
 <p>The cornerstone of confidence™</p>		<p>March 2005</p>
		<p>Article 2 of 2</p>
<p>SEMINARS PinnacleOne Institute</p>	<p style="text-align: center;">Construction Scheduling Today - An Industry View</p>	
<p>SERVICES Program & Project Management Dispute Avoidance & Resolution</p>		
<p>PinnacleOne is a national construction consulting firm that provides sound advice, strategic solutions and peace of mind to its clients. Its diverse, highly trained professionals guide its clients through every step of the design, construction and contract closeout process to help them achieve their goals, and at the same time, avoid and manage risk. PinnacleOne's unimpeachable objectivity, along with a proven approach to planning and attention to detail, has earned the company a reputation as one of</p>	<p>To answer these questions and others, a survey was conducted at the Construction Management Association of America's (CMAA) National Spring Conference held in Boston in May 2004 where most of the industry's leading construction management firms from across the country were in attendance. The survey respondents were overwhelmingly proficient or experts in construction scheduling with many years of experience representing owners, contractors, construction managers, and other professionals from a diverse mix of firms, geographic regions, and project types. The following is their view of construction scheduling today and our view of what can be done to better it.</p> <p style="text-align: center;">Cleverness or Wisdom?</p> <p style="text-align: center;"><i>"You can tell whether a man is clever by his answers. You can tell whether a man is wise by his questions." -- Naquid, Mahfouz</i></p> <p>Eighty-five percent of the survey respondents believe that their project contractors generally do not view adherence to scheduling specifications as a priority and only occasionally or seldom comply with the requirements. Fifty-seven percent viewed their schedules as either a "weapon to support or defend</p>	<p>Joseph L. Seibold is a principal and vice president for PinnacleOne. He has more than 30 years of project/construction management and claims experience. Mr. Seibold has provided project and construction management services on major capital programs. He has also supervised the evaluation and calculation of construction-related delay and disruption damages on more than 100 projects and has participated in dispute resolution on behalf of owners and contractors.</p> <p>Mr. Seibold has authored many articles and has been a featured presenter on project management and claims resolution topics. He has</p>

the finest consultants in the construction industry.

Headquartered in Phoenix, PinnacleOne regional operations are located in Irvine, Los Angeles, Sacramento, and Hartford.

For more information, visit www.PinnacleOne.com

To view a specific back-issue of this newsletter, please <[Click Here](#)>

claims" or an "unnecessary requirement." This confirms our personal experience that many contractors are being too clever in their use of schedules while owners need to exercise more caution and restraint about the information they ask for in their scheduling specifications.

With respect to time extension requests, the survey results mimic those of general schedule compliance mentioned above. Sixty-three percent of the respondents reported that the requirements for time extension requests are only "occasionally" or "seldom" complied with. The problems identified are almost evenly split between "failure to justify responsibility for delay" (32%), "failure to submit required fragnets or Time Impact Analysis" (37%), and "timeliness of request" (29%).

These failures have no doubt contributed to 51% of respondents indicating that they are only able to "occasionally" or "seldom" achieve the contemporaneous resolution of time and delays on their projects. Many respondents, 27%, reported that they "frequently" execute change orders settling issues of time with a reservation of rights, with 56% reporting that they "occasionally" do so. When asked about recovery schedules, 85% reported that such provisions received only "occasional," "seldom," or "never" compliance.

With respect to using schedules for payment purposes, the majority of the survey responded that they "occasionally," "seldom," or "never" used these provisions (60%). Interestingly, when asked to judge the effectiveness of such provisions, 52% found them to be "highly effective" to "effective." This indicates that the majority of the survey group perceives value in the simultaneous review of the schedule for planning and payment purposes, sees consistency in these two measures of progress, and thinks that these provisions should be used more often.

Better Scheduling Starts with Well-Thought Specifications

Often the schedule becomes the primary battleground of troubled projects. This is due in part to many owners not understanding that more schedule data does not result in better control of projects and may not be appropriate for the circumstances or needs of the project.

been a member of the Construction Management Association of America since 1987, has served on the national board for the last five years as a director and is currently president. Mr. Seibold has a BE in civil engineering magna cum laude from Manhattan College, New York. He is a registered professional engineer in California, New York, and Colorado.

