shrinking talent pool been more intense. The baby boomer generation retiring from owner's management teams has created a huge void in terms of experience and expertise at a time when the demand for these is increasing. Whether it is the U.S. Department of Defense Base Realignment and Closure (BRAC), healthcare or infrastructure markets, across the country there are massive programs in need of coordination. In addition, the trend to more integrated project delivery systems has increased the premium on responsive and informed decision-making by construction owners, all of which has led to owners outsourcing much of their program and project management needs.

As a PM/CM services provider, MBP is obviously a staunch proponent for this outsourcing solution. The reason though that we believe in this solution is not

about revenue or numbers of people, but because of the leadership value that can be brought to bear through critical expertise and experience resources. Sometimes overlooked in this boom market era of major construction programs and mega projects, is a disturbing trend for firms providing CM/PM services to become "churners", producing volume in terms of paperwork and fees, but not really adding value. This is a direct result from not living the core values embodied in the Construction Management Association of America's Code of Ethics. Far too often, CM/PMs devalue their services in price competition and then under-deliver those services by providing unqualified or improperly trained staff coupled with having little or no quality control or accountability for that staff.

Contributing to this is that the leadership for these CMs/PMs is usually evaluated internally on the basis of revenue generated and little else. The quality of the services being provided is rarely considered, and then only as an afterthought. Mostly this is because measuring the quality of such services is difficult, time consuming, and often much more subjective than hard revenue numbers. In fact, it can even be hard for the clients to determine, such that

experience is more often rewarded than the actual quality of service delivered.

Even the ENR rankings are based solely on annual revenue for that service. At MBP, we take great pride in our strong national ranking for both program and construction management. However, this is only because of the continued commitment of our team members to the MBP values in achieving this ranking, i.e. doing the right things the right way. By delivering quality services through teamwork and hard work while acting proactively and with integrity, we believe we add value to each project/program and our community as a whole.

In these heady days of surging fees, it is important that Agency CM/PMs provide the responsive, innovative and quality solutions their construction industry clients deserve. The key is to make a difference for each and every project they are associated with, otherwise they are just producing revenue, but little else, and those clients will soon go elsewhere. **MBP**

## MBP Welcomes New Team Members

**COLUMBIA, MD - Anna Hoge, Regional Marketing Manager.** Anna is supporting business development and marketing activities in the Baltimore-Washington area and northwards. With more than 15 years experience in the A/E/C industry, Anna holds a BS in Corporate Communication.

**Cliff Flury, Construction Manager.** With more than 30 years experience in the construction industry, Cliff has served various public and private clients as a Project Manager/Engineer for projects including schools, offices, libraries, labs, and airports. He graduated from NJ Institute of Technology with a degree in Civil Engineering/Construction Management.

**Allison Heubusch, Engineer.** Allison has a degree in Mechanical Engineering (Cum Laude) from SUNY (State University of New York) in Buffalo.

**Bill Lucas, Mechanical QA Engineer.** Bill is handling quality assurance program oversight functions and is a graduate of Northeastern University and Wentworth Institute with Mechanical Engineering degrees. He has 25 years experience in various engineering and construction management roles.

**Bob Pfeiffer, CCM, Senior Consultant.** Bob has more than 40 years of experience in both the public and private sectors. He holds a BS degree from Ohio Wesleyan University and a Masters from Georgetown University.

**Lawrence Wu, Senior Estimator.** With more than 12 years experience in various architecture, construction management, and pre-construction roles, Lawrence is responsible for creating independent government estimates and negotiating change orders. Lawrence is a graduate of Virginia Tech with a Bachelors of Architecture.

**RALEIGH, NC - Andrea Flowers, Consultant.** Andrea is a recent graduate (Cum Laude) of the North Carolina State University Construction Engineering and Management program.

**FAIRFAX, VA - Sameera Deshpande, Consultant.** Sameera brings a wealth of knowledge, having earned her Masters in

# Collaborative Construction Scheduling Continued

## 5 Timely and accurate updates.

Once you have a good baseline CPM schedule, it is important to apply the effort into maintaining a useful scheduling tool. Actual start and finish dates for activities need to be documented in the daily records as well as any interim starts and stops. Actual logic and sequences should be tracked and the resources used should be noted. We recommend developing a joint acceptance procedure where data is agreed to by the parties. If possible, agree on which impacts are to be included and excluded, and check against current forecasts. At the very least, the parties should be able to agree on when things happen, if not why, and this will go a long way to managing the risks of increased costs.

## 6 Resolve delays on a regular (quarterly) basis.

This may be the most essential step in mitigating potential delay claims. Meeting on a regular basis throughout the life of the project to resolve delays, time extensions and costs of delay or recovery is the key since this will not allow issues to fester and perhaps take on a life of their own. The parties should follow the established protocol for analyzing delays to include the formal submission of delays and the method of analysis. In general, it will be necessary to have a viable, approved baseline and updates agreed to by the parties

that accurately reflect the status of actual construction progress. The project team should bundle quarterly issues as necessary, verifying the remaining work duration and logic including all approved changes. There should be a joint sign-off on the analysis, agreeing to extensions of time or plans for recovery from delays. Documentation for any change orders will include this agreed-to schedule analysis and should address both time and money. At the very least, coming out of these quarterly meetings there should be an agreement of what actions will be taken by the parties: e.g. is the contract duration to be extended or is the delay to be recovered? Are rights being reserved for time/money or LDs?

