Scheduling Best Practices

Warner
Construction Consultants, Inc.
2275 Research Boulevard
Suite 100
Rockville, Maryland 20850-3268

301 670-9020
301 670-7977 fax
www.warnercon.com

Let's Get This Party Started

by Andy Mottram, Senior Vice President

Warner Construction Consultants, Inc. has been asked to prepare a series of articles that will provide the benefit of the many lessons we have learned over our 24+ years of experience in CPM scheduling to the reader. Warner has worked in all areas of the construction process from pro forma analysis through commissioning and project close-out; with all parties in the process from owners to suppliers: on all types of projects from residential to power plants. Through all of this, we have accumulated a vast reservoir of experience, knowledge, and unique "lessons learned" and are eager to pass on to others.

Over the next several months, we plan to address specific topics that will provide our readers with useful insights into the process of developing and maintaining a sound project schedule. While this will not guarantee the success of any project, it will, hopefully, help the reader make better use of project schedules and assist them in avoiding many of the pitfalls that can easily derail one's goals for a project.

The most compelling lesson we have learned over the years is projects that have the most pre-construction planning turn out better for everyone. This is not exactly a major revelation that will make the evening news. The utter simplicity of such a statement might make one wonder how it can have real value. However, the simple fact is that far too many projects do not have any real forethought put into them before the first shovel is put in the ground. It all starts when a party decides that there is a need for a project, another decides to design it, a third decides to estimate and bid it, and, finally someone else decides to build it. In most cases each of the parties that has become involved in the process is picking it up cold with little interface with those that have gone before.

WARNER

This leads to a far too typical situation where some unfortunate superintendent drives up to a site about two weeks into the project wondering where the drawings are, and "Why are you digging where I want my trailer to sit."

Many of the projects that have undergone adequate planning ahead of time are, nonetheless, doomed to "failure" because, once performed, that planning then becomes static and outdated at the first Request for Information. The planning process, and therefore the scheduling process, is very dynamic and needs to be constantly re-evaluated and adjusted to adapt to new information and variables as the process becomes better understood. The more you are around something, the more you learn about it, and the more you can improve upon your original ideas. Again, I am just stating what should be obvious to good construction professionals. But, why then are so many project schedules not revised once first issued or adjusted as time goes on? Far too many projects keep the same original baseline schedule and simply record progress against it even though it is clear to everyone that the work in the field is not following the plan represented in the schedule.

Therefore, the first lesson I want to leave with the reader is that project failures begin with poor planning. You can overcome many obstacles throughout the course of a project, but if your planning does not properly consider and incorporate all variables and uncertainties as they become known, then you are in for a long and difficult ride. Poor planning is not confined to the beginning of a project. The planning process needs to be constantly thought about and implemented throughout the lifespan of the project. It needs to be re-evaluated upon each change in contract's requirements, availability of materials and manpower, and expectations regarding the productivity of labor.

The second of our major "lessons learned" is to be sure to communicate the plan. Develop the schedule that reflects your plan and be sure that everyone knows what that plan is. Once the schedule has been created and your planning has been established, use the schedule to measure performance, and account for variances against it.

WARNER

React to those variances quickly, in order to either rectify any failures of performance or amend the plan to address newly developed or developing issues.

It is our intention to present a series of topics in a logical sequence much as you would address then in advancing a schedule from the onset through final close out. The first several articles will address how to come out of the gate with a good, workable plan that will serve your needs and communicate your expectations. The next series of articles will address the updating process and how to ensure your schedule is matching up to your planning. As we progress further down the line, we will tackle the question of what you should be doing when things begin to unravel. How do you create a plan to get the project back on track? How do you protect yourself when the problems have been started by others?

To get us started, the next several articles will discuss the following topics:

- Planning v. Scheduling
- What is the right number of activities for your schedule
- What makes a good schedule
- Do not forget about the non-construction activities essential to the success of the project, such as shop drawings, mock-ups, O&M manuals, notifications, etc.
- What are the different types of logic relationships and how they should be used
- Should I use multiple calendars? Is this a blessing or a curse?
- The proper use of Milestone activities and constraints
- How should I consider weather conditions?
- Should I use Progress Override or Retained Logic in calculating my schedule?
- When do I need to fix out-of-sequence logic and when is it ok to leave it alone?
- How do I prepare a Recovery Schedule?

In addition to all of the above topics, we will address specific questions that our readers make us aware of.

WARNER

Let's Get This Party Started

So, please send your questions to Paul Levin at plevin@wpl.net. Please, however, address specific software questions to the appropriate vendor's help desk.

This article is intended to serve as a general guide and should always be considered in combination with the needs of your specific project and the requirements of your contract. Your contract documents may contain specific requirements and directions that will take precedence over anything stated in any of these articles. We look forward to developing this dialogue with you over the coming months, and to provide you Warner's tips for best practices in scheduling.

WARNER