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**2006 ANNUAL CONFERENCE HIGHLIGHTS – SCHEDULE TECHNOLOGY EVOLUTION, RISK MANAGEMENT PRACTICES AND TOWN HALL MEETINGS**

**Scheduling Conference Emerges As Think Tank for New Software Tools, Best Practices and Industry Collaboration**

*By Paul Levin*

The Project Management Institute College of Scheduling (PMICOS) third annual conference held in Orlando April 23 to 26 scored large on four fronts: new software tools, scheduling concepts, collaborative project management processes, and a raised consciousness of risk reduction methods. Since PMICOS's inception three years ago, the 1,400-member volunteer organization has worked to develop best practices in scheduling and to bring order to software abuses and misuses (ENR May 26, 2003). In addition, PMICOS addresses a wide range of management and technical issues.

**Think-Tank Approach Leads to CPM Software Developments**

At the Montreal conference two years ago, project planner Scott Herold introduced a multiple float-path software plug-in, which Primavera incorporated into its critical path method

**NOTES FROM THE EDITOR**

The June 6, 2006 edition of ENR covered scheduling technology highlights of the 2006 Annual Conference held in Orlando last month, and Fred Plotnick's mug. Our feature story at left is the full uncut version. Covering a conference is always difficult, since the multiple concurrent sessions means many sessions go unheard by the reporter. Not mentioned in the article was Murray Wolfe's inspiring keynote speech on the future of scheduling. Watch the PMICOS website and SEER newsletter to learn more about Murray's keynote speech and more conference highlights. If you have a conference story or feel something should be brought to our attention, please contact the editor.

Our president gets a break from the "President's Message" column this month. Board meeting

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## SCHEDULE UPDATE

JUNE, 2006

### HOW TO BECOME A MEMBER

For members of PMI, the annual membership fee is \$20. If you are not a member of PMI a fee of \$149 covers a one-year membership to both PMI and the College of Scheduling. For more information, please visit: [http://www.pmi.org/prod/groups/public/documents/info/gmc\\_collegeofscheduling.asp](http://www.pmi.org/prod/groups/public/documents/info/gmc_collegeofscheduling.asp).

### MEMBERSHIP UPDATE

College of Scheduling  
Membership

**1,464 Members**

Representing over  
**50 Countries**

### COLLEGE OF SCHEDULING ORGANIZATIONAL STRUCTURE

Functional Title	Individual	Functional Title	Individual
Chairman	Patricia D. Galloway	Director of Scheduling Excellence	Phil Apprill
President	Stuart Ockman	VP of Scheduling Excellence	Murray Woolf
Vice President of Finance	J. Gordon Davis	Scheduling Practice Std. Team Liaison	Mike Mosley
Director of Communications	Jeff Huneycutt	Vice President of Communications	Derek Mason
Vice President of Global Services	Richard K. Faris	Director of Global Services	Keith Pickavance
Vice President of Programs	Janice Staley	Director of Conference Technical Track	Fredric L. Plotnick
Director of Programs	Shelbi Rombout	Director of Critical Chain Scheduling	Mark Stanton
Director of Programs	Dana H. Parrish	Director at Large	Russ Archibald
Vice President of Publicity	Pradip Mehta	Director at Large	Gui Ponce de Leon
Director of Publicity	Jim Quilliam	Director at Large	Jon Wickwire
VP of Education & Training	Jim O'Brien	Director of Standards	Earl Glenwright
Vice President of Membership	Rebecca A. Andert	Director of University Relations	Fredric L. Plotnick
Director of Membership	Lana Becker	Editor of Newsletter	Paul Levin
Director of Member Retention	Rhonda Polk	Topic of the Month Editor	Thomas Fertitta
Director of Volunteers	Pradip M. Mehta	Director of Information Technology	Peter Dimov
Director of Risk Management	David Hulett	Technical Director	Fred Plotnick
Director of Government Relations		Director of Campus Affiliates	Tim Cermak
Director of Certification	Bob Jacobs	Webmaster	Cynthia Lo
Director of Employment Opportu-	Glen Palmer	Webmaster	Melanie Loc

### UPCOMING EVENTS

**PMICOS 2007 Annual Conference**  
**15-18 April 2007**  
**Vancouver Marriott Pinnacle Downtown**  
**Vancouver, British Columbia,**  
**Canada**

**PMI Global**  
**Congress 2006-**  
**North America**  
**21-24 October**  
**Seattle,**  
**Washington**

## SCHEDULE UPDATE

JUNE, 2006

### 2006 CONFERENCE HIGHLIGHTS (cont'd)

### EDITOR'S NOTES (cont'd.)

(Continued from page 1)

(CPM) scheduling software the following year (ENR May 17, 2004, p. 22). It now appears the College has evolved into an impromptu think-tank for further product development.

At this year's event, PMICOS technical course director Fredric L. Plotnick introduced the concept of the Relationship Diagramming Method (RDM) of CPM scheduling. In the current Precedence Diagramming Method (PDM) approach, according to Plotnick, certain relationship types between activities can introduce situational inaccuracies and uncertain results in schedule output. For example, there may be a difference between saying, "Activity B may start seven days after the start of activity A" and "Activity B may start when seven days (or 70%) of activity A has been completed." This would be especially true if activity A were to stall after a reported start date.