Mr. Seibold can be reached through PinnacleOne's Los Angeles, CA , office at (213) 486-9884.



[Steve Davis, P.E.](#)

Steve Davis has been a senior consultant with PinnacleOne for over 16 years where he has specialized in the evaluation and resolution of complex construction disputes. Mr. Davis began his career with the U.S. Army Corps of Engineers assigned to the construction

These owners then usually struggle to enforce compliance with their specifications, making demands that are too technical and in turn ignored altogether by the contractor. Having spent considerable effort during the course of the job, frequently unsuccessfully, in an attempt to make the contractor develop and maintain an appropriate schedule, these owners can still end up with a major claim based primarily on delays and other schedule-related issues.

To head-off these problems, prudent owners will develop a scheduling specification that is consistent with the complexity of the project and the owner's ability to evaluate and monitor the contractor's progress. The specifications should inform the contractor of key operational conditions to be incorporated into the schedule and require only the necessary amount of information needed by the owner and contractor to meet the needs of both for current project management. When this is done, it is more likely that the contractor will comply with the owner's specifications and utilize the resultant schedule as the management tool it is intended to be.

The most forward thinking owners will also address the typical areas of misunderstanding and contention about the technical aspects of the schedules, issues of time and entitlement to time extensions, and compensation for time-related costs in their schedule specifications.

Typical Areas of Contention

There are many basic elements of a project schedule which should be detailed in the specifications to avoid unnecessary disagreements. In each case, there are several industry approaches commonly used, and the absence of any direction leaves the owner and contractor to argue over the proper interpretation. The scheduling specifications should clearly state how the following will be handled:

- | Float - How is it defined? Who owns it - owner, contractor, or project?
- | Delay allowances - Weather or other foreseeable delays within the contemplation of the owner
- | Liquidated damages/damages for delays - Stipulated amounts, procedural

management department in Los Angeles. Over his career Mr. Davis has been exposed to a wide variety of projects and disputes with significant work on transportation, water, wastewater, ports, airports, and buildings. Mr. Davis has taught courses on claims analysis and project controls.

Mr. Davis has been on the national board of directors for the CMAA for the last five years and is currently the CMAA's editor and chief of its CMeJournal publication and the board liaison to the organization's technical committees.

He has a B.S. in Civil Engineering from California Polytechnic State University, San Luis Obispo, and is a registered professional engineer in California.

Mr. Davis can be reached through PinnacleOne's Los Angeles, CA , office at (213) 486-9884

requirements for assessing liquidated damages or requesting time extensions

- | "Short" or "early completion" schedules - Risk for delays, applicability of liquidated damages
- | Artificial constraints - Disallowance of sequestered float techniques
- | Owner-furnished equipment and materials - Scheduling of procurement
- | Submittal review times - Reasonable allowances
- | Start-up and testing - Relationship to "completion"
- | Format of submittals - Electronic media, types of reports
- | Software requirements - Specific programs

Baseline Schedule

To facilitate proper planning by the contractor and to allow for the analysis of delays during the opening days of the project, the scheduling specification should address the potential absence of a schedule during the critical period from Notice to Proceed (NTP) to the approval of the baseline schedule. One way to accomplish this is to hold the issuance of the NTP until the baseline schedule is approved, which may be feasible only if there is enough overall time in the project completion need date. Typical industry practice is to require a 90-day preliminary schedule to be submitted soon after the NTP.

Schedule Updates

All too often the baseline schedule and update review processes are drawn out, causing either or both the baseline schedule and updates not to be approved until a month or more after the cut-off date. As a result, the schedule becomes a tool of disputed historical record and less of a dynamic and current management tool. This is particularly true with the incorporation of change orders into the

schedule.

Most scheduling specifications do not allow the contractor to make changes to baseline logic or incorporate change order fragments without prior owner approval. While this requirement is valid and does help to reduce the gamesmanship that might otherwise occur, it may also create one more hurdle to maintaining a current record schedule.