## 7 Use third party consultation if needed.

So what if you reach stalemate? We recommend jointly obtaining a non-binding independent opinion on the disputed issues. This can be in the form of a pre-appointed Project Neutral, Dispute Review Board (DRB), an independent expert or a mediator. Whatever the approach chosen, the key is to hold to a firm schedule for third-party analysis and recommendations. This will include agreeing on the scope of issue briefs and documentation, and allowing appropriate discovery and legal input. We suggest dealing with entitlement first, then damages if disputed. Above all, it is critical to get the buy in from the top level decision makers for each of the parties involved.

## 8 Resolve delays when you close out the contract.

The time and money involved with delays can be as important as the project punch list, and is usually much more difficult to resolve. Delay analysis and time-related costs must therefore be jointly approached with resources, commitment, and good faith. It may be necessary to utilize outside resources to get an independent and fresh

view of the remaining disputed issues, especially if there is a consolidated impact claim. One additional resource at the end of the project is the availability of as-built performance data for a comprehensive independent analysis. The parties are no longer dependent on the schedule update forecasts. While there may be serious problems to face in resolving schedule delay disputes, they will only become worse if the project participants are not able to resolve them and matters move into formal dispute resolution.

In conclusion, while following these eight steps will provide a more collaborative approach to scheduling your projects, always remember that scheduling, is as much an art as a science. Scheduling is dependent on experience, judgment, and reasonable assumptions. In the analysis of delays, the CPM computer software can be a useful tool but is no substitute for knowledge of construction, project experience, detailed research, thoughtful evaluation and clear presentation. Any successful negotiation requires give-and-take whether it's over the price of a change order or for a contract time extension. **MBP**

The preceding article is an adaptation of a presentation by Frank A. McDonough, PE and Charlie E. Bolyard, PSP, CFCC at the 2007 Construction Superconference.

### ABOUT THE AUTHOR



**Charles E. Bolyard, Jr., PSP, CFCC** is Chairman of the Board & Chief Executive Officer. He has more than 30 years experience providing construction management services for owners, contractors and A/E firms. He has represented public and private Owners in various construction management capacities on mass transit, heavy highway and bridge, process and treatment plants, infrastructure, and building facility projects.

Construction Management from the Steven's Institute of Technology in NJ and a Bachelors in Architecture in her native India.

**Peter Delaney, CCM, CCE, Senior Engineer.** Pete was welcomed back to the MBP Team. With a BS in Construction Engineering Management, he has more than 20 years experience in the A/E/C industry.

**ROANOKE, VA - Joe Nackley, Lead Engineer.** Joe is part of our growing commissioning team and graduated from Louisiana State University with a BS in Mechanical Engineering. **MBP**

## WE'RE MOVING!

The relocation of our corporate headquarters in Fairfax Virginia increases our ability to support the firm's continued growth and its commitment to providing value-added construction consulting services.

Our new Fairfax address as of August 1, 2008:

**Williams Plaza 1  
3040 Williams Drive, Suite 300  
Fairfax, VA 22031**

Phone and fax numbers will remain the same.

## NEW PROJECTS

### VIRGINIA

MBP has been awarded a contract with **Virginia Commonwealth University (VCU)** Medical College of Virginia to provide facility assessment services for seven buildings on the VCU campus throughout 2008.

**Richmond Public Schools** has recently awarded a Construction Management contract to MBP. The firm will assist with management of execution of projects within their Capital Improvement Plan and special projects in the Department of Plant Services for approximately 63 K-12 school buildings.

The **Arlington County Department of Environmental Service's** Bureau of Facilities Design & Construction has awarded MBP a Construction Management Advisory

Services contract for the County's building construction and renovation projects over a five-year period. The County anticipates an annual average expenditure of \$12 million in construction for which owner representative services will be required.

### MARYLAND

MBP has been awarded a \$15.7 million contract by the **Naval Facilities Engineering Command (NAVFAC)** Washington to provide construction management support services for its \$1+ billion BRAC construction program. The primary focus of this five year support contract will be at the Bethesda Naval Medical Center, Quantico Marine Base and the Naval Marine Corps Intelligence Center in Suitland, Maryland.

MBP has been awarded an Indefinite Delivery Contract for Construction Management Services for up to five years

and \$12.5 million by the **U.S. Army Corps of Engineers** Louisville District. This contract will be used primarily to support the District's military construction program (projected at \$1 billion for FY2008) in the states of Kentucky, Ohio, Illinois, Indiana and Michigan. The contract can also be used anywhere within the Louisville District Mission boundaries throughout the United States and Puerto Rico.

### NORTH CAROLINA

MBP has been selected to provide commissioning services to **Charlotte Mecklenburg Public Schools** for their \$300 million program. **MBP**

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