Plotnick demonstrated how new relationship-specific elements can be incorporated into the software to more accurately model how activities interact on a construction project, resulting in more meaningful CPM schedules. One major improvement he suggests is to code each restraint as being physical (planning) or resource (scheduling) based, allowing the software to assist in alternate resource allocation.

Said Plotnick, "In addition to clarifying activity interactions, another advantage RDM provides over PDM is a reduction in time to develop recovery schedules through the use of 'smart' relationships." Primavera's chief technology officer Dick Faris has committed to incorporating Plotnick's enhancements into upcoming versions of Primavera Engineering and Construction, perhaps as early as the end of the this year. Plotnick, an attorney and engi-

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highlights from the past two months include nailing down plans for the 2007 Annual Conference to be held in Vancouver, British Columbia April 15-18. The board has not yet selected a theme for the conference, and is open for ideas. There is also a call for papers, so now is your chance to put those ideas and thoughts into action. See article on page 5.

New board positions have been recently approved and are highlighted in yellow on Page 2.

### 2006 CONFERENCE HIGHLIGHTS (cont'd)

neer, is co-author of *CPM in Construction Management* [a McGraw-Hill text] with James J. O'Brien.

Meanwhile, cost engineer and software developer Ron Winter of Ron Winter Consulting, Atlanta, Ga., presented his algorithm to extract the as-built critical path of a completed project. By providing a straightforward mathematical process that only requires spreadsheet software and Primavera, he formulated a reproducible method that enables a scheduler or consultant to objectively and independently calculate an as-built critical path. This model will go a long way in fostering settlement of delay claims that routinely result in costly legal battles between owners and contractors as well as each side's experts. Many schedule analyses rely on a contemporaneous review of schedule status and events, and delay is most often measured against what was critical at the time of the delay. The later part is now more consistently identifiable using Winter's process.

### Town Hall Meetings Prompt Forward-Thinking Debate for Best Practices

PMICOS hosted a series of town hall meetings to get audience input about its Scheduling Excel-

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## SCHEDULE UPDATE

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### 2006 CONFERENCE HIGHLIGHTS (cont'd)

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lence Initiative (SEI) program. As reported in ENR.com on July 10, 2005, SEI is compiling a set of publications on technical and administrative guidelines, training and education topics, and scheduling best practices. "The town hall meetings were seen as another vehicle for tapping the knowledge and experience of our scheduling community," said Phil Aprill, SEI managing director. "We were delighted with the strong level of participation and positive feedback that came from the town hall sessions."

The meetings were tailored to address and debate key issues that confront scheduling and management professionals on a daily basis. Audience responses were posted interactively on projection screens at the front of the room as each topic was debated. The audience then voted and could immediately view the results. For example, a representative from a major public owner supported payment to a contractor that could have met its early completion schedule because of favorable weather conditions, but was denied the opportunity because of subsequent owner-caused delays. Many participants felt favorable weather conditions should not become a windfall for either party. Aprill said that SEI will issue a town hall meeting findings paper in the coming weeks.

This open dialogue and cooperative idea sharing between these disparate groups will help pave the way to further development of best practice guidelines. Aprill summed it up: "These exchanges, along with the efforts of the various contributors to the SEI project, will improve the practice of scheduling, which translates directly into improved project performance through better project schedules.?"

### Making the Best of Risk Analysis Techniques

Risk analysis and collaborative efforts were recurring themes at various sessions. Construction consultant Mike Stone, Richmond, Texas, presented his proposed simplified schedule specification that relies on mandatory collaborative scheduling efforts between the contractor and owner to facilitate successful project performance. In recent years, schedule specifications have expanded to 20-page tomes designed to protect owners against schedule abuses, stacked decks for claims and devices for unbalanced progress payments. The simplified approach works, Stone said. "I know it works because we are using it right now on a major Texas toll road project," he said.

However, "there is one catch," Stone noted. "It requires that each party have knowledgeable schedulers on staff."

Consultant Travis McGrath with Golder Associates, Redmond, Wash., explained how risk analysis is being integrated into the planning and estimating process at the Washington State Department of Transportation. "In initial comparative studies, Golder has found that a risk-based approach has increased the time and cost accuracy of projects from a 20% margin of error to 14%," McGrath said. The DOT started the risk analysis program using outside consultants, but has begun adding in-house expertise as it expands its use. The U.S. Department of State and General Accounting Office are also employing risk-based analysis. Golder's approach relied mostly on integrated cost- and schedule-based risk analysis, using inexpensive plug-ins to Microsoft Excel.