Using the Schedule for Payment Purposes

The effectiveness of the project schedule can be greatly enhanced, as indicated in the survey, by also using it for payment purposes. When doing so, specific criteria for the measurement or status of activities must be established at the outset in order to avoid disputes over payments. Careful attention must be paid to the measurement of progress to ensure proper payments to the contractor.

Sometimes owners will "withhold" a small percentage of progress until the owner is satisfied that the activity is truly complete. Because this can burden the project schedule with numerous activities which are nearly (>95%) complete and can distort the actual status of the project, it is usually better to add "close-out" or "punch list" activities to address this owner concern.

Resource Loading

Resource loading is a demanding requirement and contractors seldom do an adequate job creating or maintaining the resourcing plan. Specifications requiring resource loading are often not kept in compliance or are altogether ignored by contractors. As a consequence, the project resource data in the schedule is also disputed in regard to its reliability and, therefore, may affect its usefulness for analysis or resolution as the data may be incomplete, inaccurate, or missing altogether. The contrary view of most experienced and skilled schedulers is that resource loading and leveling is a vital step in project planning. While we do not disagree with this view, the reality is that resource loaded schedules seldom meet expectations and can often be flawed or inaccurate.

Time Extensions

It is the rare project that does not experience an unplanned event or delay. In fact, the disposition and resolution of delays on projects, in light of the potentially severe consequences of liquidated damages and/or delay claims, are the most prevalent and contentious of construction disputes. The inevitability of project delays makes it extremely important that owners address the allocation of risk and the procedure for time extension requests in their specifications. At the very least, the following should be covered:

- | Types of delay and conditions for recovery - Concurrent, pacing, excusable, compensable, and non-compensable
- | Time extension requests - Specific requirements, baseline for measuring, critical path impacts, method and timing of inclusion of potential and actual delays in updates and approved updates
- | Delay mitigation - Who gets credit for no cost mitigation efforts by the contractor?
- | Damages for delay - Types and limitations for recovery
- | Early completion bonus - Impact of time extensions

Compliance with the Scheduling Specifications

Many scheduling specifications contain language and large monetary penalties for the contractor's failure to comply with the scheduling specifications. Sometimes the specified remedy for failure to comply with the baseline schedule or monthly updates is the withholding of progress payments. This may be viewed as an extreme penalty, and in our experience, owners seldom enforce such provisions for obvious reasons.

An effective way to deal with this dilemma is to stipulate a fair payment amount for an acceptable baseline schedule and schedule updates. Under these conditions, the contractor is only paid the stipulated amount if they submit their

schedules on time and in compliance with the project scheduling specifications. Because few contractors will forego the opportunity to earn a bit more on their contracts, it is much more likely they will get their schedules in on time.

Is scheduling today too clever or wise, or too demanding for the circumstances? In our view, much of the trouble with scheduling today arises from owners' attempts to draft exhaustive scheduling specifications and contractors' attempts to use their schedules to assert delay claims. As an industry, let's be wise and craft scheduling specifications that meet both the owner's needs for information and reassurance and the contractor's need for a cost-effective tool to schedule and manage its work. By doing so, we will ensure that tomorrow's survey shows the scheduling crisis of today is over.

EDITOR'S NOTE -- This series of articles was adapted from a paper titled "Project Schedules - A Tool or Weapon?" presented to the Construction Management Association of America (CMAA) 2004 Annual Conference in San Antonio, Texas by PinnacleOne's Joe Seibold, P.E. and Steven Davis, P.E.

To remove your name from this mailing, please e-mail DAR@PinnacleOne.com with "Remove" in the subject line.

DISCLAIMER The opinions and information provided herein are provided with the understanding that the opinions and information are general in nature and do not relate to any specific project or case. Because each project and case are unique and professionals differ, the opinions and information presented herein cannot and should not be construed as being relevant or true for any individual case. Be aware that professionals can differ in their opinions. The opinions expressed herein are those of the author only. Other professionals may legitimately disagree with some of them and thus, they should not be discredited if their opinions are different than those expressed herein.