On a related front, Ben Nolan of Delta Consulting Group, Gulf Breeze, Fla., explained a new delay

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### 2006 CONFERENCE HIGHLIGHTS (cont'd)

category: risk-adjusted project delay. He said this delay is the time difference between the negotiated time extension on a change order (or impact) and the actual duration of that work, and is applicable when the actual duration is within the range of probable (optimistic and pessimistic) durations but exceeds the negotiated duration from the risk assessments of changes on a project. "This is important," explained Nolan, "since both the cost and time tradeoffs can be accurately quantified, giving the owner and contractor a basis to negotiate change orders that will affect project completion dates."

For example, suppose an owner asks the contractor to add two floors to a five-story building and a risk assessment determines that the shortest duration is 24 days and the longest is 48 days. The contractor agrees to 30 days, but the work actually takes 40 days. The 10-day difference is a delay for which the contractor seeks a time extension. In this case, the owner has already acknowledged that the pessimistic duration could have been 48 days, thus the 40-day duration was within the range of estimated durations. The question is what type of delay is this and how will it be resolved? Nolan demonstrated how such risk analysis data could be produced using off-the-shelf risk management software, such as *Pert-master* or *@Risk*.

#### Final Thoughts

The College of Scheduling has set in motion a way to bring both technology and management improvements to the scheduling table. Risk analysis reduces uncertainty in the planning stages, and improved scheduling techniques provide more useful tools for players to deal with the constant changes inherent to a construction

project. Owners and contractors alike will benefit as the ideas discussed are set in place and implemented in the coming months and years.

#### CALL FOR PAPERS

You are invited to **submit a paper for presentation at our Fourth Annual Conference, CPM Turns 50: A Birthday Celebration** (if you have a catchier theme to celebrate the Golden Anniversary of CPM Scheduling, please let us know). The conference will be held at the Vancouver Marriott Pinnacle Downtown in Vancouver, British Columbia, Canada, from **April 15-18, 2007**. We have **seven terrific tracks** available plus a **Create Your Own Track**:

- **Research Track** for peer reviewed papers of academic quality relating to improvements in the field of scheduling. Accepted papers will be published on the PMI College of Scheduling website for discussion and presented at the Conference as (1) part of an authors' panel discussion and/or (2) a full presentation. For more information on submitting an abstract or volunteering as a peer reviewer, please take a look at (click on and open) the linked Call for Papers and/or contact the track chair, Fred Plotnick.
- **Enterprise Track** for Integrated Enterprise-Wide Project Management System Implementation including project portfolio and priority management, role-based reporting, resource management, and using the web for enterprise wide access. For more information or to submit an abstract, contact the track chair, Pradip Mehta.
- **Information Technology/Computers Track** for scheduling in the areas of Information

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# SCHEDULE UPDATE

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## CALL FOR PAPERS (CONT.)

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Technology, Computers (Hardware and Software) or Technology R&D. For more information or to submit an abstract, contact the track chair, Kristy Tan.

- **Risk Management Track** for risk analysis and methods to manage risk in projects. For more information or to submit an abstract, contact the track chair, Glen Palmer.
- **Claims Track** for avoiding and resolving schedule related claims both during the project and at project completion. For more information or to submit an abstract, contact the track chair, Mark Cohen.
- **Scheduling Track** for scheduling domestic projects, international projects and projects involving multi-national participants: methods, techniques and approaches to scheduling including logistical, communication, cultural, virtual project and management challenges. For more information or to submit an abstract, contact the track chair, Keith Pickavance.
- **Case Studies Track** for actual projects and their lessons learned. For more information or to submit an abstract, contact the track chair, Mark Stanton.
- **Create Your Own Track** for anyone with a schedule-related topic that cannot be squeezed into any of the above tracks, send me an abstract and we'll do our best to fit you in. For more information or to submit an abstract, contact Stu Ockman.

**If you'd like to present a paper at the Conference, please send an abstract to the appropriate track chair or chairs. Deadline for submission of Abstracts is August 31, 2005.** The presenters will be selected by September 15<sup>th</sup> with

Papers due by October 31<sup>st</sup> and PowerPoint presentations due by December 31<sup>st</sup>.

**For peer reviewed papers for the Research Track the timing after submission is a little different.** Peer Review will be completed by November 30<sup>th</sup> with **Internet Publication** of Accepted Papers set for December 15<sup>th</sup>. The last chance to revise papers for inclusion in the Conference Proceedings CD is February 28<sup>th</sup>.

Each presentation will be an hour to 75 minutes in length with 15 to 30 minutes for questions and discussion.

**Peer Reviewers are also needed to assist in the review of technical paper submissions.**

Peer Reviewers may be members of the College, faculty of academic institutions having a department teaching project scheduling or recognized authorities in the field of scheduling outside of PMICOS. Interested parties should forward a C.V. to Fred Plotnick.

### Articles Wanted

Short articles wanted for *Schedule Update*.

Share your knowledge and experience. Tells us about a best practice recently discovered or implemented at your organization, such as:

- Scheduling Techniques
- Primavera 4.0/4.1/5.0 Experiences, or
- Favorite Claims Analysis Technique.

Let us know if you've read a good scheduling books you're read lately. Don't be shy. Write something today. Send your manuscript or proposed idea(s) to Paul Levin at plevin@wpl.net.